AP - 111

AGWMR (2)

2018

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX A SEPARATE PHASE HYDROCARBON RECOVERY LOGS

APPENDIX A - RW-1 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ² (ft)	Product Bailed or Purged ² (gal)	Water Purged ² (gal)
2/22/2005	8:30	1st	NR	Start	32.46	36.5	4.04	14	NR
3/2/2005	7:45	1st	NR	Start	32.42	36.44	4.02	9	NR
3/8/2005	8:30	1st	NR	Start	31.92	36.35	4.43	15	NR
3/9/2005	830	1st	NR	Start	31.92	37.5	5.58	4	NR
3/11 to 3/18/05	NR	1st	NR	Start	NR	NR	NR	74	NR
3/18 to 3/23/05	NR	1st	Pump	Continue pumping	NR	NR	NR	48	NR
3/23 to 4/1/05	NR	1st	Pump	Continue pumping	NR	NR	NR	62	NR
4/1 To 4/4/05		2nd	Pump	Pump shutdown to measure	NR	NR	NR	27	NR
4/5/2005	11:30	2nd	Pump		34.75	38.92	4.17	NR	NR
4/4 to 4/15/05	11:00	2nd	Pump	Continue pumping	NR	NR	NR	50	NR
4-15 to 5-5-05	12:30	2nd	Pump	Continue pumping	NR	NR	NR	45	154
5-5 to 6-17-05	11:30	2nd	Pump	Continue pumping	NR	NR	NR	24	196
6/27/2005	14:30	2nd		Pump shutdown to measure	NR	NR	NR	NR	NR
6/28/2005	11:30	2nd			32.46	33.25	0.79	NR	NR
6/28/2005		2nd	Pump	Continue pumping	NR	NR	NR	NR	NR
6/17 to 7/8/2005	10:30	2nd	Pump	Continue pumping	NR	NR	NR	18	146
7/8 to 8/9/2005	13:30	3rd	Pump	Continue pumping	NR	NR	NR	28	350
8/9 to 9/16/2005	11:35	3rd			36.46	36.54	0.08	8	240
12/5/2005	13:15	4th			31.92	34.71	2.79	NR	NR
12/8/2005	14:00	4th	Pump	Start	NR	NR	NR	NR	NR
12/22/2005	15:30	4th		stop	NR	NR	NR	5	120
12/29/2005	14:00	4th	Bailer	Hand bailed	NR	NR	NR	0.5	4.5
3/16/2006	13:00	1st.			NR	NR	NR	NR	NR
3/16/2006	14:30	1st.	Pump	Start	32.23	34.48	2.25	NR	NR
3/23/2006	14:30	1st.		Stop	NR	NR	NR	NR	NR
3/27/2006	15:30	1st.	Pump	Start	NR	NR	NR	NR	NR
3/31/2006	11:30	1st.	Pump	Continue pumping	NR	NR	NR	7	174
4/3/2006	11:30	2nd		Stop	NR	NR	NR	1	38
4/4/2006	11:00	2nd			32.75	33.08	0.33	NR	NR
6/6/2006	13:00	2nd			32.39	34.54	2.15	NR	NR
6/8/2006	15:00	2nd	Pump	Start	NR	NR	NR	NR	NR
6/29/2006	10:00	2nd		Stop	NR	NR	NR	8	365
7/31/2006	11:45	3rd			33.06	33.48	0.42	NR	NR
7/31/2006	11:45	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/3/2006	14:20	3rd		Stopped pump	NR	NR	NR	2	87
8/8/2006	9:00	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/10/2006	15:30	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/22/2006	9:00	3rd		Stopped. Pulled pump	NR	NR	NR	4.9	373
8/22/2006	9:45	3rd	Pump	Start pump	33.1	33.4	0.3	NR	NR

APPENDIX A - RW-1 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ² (ft)	Product Bailed or Purged ² (gal)	Water Purged ² (gal)
12/21/2006	15:55	4th	Pump	Start pump	35.2	36	0.8	0.62	70
2/21/2007	10:15	1st.	Pump	Start pump	33.42	34.6	1.18	0.63	53.5
6/5/2007	10:00	2nd		Compressor Down	32.42	32.71	0.29	NR	NR
6/5/2007	10:10	2nd		Hand Bailed	NR	NR	NR	0.05	9
6/6/2007	8:40	2nd		Hand bailed	NR	NR	NR	0.1	11
6/13/2007	14:00	2nd		Hand bailed	NR	NR	NR	0.1	12
6/14/2007	10:40	2nd		Hand bailed	NR	NR	NR	0.05	8
7/10/2007	10:08	3rd		Hand bailed	32.42	32.71	0.29	0.3	18
7/11/2007	9:25	3rd		Hand bailed	NR	NR	NR	0.21	NR
7/23/2007	10:00	3rd		Hand bailed	NR	NR	NR	0.1	NR
11/26/2007	10:50	4th		Hand bailed	30.76	36.45	5.69	0.18	37
2/18/2008	15:32	1st.		Hand Bailed - pump frozen	30.18	34.77	4.59	1.66	36
5/21/2008	14:10	2nd	Pump	Used Pump	30.33	34.57	4.24	1.39	51
9/12/2008 ¹	14:30	3rd		Bladder pump malfunctioned	30.03	34.59	4.56	Not Bailed	0
11/13/2008	13:00	4th	Pump	Used Pump	30.02	34.63	4.61	0.94	65
2/11/2009	14:05	1st.	Pump	Used Pump	30.21	31.72	1.51	0.29	90
5/5/2009	11:30	2nd	Pump	Used Pump	30.22	30.8	0.58	0.41	76
8/10/2009	9:22	3rd	Pump	Used Pump	30.69	31.02	0.33	0.89	98
10/28/2009	10:55	4th	Pump	Used Pump	30.56	30.75	0.19	0.19	74
3/3/2010	9:00	1st	Pump	Used Pump	30.89	31.05	0.16	0.21	31
6/3/2010	13:10	2nd	Pump	Used Pump	30.99	31.09	0.1	0.1	32
9/20/2010	14:00	3rd	Pump	Used Pump	29.91	30.06	0.15	0.25	34
11/3/2010	9:10	4th	Pump	Used Pump	30.89	31.01	0.12	0.1	31
3/9/2011	10:19	1st	Pump	Used Pump	30.04	30.15	0.11	0.12	40
6/27/2011	8:05	2nd	Pump	Used Pump	30.52	30.63	0.11	0.1	45
10/3/2011	15:07	Annual	Pump	Used Pump	30.81	30.9	0.09	0.11	42
11/8/2011	8:30		Pump	Used Pump	30.77	30.85	0.08	0.09	38
3/15/2012	10:30	1st	Pump	Used Pump	29.31	29.34	0.03	0.02	22
6/4/2012	9:00	2nd	Pump	Used Pump	29.39	29.41	0.02	0.05	40
8/13/2012	10:30	3rd	Pump	Used Pump	29.54	30.13	0.59	0.4	40
10/8/2012	9:40	4th	Pump	Used Pump	29.28	30.18	0.9	0.5	35
3/26/2013	10:25	1st	Pump	Used Pump	29.11	32.6	3.49	0.028	24
6/17/2013	11:50	2nd	Pump	Used Pump	29.37	33.1	3.73	0.75	18
9/16/2013	11:05	3rd	Pump	Used Pump	28.75	33.09	4.34	0.8	19
11/12/2013	9:25	4th	Pump	Used Pump	28.73	33.11	4.38	0.75	25
3/7/2014	NR	1st	Pump	Used Pump	28.15	31.65	3.5	0.75	28
6/9/2014	NR	2nd	Pump	Used Pump	28.31	33.06	4.75	0.75	25
9/18/2014 ³	NR	3rd		Annual Sampling Only	28.05	Unknown			

APPENDIX A - RW-1 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ² (ft)	Product Bailed or Purged ² (gal)	Water Purged ² (gal)
11/13/2014	NR	4th	Pump	Used Pump	28.11	33.04	4.93	0.87	30
3/23/2015	3:00	1st	Pump	Pump	28.20	32.80	4.6	0.5	25
6/9/2015	4:25	2nd	Pump	Pump	27.70	32.10	4.4	0.75	15
8/23/2015 ³	10:10	3rd	Pump	Pump	28.08	30.02	1.94	None	None
10/29/2015	9:15	4th	Pump	Pump	27.65	30.10	2.45	0.75	14
3/4/2016	0:00	1st			28.05	30.55	2.5	None	None
6/8/2016	0:00	2nd			27.98	31.80	3.82	3.5	28
9/13/2016	2:05	3rd			27.90	32.04	4.14	2.5	10
11/16/2016	1:00	4th	Bailer		27.80	30.90	3.1	2.5	15
3/16/2017	0:00	1st	Pump		27.05	30.55	3.5	4	14
6/20/2017	0:00	2nd	Pump		26.77	28.42	1.65	2.5	18
9/19/2017	12:25	3rd	Bailer		26.52	27.60	1.08	2.5	10
12/12/2017	1:20	4th	Bailer		26.50	27.50	1	2	NR
2/14/2018	11:30	1st	Bailer		26.94	27.22	0.28	0.5	0.5
5/7/2018	15:15	2nd	Bailer		26.94	27.21	0.27	0.25	0.5
9/19/2018	16:45	3rd	Bailer		27.44	27.70	0.26	0.25	0.5
4)		4th			NM	NM	NM	None	None
							TOTALS	491.758	3705.5

NOTES:

FT - Feet NR - Not recorded

NM - Not measured

Gal - Gallon

- 1) Bladder pump has torn diaphragm. Pump non-repairable. Ordered new pump
- 2) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.
- 3) Annual Samples collected no purging done at this time.
- 4) Pump in well well not gauged or bailed.

APPENDIX A - RW-5 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2/22/2005	14:15	1st	Bailer	Start	32.92	34.01	1.09	4.5	NR
3/3/2005	14:00	1st	Bailer	Start	33.08	33.42	0.34	6	NR
6/24/2005	9:00	2nd	Bailer	Start	32.96	34.04	1.08	2.5	NR
9/16/2005	9:20	3rd	Bailer	Start	32.83	33.85	1.02	2.5	NR
12/5/2005	14:00	4th	Bailer	Start	32.52	33.21	0.69	1.5	NR
3/16/2006	14:50	1st	Bailer	Start	32.58	33.00	0.42	1	NR
7/26/2006	14:35	2nd	Bailer	Start	32.90	33.31	0.41	0.5	NR
10/16/2006	09:15	4th	Bailer	Start	32.73	33.42	0.69	0.25	NR
2/13/2007	09:00	1st	Bailer	Start	32.17	33.95	1.78	0.5	NR
4/30/2007	11:20	2nd	Bailer	Start	33.00	33.83	0.83	2.5	NR
7/10/2007	10:15	3rd	Bailer	Start	33.10	33.92	0.82	2.5	NR
11/26/2007	08:00	4th	Bailer	Start	33.01	33.91	0.9	1.75	NR
2/18/2008	15:15	1st	Bailer	Start	33.19	33.95	0.76	0.19	20
5/21/2008	14:20	2nd	Bailer	Start	32.77	33.84	1.07	0.14	18
9/12/2008	14:30	3rd	Bailer	Start	32.62	32.85	0.23	0.05	15
11/3/2008	14:00	4th	Bailer	Start	31.05	32.34	1.29	0.05	15
2/11/2009	13:40	1st	Bailer	Start	32.08	32.15	0.07	0.05	15
5/5/2009	10:02	2nd	Bailer	Start	0.00	31.91	0	0	0
8/10/2009	9:50	3rd	Bailer	Start	0.00	31.94	0	0	0
10/28/2009	10:45	4th	Bailer	Start	0.00	31.71	0	0	0
3/3/2010	9:35	1st	Bailer	Start	0.00	31.63	0	0	0
6/3/2010	13:40	2nd	Bailer	Start	0.00	31.37	0	0	0
9/20/2010	14:24	3rd	Bailer	Start	0.00	31.94	0	0	0
11/3/2010	9:30	4th	Bailer	Start	0.00	31.94	0	0	0
3/9/2011	10:29	1st	Bailer	Start	0.00	30.05	0	0	20
6/27/2011	8:40	2nd	Bailer	Start	0.00	28.96	0	0	20
10/4/2011	8:15	3rd	Bailer	Start	0.00	29.89	0	0	14
11/8/2011	9:20	4th	Bailer	Start	0.00	29.85	0	0	17
3/15/2012	9:50	1st	Bailer	Start	0.00	29.32	0	0	15
6/4/2012	9:20	2nd	Bailer	Start	0.00	29.37	0	0	10
8/13/2012	10:50	3rd	Bailer	Start	0.00	29.49	0	0	10
10/8/2012	10:10	4th	Bailer	Start	0.00	29.58	0	0	15
3/26/2013	9:10	2nd	Bailer	Start	0.00	29.45	0	0	10
6/17/2013	10:20	2nd	Bailer	Start	0.00	29.44	0	0	14
9/16/2013	9:30	3rd	Bailer	Start	0.00	28.98	0	0	15
11/12/2013	9:50	4th	Bailer	Start	0.00	28.96	0	0	16

APPENDIX A - RW-5 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
3/17/2014	NR	1st	Bailer	Start	0.00	27.92	0	0	15
6/9/2014	NR	2nd	Bailer	Start	0.00	28.80	0	0	20
9/18/2014 2	NR	3rd	Bailer	Start	0.00	28.81	0	0	0
11/13/2014	NR	4th	Bailer	Start	0.00	28.77	0	0	16
3/23/2015	3:15	1st	N/A	N/A	0.00	29.10	0	0	0
6/9/2015	4:10	2nd	Bailer	Start	0.00	28.80	0	0	15
8/23/2015	9:25	3rd	Bailer	Start	0.00	29.08	0	0	16
10/29/2015	1:35	4th	Bailer	Start	0.00	27.94	0	0	17
3/4/2016	0:00	1st	Bailer	Start	0.00	28.22	0	0	15
6/7/2016	3:47	2nd	Bailer	Start	0.00	28.22	0	0	17
9/13/2016	9:10	3rd	Bailer	Start	0.00	27.70	0	0	20
11/16/2016	9:12	4th	Bailer	Start	0.00	27.40	0	0	20
3/16/2017	NR	1st	Bailer	Start	0.00	27.53	0	0	20
6/20/2017	3:47	2nd	Bailer	Start	25.30	33.30	8	10.5	21
9/19/2017	9:10	3rd	Bailer	Start	25.46	31.65	6.19	5.5	20
12/12/2017	11:08	4th	Bailer	Start	24.75	34.00	9.25	18	NR
2/9/2018	11:43	1st	NA	Waiting Pump Install	25.50	33.60	8.1	0	0
4/25/2018	NR	2nd	NA	Waiting Pump Install	26.62	32.34	5.72	0	0
8/16/2018	15:30	3rd	NA	Waiting to turn on pump	27.20	32.58	5.38	0	0
3)	NR	4th	NA	Waiting to turn on pump	NR	NR	NR	0	0
							TOTALS	60.48	491

NOTES:

FT - Feet NR - Not recorded NA - not applicable

Gal - Gallon

¹⁾ Measurements given are estimated values based on the technicians interpretation.

²⁾ Annual grab samples collected - no purging of well at this time.

APPENDIX A - RW-6 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
2/22/2005	14:30	1st	Bailer	Start	33.12	34.5	1.38	4.5	NR
3/3/2005	14:00	2nd	Bailer	Start	33.15	34	0.85	6	NR
6/24/2005	11:00	2nd	Bailer	Start	33.31	34.46	1.15	3.5	NR
9/16/2005	10:20	3rd	Bailer	Start	32.98	34.33	1.35	3	NR
3/16/2006	12:45	1st	Bailer	Start	32.67	33.75	1.08	2.5	NR
7/26/2006	15:00	2nd	Bailer	Start	33	34.12	1.12	1.5	NR
10/16/2006	09:55	4th	Bailer	Start	33.71	34.63	0.92	0.75	NR
2/13/2007	09:50	1st	Bailer	Start	33.29	34.5	1.21	0.75	NR
4/30/2007	11:25	2nd	Bailer	Start	34.42	34.58	0.16	0.25	NR
7/10/2007	10:08	3rd	Bailer	Start	33.29	34.58	1.29	6.78	NR
11/28/2007	08:10	4th	Bailer	Start	33.25	34.47	1.22	4.5	NR
2/18/2008	15:11	1st	Bailer	Start	33.44	34.35	0.91	0.11	20
5/21/2008	14:30	2nd	Bailer	Start	33.02	34.12	1.1	0.13	18
9/12/2008	14:35	3rd	Bailer	Start	32.12	32.83	0.71	0.09	15
11/3/2008	14:35	4th	Bailer	Start	32.46	32.69	0.23	0.04	15
2/11/2009	13:30	1st	Bailer	Start	32.19	32.35	0.16	0.12	15
5/5/2009	9:45	2nd	Bailer	Start	32.08	32.26	0.18	0.04	15
8/10/2009	9:55	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
10/28/2009	10:55	4th	Bailer	Start	31.81	32.03	0.22	0.03	12
3/3/2010	9:40	1st	Bailer	Start	31.78	32.01	0.23	0.05	15
6/3/2010	13:45	2nd	Bailer	Start	31.61	31.7	0.09	0.05	15
9/20/2010	14:30	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
11/3/2010	9:35	4th	Bailer	Start	32.01	32.1	0.09	0.02	15
3/9/2011	10:34	1st	Bailer	Start	30.24	30.26	0.02	0.04	25
6/27/2011	9:25	2nd	Bailer	Start	30.11	30.15	0.04	0.04	30
10/4/2011	9:05	3rd	Bailer	Start	29.91	29.94	0.03	0.09	30
11/8/2011	9:45	4th	Bailer	Start	29.90	29.93	0.03	0.05	25
3/15/2012	9:55	1st	Bailer	Start	0	29.46	0	0	17
6/4/2012	9:25	2nd	Bailer	Start	0	29.54	0	0	20
8/13/2012	11:00	3rd	Bailer	Start	0	29.57	0	0	15
10/8/2012	10:15	4th	Bailer	Start	0	29.62	0	0	15
3/26/2013	9:15	1st	Bailer	Start	0	29.59	0	0	20
6/17/2013	10:25	2nd	Bailer	Start	0	29.52	0	0	15
9/16/2013	10:10	3rd	Bailer	Start	0	29.13	0	0	20
11/12/2013	9:50	4th	Bailer	Start	0	29.1	0	0	15
3/17/2014	NR	1st	Bailer	Start	0	27.92	0	0	15

APPENDIX A - RW-6 HYDROCARBON RECOVERY LOG 2/22/05 thru 2018

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level ¹ (ft)	Product Bailed/Purged ¹ (gal)	Water Purged ¹ (gal)
6/9/2014	NR	2nd	Bailer	Start	0	28.8	0	0	20
9/18/2014 ²	NR	3rd	Bailer	Start	0	28.81	0	0	0
11/13/2014	NR	4th	Bailer	Start	0	28.77	0	0	16
3/23/2015	3:15	1st	N/A	N/A	0	29.18	0	0	0
6/9/2015	4:12	2nd	Bailer	Start	0	28.68	0	0	15
8/23/2015	9:27	3rd	Bailer	Start	0	29.06	0	0	20
10/29/2015	3:37	4th	Bailer	Start	0	27.97	0	0	19
3/4/2016	0:00	1st	Bailer	Start	0	28.25	0	0	14
6/7/2016	3:45	2nd	Bailer	Start	0	28.24	0	0	18
9/13/2016	9:50	3rd	Bailer	Start	0	27.99	0	0	20
11/16/2016	9:15	4th	Bailer	Start	0	27.72	0	0	20
3/16/2017	0:00	1st	Bailer	Start	0	27.5	0	0	20
6/20/2017	0:00	2nd	Bailer	Start	25.5	33.62	8.12	10	10
9/19/2017	0:00	3rd	Bailer	Start	25.89	30.97	5.08	8	20
12/12/2017	11:13	4th	Bailer	Start	24.83	33.85	9.02	13	NR
2/9/2018	11:48	1st	NA	Waiting Pump Install	25.65	33.05	7.4	0	0
4/25/2018	NR	2nd	NA	Waiting Pump Install	26.93	31.69	4.76	0	0
8/16/2018	16:05	3rd	Bailer	Waiting to turn on pump	27.43	31.78	4.35	0	0
3)	NR	4th	NA	Waiting to turn on pump	NR	NR	NR	0	0
		•					TOTALS	65.99	659

NOTES:

FT - Feet NR - Not recorded NA - not applicable

Gal - Gallon

¹⁾ Measurements given are estimated values based on the technicians interpretation.

²⁾ Annual grab samples collected - no purging of well at this time.

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX B FIELD INSPECTION LOGS (ON ATTACHED CD)

WE	LL ID	<u> </u>		_		TEST PA	RAMETERS		·	<u> </u>
NALITE	. 71	Volumes	TIME	Hq	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ODD (mu)
MKTE GAUGE DATE		 	1336		Degrees C	(mS/cm)			Oxygen (%)	ORP (mv)
GAUGE TIME	1330	1		7.88	11.67		2.480		34.0	93.1
DHC (FEET)	ND	2	1339 1341	7.62		2.759			22.	94.1
DTW (FEET)		3		7.58		2.695			19.9	93.7
	7.90		1344	7.54	10.45	2.624	2,380	1.94	20,9	95.1
DTB (FEET)	19.3.1	4	_							
DTB - DTW	11.41	5								
CAPACITY PER	0.74 - 4"	6								
1.86	<u>(0.105-2</u>)			DI.	JRGING DA	<u>·</u>				
3 WELL	· · · · · · · · · · · · · · · · · · ·	WEATHE	R CONDIT		JACING DA	<u> </u>				
VOLUMES	5.58		· ·		VIND, E	50°				
PURGE DATE			APPEARAN			<u>, </u>			·	7.
PURGE DATE	2.5.18	CLEA	R, NO	000	R ->	LIGHT	BRO	NG		
END OF PURGE TIME	1344	СОММЕ	NTS:	,		-	•	- .	, - -	
PURGE AMOUNT	5.75			-	 	· <u>.</u>				
DTW (FEET)	10.10		****	···	_		,	, u		
			_ .	SAI	MPLING DA	ΔΤΔ				
		WEATHE	R CONDITI		THE LITTE DE	110				
SAMPLE DATE	2.5.18		E AS		Ē					
ĺ			PPEARAN			•		 -		
DTW (FEET)	10.10	CLEA	_,,,,,	ODO C	R					
SAMPLE TIME	1405	COMME	NTS: `						.	
				S	AMPLE LO	<u> </u>				
SAMPLE ID	TIME		CONTAINE	RTYPE	NU	MBER OF O	CONTAINER	RS	PRESERVATI	VE
MKTF-3	51 140	<u>5</u>	40 ML			5			HCL	
			40 ML	-					NAZ SZ C)3
-		- 11-	1 LAN						NEAT]
-			<u>250 ML</u>						NEAT	
~			250 ML						HNO3	
			25 ML			<u> </u>	-		HNO3	
			25 ML			<u>+</u>	•		H2504	
INSTRUMENT	S USED					RIN	TER EA		NEAT_	
	56 MPS	TAW	ER OI	12 CTV	METE	-12 TV	IENTA		JER_	
			<u> </u>		, , <u>, , , , , , , , , , , , , , , , , </u>	-1 -		.	-	
			-				•			

COMPLETED BY: TRACY PAYNE

WE	LL ID	<u> </u>		· · · · · ·		TEST PA	RAMETERS			
MKT	=-25	Volumes	TIME	На	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.5.18	Initial	1152	7.04	Degrees C	(mS/cm)	_	1.77	Oxygen (%)	2.8.8
GAUGE TIME	1140	1	1155	6.81	11.18		2.180	·	39.7	
DHC (FEET)	ND	2	1158	6.86	10.91		2.177		30.5	-10.3
DTW (FEET)	11.20	3	1201	6.80	10.70	2,443	· ·	1.77	Z5.5	-19-6
DTB (FEET)	19.55	4	1201	9,00	<u> </u>	2,43	2.1.11	(+ ((22.0	_ 17- %
DTB - DTW	8.35	5			 .	<u>.</u>				
CAPACITY PER		6	<u> </u>	<u></u>		-	_	,		
FOOT	0.163 - 2"		 _							
1.36				Pl	JRGING DA	TA		-		
3 WELL	مماد		R CONDIT				·· ·			
VOLUMES	4.08	CLEA	R 54°	LICH	T NOR	TH WIN	<u> </u>			
PURGE DATE	2.5.18		APPEARAN			> >	~ ^ -			
END OF	2.5 (0	COMME		INI C	DOR (114) -	7 CL	אתיחא	<u>-</u>	
PURGE TIME	1201									
PURGE AMOUNT	4.25				_	<u> </u>		, 11		,
DTW (FEET)	11.70						7.64			
		<u> </u>		SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:	<u>, </u>					
SAIVIPLE DATE	2.5.18	SAM	E AS A	BOVE	•					
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:					
	11.70	CLOU	DY, RE	2DDIS	H BRE	7010, F	TULA			<u> </u>
SAMPLE TIME	1240	COMME		~ 1 =			0.40		ect e	D
<u> </u>	12.10	<u> </u>	PCI E	1) TE	XTRA AMPLE LOG	TL AM	BEK;	DUP	01_	
SAMPLE ID	TIME		CONTAINE			MBER OF (CONTAINER	98	PRESERVAT	IVE
MKTF-2	_		40 ML		NO	5	JONIAINER			
1 3333			40 ML			3			HCL NA 6	203
			4	MBER		2			NEA NEA	
		Z	50 ML			- 7	·		NE/	
				PLAST		- 7			NE	
			25 ML			1	-		HNC	
			50 ML			1	<u>.</u>		HNO	
V	V		25 ML			1			Hz	
INSTRUMENT	_	TAW	ER M	ARK	DIL W	ATER	INT	ERFAC	E ME	TER
YSI.	556 MP	AW 2	TER Q	UALT	TY ME	TER				
	OOMB! ET								 	

COMPLETED BY: TRACY PAYNE

WE	LL ID			·		TEST PA	RAMETERS	3		
MKTF	40	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.5.18	Initial	1452	8,54		4.995	41.182	3.54	0xygen (%)	-33.7
GAUGE TIME	1445	1	1455	8.32	, i	7.884	_	5.78	69.6	P.01
DHC (FEET)	ND	2	1458	8.29	13.25		8.499		60.3	29.0
DTW (FEET)	13.18	3	1501	8.25	13,30	10.99	9,100		37,0	35.4
DTB (FEET)	23.62	4					· · · · ·	,		
DTB - DTW	10.44	5			-				<u> </u>	
CAPACITY PER		6	-		· · ·	,			_	
FOOT	0.163 - 2"									
1.70		NACE A TUE	D COMPLE		JRGING DA	TA				
3 WELL VOLUMES	5.10	•	R CONDITI		IND 6	,0				
PURGE DATE	0 - 10	WATER	APPEARAN	CE / ODO	IND, 6			*		
	2.5.18	لتلك	AR, NO				***			
END OF PURGE TIME	1501	СОММЕ	NTS: 					_		
PURGE AMOUNT	5.25									
DTW (FEET)	21.50					, -	•			-
			.	SA	MPLING DA	NTA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:	*					
	2.5.18	SA	ME A	SAP	OVE		·-		.	
DTW (FEET)	21.50		APPEARAN							
CALADI E TILAE		COMME) ALL	<u> </u>	,	•	T		
SAMPLE TIME	1525									
		_			AMPLE LO					
SAMPLE ID	TIME		CONTAINER		NU	MBER OF (CONTAINER	RS	PRESERVATI	VE
MKTF-40	<u> </u>	<u> </u>	40 ML			5			HCL_	
		<u> </u>		MBER		<u>_</u>			NEAT	
		_		L AME		1			NEAT	
<u> </u>				L PLA			i	-	<u>HNO3</u> HNO3	
				L PLA		4		_	H2 504	
$\overline{}$	<u> </u>			L PLA	_	1		.	NEAT	
									<u> </u>	
INSTRUMENT	<u>~</u>						TERF	VE M	TETER	
YSI 5	56 MPS									
<u></u>										
									-	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		<u> </u>
MKT	F-30	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.6.18	Initial	0948	9.13	12.46		2,690	2,21	43.6	-83,4
GAUGE TIME	6940	1	0951	9,00	13.46	3.253		2.23	36.7	-51.8
DHC (FEET)	ND	2	0954	8.89	13.60	3.275		2.24	37.5	-30.7
DTW (FEET)	14.20	3	0957	Ф,85	13,59	3,302		ĺ	33,4	31.3
DTB (FEET)	23.20	4	,,,,,	0.00						1
DTB - DTW	9,00	5			,					
CAPACITY PER		6			74.0					
FOOT	0.163 - 2"			_:						
1.47	<u> </u>	Trace are u	-D AGNIDIT		JRGING DA	ATA				
3 WELL VOLUMES	4.41		ER CONDIT		ת עב	0				
	** **	WATER	DY, NV APPEARAN	CE / ODO	R:					
PURGE DATE	2.6.18		R, NO C						•	
END OF PURGE TIME	00-5	COMME	NŤS:	<u>-</u>					- 	-
	0957									
PURGE AMOUNT	4.56									
DTW (FEET)	15.40									
				SA	MPLING DA	ATA				
SAMPLE DATE	_	WEATH	R CONDITI	ONS:					-	
SAMI EL DATE	2.6.18	SAM	E AS	ABOV	€					
DTW (FEET)	15.00	٠ .	APPEARAN	<u>-</u>						
1	15.00	COMME	AR - N NTS:	0000	K	<u> </u>			•	
SAMPLE TIME	1015									
		•		S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-3	<u>50 104</u>	5	40 ML			<u> </u>	<u></u>		HCL	
<u> </u>	"		40 MI			3			NA2 S2	೦ತ
				<u>MBER</u>		1	<u>.</u>		NEAT	
 			250 M				<u>-</u>		NEAT	
 			250 M	L PLA	ASTIC.		<u>-</u>		HNO3	
 			125 M			<u> </u>	-		HN03	,
 				L PLA	STIC	<u>구</u>			H250	<u> </u>
INSTRUMENT	TS USED	\AIATE		_		<u> </u>	NTCP	ALE M	NEAT	
	556 MP						MIEKE	HE I		
1 V atm. 1	<u> </u>	- 14L3	· — · — ·	ر موسمه ۱	·	11 /				
	-						-			

COMPLETED BY: TRACY PAYNE

WE	LL ID				-	TEST PA	RAMETERS	3		
MKT	29	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.6.18	Initia!	1059	7.23	17.06	2.336	2,014	1.63	60.2	31.2
GAUGE TIME	1045	1	1102	7.29	13.25	2.268	1903	1.53	60.6	788
DHC (FEET)	ND	2		7.32	14.15	7.359	1.934	1.57	\$ \$.0	29.1
DTW (FEET)	6.73	3	1108	7.33	14.20	2,375	2.000	1.61	43.2	27.5
DTB (FEET)	16.13	4	1100	,,	1,000	<u> </u>				2 (.0
DTB - DTW	9.40	5								
CAPACITY PER		6	•		<u>-</u>					
FOOT	0.163 - 2"									
1,53					JRGING DA	ATA				
3 WELL VOLUMES	4.59		ER CONDIT				120			
	1,0,	WATER	APPEARAN	ICE / ODO	<u>NW W</u> R:	IND, -	ΙΦ		<u>.</u>	
PURGE DATE	2.6.18		B, NO O							
END OF		COMME	NTS:							
PURGE TIME	1108						·····			
PURGE AMOUNT	4.756									· · · · · · · · · · · · · · · · · · ·
DTW (FEET)	13.02									
				SA	MPLING D	ATA				
SAMPLE DATE	2.6.18	_	R CONDIT							
			E AS A							
DTW (FEET)	12.65		APPEARAN	•						
[COMME	KAR, CEET NTS:	NO CI	WK			<u> </u>		
SAMPLE TIME	1125									
					AMPLE LO					
SAMPLE ID MKTF-2	TIME	25	CONTAINE		NI		CONTAINE	RS	PRESERVAT	IVE
1.14 12-2	0 	23	40 ML	MBER		<u>5</u>	1		HCL NEAT	
				IL AME		1			NEAT	
			250 M		STIC	1	· · · · · · · · · · · · · · · · · · ·		HNO3	
				L PLA		1			HNO3	
				IL PLA		1			H2504	
V		,		IL PLAS		1			NEAT	
INICTOLINACAL	TO LICED									-
INSTRUMEN	-						TERFA	CE ME	TIEK	<u></u> .
בס ידכו	6 MPS	WATE	يد خير	ALT!Y	ME	E-F				

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X7-

WE	LL ID			· · · · · · · · · · · · · · · · · · ·		TEST PA	RAMETERS	3		-
MKTE	27	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2-6.18	Initial	1154	7.57	8.96	6,882	6.453	5.60	44.5	-48.7
GAUGE TIME	1145	1	1157	7.34	9.15	也 7.051		5.71		-23.2
DHC (FEET)	ND	2	1200	7.29	9.92	7.263	6.634	5.78	Z9.6	-11.2
DTW (FEET)	6.25	3	1203	7.27	\$10.01	7.437	6649	\$ 5.79	27.2	-2.9
DTB (FEET)	14.72	4								
DTB - DTW	8.47	5								
CAPACITY PER FOOT		6					<u> </u>			
1,38	0.163 - 2"			DI	JRGING DA	TA				<u> </u>
		WEATH	R CONDIT		TRUING DA	-				
3 WELL VOLUMES	4.14	I .			N WIN	D 46	5			
PURGE DATE	_	WATER .	APPEARAN	CE / ODO	R:	D, 10				
PORGE DATE	2.6.18	~~~	R, NO	ODOR						
END OF PURGE TIME	1203	COMME	NTS:							
PURGE AMOUNT	4.25									
DTW (FEET)	12.62									
	,		•	SA	MPLING DA	ATA				
SAMPLE DATE	z.6.18	ا م	R CONDIT							
		WATER	e as a Appearan	CE / ODOI	R:					, .
DTW (FEET)	12.47	CLE	AR, NO	-		,				
SAMPLE TIME	1220	СОММЕ	NTS:							
	124			S	AMPLE LO	G			-	· · · · · · · · · · · · · · · · · · ·
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-2	1 122	<u>O</u>	40 ML	VOA		5_			HCL	
\vdash	<u> </u>			MBER					NEAT	
\vdash			250 MI						NEAT	
 			250 M			<u> 1</u>			HNO3	
		<u> </u>		<u> Plas</u>					HN03	
		_		L PLAS					HzSO4	
<u> </u>	<u> </u>	-	143 11	L PLAS	114	1			NEAT	
INSTRUMEN	TS USED	\ALATES	O MADI	(ATI	MATER	-TA 1-7	DEME	METE	72	
	556 MPS						NENCE	<u> </u>	-11	
	1115	· VVC	<u> </u>		111 10			····		
									7	

COMPLETED BY: TRACY PAYNE

SIGNATURE

X1-

WE	LL ID	<u> </u>				TEST PA	RAMETERS	<u> </u>		
		Volumes	TIME	Ηα	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	-289	Initial			Degrees C	(mS/cm)			Oxygen (%)	
	2.6.18		1258	7.76	9.95	2,147	1.958	1.58	31.0	~144.8
GAUGE TIME	1250	1	1301	7,48	11.09	2.088	1.848	1:49	17.9	-85,5
DHC (FEET)	ND	2	1306	7.45	11.63	2.108	1.840	1.48	14.7	-70.4
DTW (FEET)	1.93	3	1312	7.43	11.70	2.122	1.838	1.48	18.3	-61-6
DTB (FEET)	22.81	4								
DTB - DTW	20.88	5								
CAPACITY PER FOOT	0.74 - 4"	6					-			
3.40	0.200 - 27			Pl	JRGING DA	TA.		<u></u>		
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	10.20	CLOU	DY, M	WN. GO	WIND,	45°				
PURGE DATE	a (10	WATER.	APPEARAN	ICE / ODO	R: ´			 		
0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2.6.18			LT BA	ROWN, 1	NO OD	OR_			
END OF PURGE TIME	1312	COMME	NTS:							
PURGE			•	·						
AMOUNT	10.50									
DTW (FEET)	12.30									
				SA	MPLING D	ATA				
SAMPLE DATE	7 / 10	_	R CONDIT							
	2.6.18	1AC	NE AS	ABOV	E					
DTW (FEET)	2.80	_	APPEARAN	•						
	2.00	COMME	NTS:	ABOV	<u> </u>			COLLE	CTED	
SAMPLE TIME	1345			015	XTRA .	1 L AM		DUPO	_	
				S	AMPLE LO	G	>)			
SAMPLE ID	TIME		CONTAINE	R TYPE	NI		CONTAINE	RS	PRESERVAT	IVE
MKTF-2	2 9 134	15	40 ML	. VOA		<u> </u>			HCL	
				MBER		4	<u> </u>		NEAT	
				L AMB		<u> </u>			NEAT	
			250 M						HNO3	
			125 M		STIC.				HNO3	
				L PLAS		<u>1</u> 1			<u>Hz 30</u>	4
V	¥_		125 M	L PLAS	عاات	1_			NEAT	
INSTRUMEN	TS USED	WATE	R MARI	C CTTI	MATE	R TAM	(PREX/	E ME	TER	
	556 MP						1 mm 1 - 1 mm			
		A/14		4 70 - 1000						
•••										

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3	- <u>- </u>	
MKTF	-24	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.6.18	Initial	0820	8.38	11.15	, , , ,	0.701	2.29	Oxygen (%)	51,9
GAUGE TIME	0810	1	0823	8.32	12,74	3.341	2.781 2.837	2.34	<u> 283</u> 19.7	-8.6
DHC (FEET)		2	0826	8.30	ĺ					
DTW (FEET)	ND	3	0020		12.43	3.160	2,702	2.22	18.7	-20.3
	21.60			BA	ILED	DRY @	4 GA	LLONS		<u> </u>
DTB (FEET)	30.83	4								
DTB - DTW	9.23	5								
CAPACITY PER		6								
FOOT	0.163 - 2"									
1.50					JRGING DA	ATA				
3 WELL VOLUMES	4.5		ER CONDIT		. 0		r			
VOLOIVILO	7, 3	WATER	<u>DY CAL</u> APPEARAN	M, 50	<u>.</u>					<u></u>
PURGE DATE	2.6.18			•		1c obc	√ D			
END OF		COMME		NKU V	MIN F	10 000	<u> </u>		 :	
PURGE TIME	0830									
PURGE AMOUNT	ы								•	
DTW (FEET)	30.50					***				
			•	SA	MPLING DA	ATA		·		
CANADIEDATE		WEATHE	R CONDIT	ONS:						
SAMPLE DATE	2.6.18	CLOU	DY . WE	ST WII	JD 40°			•		
DTW (FEET)		WATER A	DY , WE APPEARAN	CE / ODO	R: '		<u></u>			
(,,	22.09		AR, HK	<u>ODOR</u>					, <u>.</u>	
SAMPLE TIME	1445	COMME	NTS:							
	כדרו				AMPLE LO	<u>-</u>				
SAMPLE ID	TIME	_	CONTAINE			JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-2			40 ML			5	0011171111121	.0	HCL	
			40 ML		<u></u>	3	=	×-	NA2 52 C)3
		-		MBER		1			NEAT	- <u>L.</u>
			250 M			1			NEAT	-
			250 M			1			HNO3	
				L PLAS		1			HNO3	
			125 M	_ PLAS	TIC	1			H250	4
<u> </u>	<u> </u>		125 M	PLAS	TIC	1_			NEAT	
INSTRUMENT	_	WATE	R MARK	SOIL	WATER	ITNI S	ERFACI	E MET	ER	
Y9I 5	56 MPS	WAT	ER QI	JALTY	Y MET	ER				

COMPLETED BY: TRACY PAYNE

SIGNATURE:

#-

WEI	LL ID					TEST PA	RAMETERS	3		
MKTF-	-02	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
041105 0455	2,6.18	Initial	0855	B,47	9.03	2,553	2.397	1.94	3 .0	-19.8
GAUGE TIME	0845	1	0902	8.41			2.385	1.94	14.9	-60.4
DHC (FEET)	ND	2			TLED			GALS	• • • • • • • • • • • • • • • • • • • •	,
DTW (FEET)	7.44	3						<u> </u>	· -	_
DTB (FEET)	20.34	4				.,			 	
DTB - DTW	12.90	5								
CAPACITY PER FOOT	0.74 - 4"	6	-						<u>.</u>	
9.55				Pi	L. URGING DA	TA	<u></u>			
3 WELL	***	WEATH	R CONDIT							
VOLUMES	28.65	المك	DY, NW APPEARAN	INIW I),30 ⁰					•
PURGE DATE	2.6.18				r: ·→Br	のひり				
END OF PURGE TIME	0915	СОММЕ								
PURGE AMOUNT	17 GALS					ww.				100 - 1
DTW (FEET)	20.01				 .					
	····	<u> </u>		SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:	<u>,,</u>		······································			
SAIVIPLE DATE	2-6-18	SNO	FLUE	RIES,	5TRON	G WES	TWIN	D 40°		
DTW (FEET)	15.80	WATER /	APPEARAN	CE / ODÒ	R:					
SAMPLE TIME	1520	СОММЕ	NTS:						,	_
	1020	<u> </u>		5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE
MKTF-C	2 152	0	40 ML	AOV		5			HCL	
			40 ML	_		3			NAZ SZC)3
				MBER		1			NEAT	
			50 ML	AMBE		<u> </u>			NEAT	
			50 ML	PLAS			•		HNO3	
	-		<u> 25 ML</u>	PLAS			•	,	HNO3	
			25 ML	PLAS			•		H250	ч
INICTION IMPAIR	TO LIGHT		25 ML	PLAS		1			NEAT	
INSTRUMENT		WATE	R MAR	K OII	- WATE	RIN	TERFAC	E MET	ER	
75L 5	56 MPS	WAT	er Qu	ALITY	<u>METE</u>	<u>er</u>				

COMPLETED BY: TRACY PAYNE

WE	LL ID			·= • •		TEST PA	RAMETERS	3		
Mirer	43	Volumes	TIME	рН	Temperature	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.7.18	Initial	002E		Degrees C				Oxygen (%)	_
GAUGE TIME	0810	1.	08 <u>25</u> 0828	6.74 6.59	5.39 6.97	12.67	13.17	12.90	<u>56.3</u>	134.7
DHC (FEET)	ND	2	0831	6.49	7.00	14.50		17,90	_47.3	129.6
DTW (FEET)	6.43	3	0834	6.45	7.00	14.00	13.40	12.70		
DTB (FEET)	15.38	4	1 1	6.75	1.01	17100	15.10	γ Z . (O	34.8	121.4
DTB - DTW	8,95	5								<u> </u>
CAPACITY PER	0.74 - 4"	6	-	.			- ,, ,			_
FOOT	0.163 - 2"	Ů	_:							
1.46		_			JRGING DA	TA			· · · · · · · · · · · · · · · · · · ·	
3 WELL	4.38		R CONDIT							
VOLUMES	7.30	CLE/	<u>AR, CA</u> APPEARAN	LM 1	<u>9</u> ~		·		<u>*</u>	
PURGE DATE	2.7.18		EAR, N							
END OF PURGE TIME	0834	COMME		<u> </u>	1~					
PURGE AMOUNT	4.5	. Nj.								
DTW (FEET)	11.15			***						•
				SA	MPLING DA	\TA				
	<u>4</u>	WEATHE	R CONDITI			•			<u> </u>	-
SAMPLE DATE	2.7.18	SA	ME AS	ABO	VE.					
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:					
	11.00	COMME	1E AS	ABO	<u> </u>		<u> </u>			<u></u>
SAMPLE TIME	0910			אטעד י	03 1	1 EV+	· PA 1 1	LAMB	FR	
	- · ·			S	AMPLE LO	G	<u> </u>	<u> </u>		
SAMPLE ID	TIME		CONTAINE		NL	MBER OF	CONTAINER	RS	PRESERVAT	IVE
MKTF-	43 09 10	<u> </u>	40 ML			5	-		HKL	
 -				AMBE					NEAT	
		<u> </u>		L AMB					NEAT	
		-		_ PLAS				·	HNO3	
		 		<u> P.A.</u>		<u>}</u>		 -	HNO	
				_ PLAS		<u></u>			H250.	<u> </u>
<u>V</u>	Ψ		125 MI	_ PLAS	inc				NEAT	
INSTRUMEN ⁻	TS USED	WATE	R MAS	צ פיד	1 \\\T	EP T	TER E	KE ME	TER	
	56 MPS	WATE	R PULL	LITY	METE		4 (E/VE)	<u> </u>	101	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		* ***		1	<u> </u>					
		•		·						

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-32	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial	1037	6.90		2370	2.014	1.63	234	73.8
GAUGE TIME	1030	1	1040	6,75		2.362		1.61	25.1	610
DHC (FEET)	ND	2	1044	6.66	l -	2.453	1	1.66	24,4	593
DTW (FEET)	13.70	3	1048	6.61		2.501	2.094	1.70	14.5	51,8
DTB (FEET)	27.75	4								
DTB - DTW	14.05	5								
CAPACITY PER	0.74 - 4"	6				- -			<u>,</u>	
FOOT	0.163 - 2"	Ť								
2.29					JRGING DA	ATA				
3 WELL VOLUMES	6.87		R CONDIT			~ ZE	0			
	0,0,0	WATER.	≟A\< , _ APPEARAN	CE / ODO	<u>> W(11</u> R:	ND, 35			<u>.</u>	
PURGE DATE	2.7.18	ا د	EAR, F	TUIA	ODOF	₹				
END OF PURGE TIME	104 &	COMME					<u> </u>			
PURGE AMOUNT	7.00	**							,	
DTW (FEET)	22.45									
				SA	MPLING D	ATA				
SAMPLE DATE	2.7.18		R CONDIT							
משא (בבבד)		WATER A	APPEARAN	CE / ODO	R:					
DTW (FEET)	22.00		MEA	5 ABC	ov€	***				
SAMPLE TIME	lio.e.	COMME	NTS:							
	1105			S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE			JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-32	2 110	<u>5</u>	40 M	L VOA		5			HCL	
				LVOA		<u> </u>			NAZ 52 (೨ತ
			_	AMBE		<u> </u>			NEAT	
	+	<u></u>	<u>250 M</u> 250 M		STIC.				NEAT HNO3	
			125 M		STIC	1			HN03	:
			125 MI			1			H250	4
V	V		125 M			1			NEAT	
INSTRUMEN	-	WATE	RMAF	K OIL	WATE	R INT	ER FACE	E METE		
YSI 5	56 MPS	WATE	RQU	ALTTY	METE	R				

COMPLETED BY: TRACY PAYNE

WE	LL ID			·· ··· ··		TEST PA	RAMETERS	3		
MKTE	-41	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial	1237	7.04	13.83	2.848	2.353	1.92	65,0	47.8
GAUGE TIME	1225	1	1242	7.18	13,45	2,805	2.338	1.91	35.7	55,4
DHC (FEET)	ND	2	1248	7.11	13.19	2.775	2,330	1.90	40.6	56.8
DTW (FEET)	20.23	3	1255	7.14	12.97	2.752		1,89	<i>Z</i> 5.2	57.4
DTB (FEET)	39.72	4							·	
DTB - DTW	19.49	5				-				
CAPACITY PER	0.74 - 4"	6						-		
FOOT	0.163 - 2"									
3.17		 			URGING DA	ATA				
3 WELL VOLUMES	9.51		ER CONDIT		10					
VOLOIVILO	1.01	WATER	AR, CA	<u>4277 - 4</u> ICE / ODO	7.5 -					
PURGE DATE	2.7.18	_	EAR NO							
END OF PURGE TIME	12.55	COMME								
PURGE AMOUNT	9.75									
DTW (FEET)	34.15								<u> </u>	
				SA	MPLING D	ATA				
SAMPLE DATE	2.7.18		R CONDIT		WE57	- WINI).45°			
DTW (FEET)	_		APPEARAN	ICE / ODO	<i>WES7</i> R:		 			
D144 (1 LL1)	<i>33.65</i>			<u> 45 A</u>	<u>BU VE</u>					
SAMPLE TIME	1310	COMME	NTS:							
					SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-	11 /3/	<u>/ ()</u>	40 MI	40V _		5			HCL	
				AOV _	_	3			NA2 S2	<u>03_</u>
				AMBE					NEAT	<u></u>
			•	MA JI					NEAT	
				IL PLA					<u>14NO-3</u>	
				L PLA		1		·	HNO3	
				LRA					H2504	
INICTOLINACA	TO HOLD	> 1		IL PLA					NEAT	
INSTRUMENT							TERFAC	E WE	TER	
12T 75	66 MPS	TAW	er qu	ALITY	METE	K				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS			
MKTE	-42	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.7.18	Initial	1341	7.14			2.672	7.19	0xygen (%)	16.1
GAUGE TIME	1335	1	1345	6,92	13.09		2,706		4-1	22.9
DHC (FEET)	ND	2	1350		13.15	3,170			10,4	Z5.8
DTW (FEET)	17.41	3	1355		13.18		2,635	_	2.2	-46.5
DTB (FEET)	32.90	4	1777		13.10	3.101	2,400	2,10	12, 2	760
DTB - DTW	15.49	5					<u>.</u>			<u> </u>
CAPACITY PER		6								
FOOT	0.163 - 2"	Ū	_							
2,52	<u> </u>				JRGING DA	TA				
3 WELL VOLUMES	7.56		R CONDIT			•••				
VOLUMES	1,56	WATER	AR WE	<u>S T WI</u>	ND, 5% R:			<u> </u>		.
PURGE DATE	2.7.18		BER, E				•			
END OF PURGE TIME	1355	COMME			3-16/LV					
PURGE AMOUNT	7.75		*							"
DTW (FEET)	27.00		<u></u>							
				SA	MPLING DA	ATA				
SAMPLE DATE	2.7.18		R CONDITI		<u> </u>					
DTW (FEET)		WATER	APPEARAN	CE / ODO	R:					
D199 (1 LL1)	Z7.00		ME AS	ABO	V E					
SAMPLE TIME	1410	COMME	NIS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	IMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-4	2 1418	<u> </u>	40 MI	L VOA		5			HCL	<u></u>
		<u></u>		MBER		1_			NEAT	
				MA J		<u> </u>			NEAT	
			-	L PLA		<u> </u>			HNO3	
ļ				LPLA					<u> HNO3</u>	_
 ,				V PLA		1	a		112 SOL	ļ
V _	<u> </u>		125 M	L PLA	STIC	1	- -		NEAT	
INSTRUMEN	TS USED 1	A /A==	70 84 4			T=D =		- A - A -		
	-	<u> </u>	EC C	KK C	LL WA	<u> 15K</u> _	LNIER	FACE M	IEIEK	
	56 MPS	WAI		ALLT	YMEIE	<u>-17</u>				
			-							

COMPLETED BY: TRACY PAYNE

 γI

WELL ID TEST PARAMETERS Temperature Conductivity TRO (*/*) Collectiv (an) Dissolved ORP (*)										
MKTF		Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
	2-7.18	Initial								<u> </u>
GAUGE TIME	1545	1		DID	NOT S	AMPL	E			-
DHC (FEET)	141.11	2		0	090	F SPH	IN WE	ELL		
DTW (FEET)	14.20	3								
DTB (FEET)	2036	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.163 - 2"	6								
				Pl	URGING DA	ATA				
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:						
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT		ļ.								
DTW (FEET)										
				SA	MPLING D)ATA				
SAMPLE DATE		WEATH	ER CONDIT	TIONS:						
DTW (FEET)		WATER	APPEARAN	NCE / ODC	R:					
SAMPLE TIME		СОММЕ	ENTS:				,			
					SAMPLE LO					
SAMPLE ID	TIME	<u>.</u>	CONTAINE	R TYPE	N	IUMBER OF	CONTAINE	RS	PRESERVAT	ΠVE
<u> </u>	<u>. </u>				 -					
										
	-									
				-						
<u> </u>				<u>. </u>						
INSTRUMEN	NTS USED	GEOT	rech (OTL W	LATER	INTE	KFACE	MET	EK	· -
										

COMPLETED BY: TRACY PAYNE

WEI	L ID	Temperature Conductivity Dissolved Opp (
MKTF-	-14	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial					_			
GAUGE TIME	1551	1		TOID N	OT SAM	PLE				
DHC (FEET)	6.98	2		1	1	OF SP	HINV	VELL		
DTW (FEET)	7.39	3								
DTB (FEET)	17.46	4								
DTB - DTW	<u> </u>	5								
CAPACITY PER FOOT	0.74 - 4"	6	 -							
	0.200 2			P	URGING DA	\TA		<u> </u>	<u> </u>	
3 WELL VOLUMES		WEATHI	R CONDIT	TIONS:						
PURGE DATE		WATER	APPEARAN	NCE / ODC	PR:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	AMPLING D	ATA				
SAMPLE DATE		WEATH	ER CONDI	TIONS:						
DTW (FEET)		WATER	APPEARAI	NCE / ODC	DR:					
SAMPLE TIME		СОММЕ	ENTS:	.	_			_		
		<u> </u>			SAMPLE L	OG				
SAMPLE ID	TIM	E	CONTAIN	ER TYPE	N	IUMBER OF	CONTAINE	RS	PRESERVA [*]	ΓIVE
				.		_ .		·.		
<u> </u>							 	<u>-</u>		
		-					<u>-</u>			
		<u> </u>		· **						
	***					· =	<u>.</u>	-	<u> </u>	
INSTRUMEN	NTS USED	GEO	TECH	OIL W	JATER	INTE	RFACE	METE	R	
			. 		- 1 4 1 617					

COMPLETED BY: TRACY PAYNE

WEL	L ID				· · · · · ·	TEST PA	RAMETERS			
MKTE	-13	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial		,					- -	
GAUGE TIME	1556	1		DID	NOT S	SAMPL				
DHC (FEET)	13.77	2						WELL	-	
DTW (FEET)	13.78	3								
DTB (FEET)	21.25	4							45/1	
DTB - DTW		5							<u>.</u>	
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				P	URGING DA	ATA				
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:			·			_
PURGE DATE		WATER	APPEARAN	CE / ODC	OR:	,				
END OF PURGE TIME		СОММЕ	ENTS:							
PURGE AMOUNT									<u></u>	
DTW (FEET)										<u>-</u>
					AMPLING D	ATA				
SAMPLE DATE		WEATH	ER CONDIT	rions:				_		_
DTW (FEET)		WATER	APPEARAI	NCE / ODG	DR:				<u></u>	<u>.</u>
SAMPLE TIME		СОММ	ENTS:		,					
		<u> </u>			SAMPLE LO					
SAMPLE ID	TIMI	<u> </u>	CONTAIN	ER TYPE	N	UMBER OF	CONTAINE	ERS	PRESERVA	TIVE
			<u> </u>							
	 									
	<u>.</u>				· · ·					. <u>-</u>
INSTRUMEN	NTS USED	GEO	TECH	OIL	WATE	R IN	TERE	ACE M	VETER	
				 						
									フ	

COMPLETED BY: TRACY PAYNE

WELL ID TEST PARAMETERS Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (ms/cm) TDS (g/L) Salinity (ppt) Overce (g/L)										
MKTF		Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
	2.7.18	Initial								_
GAUGE TIME	1602	1								
DHC (FEET)	19.11	2		T)II	NOT	SAME	Œ		_	
DTW (FEET)	19.28	3				ľ		WEL		
DTB (FEET)	25.60	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
·		<u> </u>		P	URGING DA	ATA				
3 WELL VOLUMES	·	WEATH	ER CONDIT	TONS:			_			
PURGE DATE	 	WATER	APPEARAN	NCE / ODO	PR:					
END OF PURGE TIME	i	COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)							<u> </u>			
				SA	AMPLING D	ATA				
SAMPLE DATE		WEATH	ER CONDIT	TIONS:			_			·
DTW (FEET)		WATER	APPEARAI	NCE / ODC	DR:					
SAMPLE TIME		СОММ	ENTS:			-				
					SAMPLE LO					
SAMPLE ID	TIMI	Ē	CONTAIN	ER TYPE	N	UMBER OF	CONTAIN	ERS	PRESERVA	TIVE
			<u>.</u>							
 				-			_ _			
						· · · · · · · · · · · · · · · · · · ·				
						<u>.</u>				···
				<u>. </u>	<u></u>			····	_ ,	<u></u>
<u> </u>										
INSTRUMEN	NTS USED	GEO	TECH	OIL	MATT	RI	NTER	FACE I	YETER	
								<u>.</u>		
									7	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MKTI	F-26	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2-7-18	Initial								
GAUGE TIME	1627	1								
DHC (FEET)	8.53	2		א מום	AR TO	ZPLE			·	
DTW (FEET)	9.36	3		_				WELL	_	
DTB (FEET)	17.15	4					•		i	
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT				· <u>e.</u>	<u>.</u> .	<u></u>				
DTW (FEET)										
	_			SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDIT	ONS:					"	
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:	_ -		•				
				s	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	IMBER OF	CONTAINE	RS	PRESERVATI	VE
										
· · · · · · · · · · · · · · · · · · ·										
		<u>"</u>								
								-		
MOTOLUCE	TO 110 50									
INSTRUMEN ⁻	IS USED -	WATE GEC	TECH	RH C	TL WA	TER	INTE	RFAC	E MET	ER

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	s		
MKTF-	-01	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial								
GAUGE TIME	1631	1								
DHC (FEET)	5. <i>0</i> 5	2		DID	NOT	BAMPL	E			
DTW (FEET)	5.40	3		0.35		OF SF		WELL		
DTB (FEET)	17.42	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				P	URGING DA	ATA	I	l	' _	
3 WELL VOLUMES		WEATH	R CONDIT	IONS:					<u></u>	•
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT					<u>.</u>	•				
DTW (FEET)				**		 -			, <u></u>	
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER	APPEARAN	CE / ODO	R:		-			_
SAMPLE TIME		COMME	NTS:							
				5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
			- <u>-</u> -							
	· · · ·								_	
				 _						
						 				
INICTOLULACE	TO LICED						_			_
INSTRUMEN	IS USED.	GEOT	ER M	ARK	OIL	WATE	RIN	ITERF	ACE ME	TER
	•								·	

COMPLETED BY: TRACY PAYNE

WEI	L ID	<u>. ".</u>	<u></u>			TEST PA	RAMETERS	3		
MKTE	44	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.7.18	Initial	0952	6.75		2.40	2.106	1.71	643	65. 8
GAUGE TIME	0940	1	0957		1	2.010		1.41	62.2	74.9
DHC (FEET)	ИD	2	1002				1.804	1.45	65.3	81.9
DTW (FEET)	37.56	3	•				9 6.25		NS	
DTB (FEET)	51.16	4			<u> </u>			,		
DTB - DTW	13.60	5								
CAPACITY PER FOOT		6				-				
2.22			· · · · · · · · · · · · · · · · · · ·	Pl	URGING DA	TA				
3 WELL			ER CONDIT			• •		· <u> </u>		
VOLUMES	6.66	<u> </u>	EAR, C	ALM,	320					
PURGE DATE	2.7.18	WATER CLE	APPEARAN AR, NO	ICE / ODO	PR:					
END OF PURGE TIME	1012	COMME	INTS:							
PURGE AMOUNT	6.25									
DTW (FEET)	50.76									
	,			SA	MPLING D	ATA				
SAMPLE DATE	2.8.18		ER CONDIT							
DTW (FEET)	48,98	WATER	APPÉARAN	ICE / ÓDO	R:					
SAMPLE TIME		COMME	NTS:			v	_			
	0920				SAMPLE LO)G			_	
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	RS	PRESERVA	TIVE
MKTF-L	14 09	20_	40 ML	_		5			HCL Norate	
				AMBER		<u> 1</u>			NEAT NEAT	
_				<u>L AMB</u> L Plas		1	<u>-</u>		HNO3	
 		-		PLAS		1	····-		HNO-3	-
				- PLAS		1			H250	
		,		PLAS		1			NEAT	_,
- 			GEOT							
INSTRUMEN	ITS USED	TAW			IL WAT	ER II	VTERFA	CF M	ETER	
YSI	356 MPS									
										·
		_								

COMPLETED BY: TRACY PAYNE

WE	WELL ID TEST PARAMETERS											
MKT	Volumes TIME pH Temperature Conductivity Degrees C (mS/cm) TDS (g/L) Salinity (ppt) Dissolved Oxygen (%)											
GAUGE DATE	2-7-18	Initial	1445	6.11	13.13	1.442	1.213	0.95	19.1	30.4		
GAUGE TIME	1435	1	1449	5.82	12.91	1,411	i	0.94	18.7	37.7		
DHC (FEET)	ND	2	1453	5.75	12.80	1.456	1.234	0.97	17,0	443		
DTW (FEET)	22.65	3	1456	5.76	12.23	1.475	1.251	0.99	16.8	49.1		
DTB (FEET)	33.20	4	<u>-</u> .	-	•		-					
DTB - DTW	10.55	5										
CAPACITY PER	0.74 - 4"	0.74 - 4"										
FOOT	(0.163 - 2")											
PURGING DATA WEATHER CONDITIONS:												
3 WELL VOLUMES	5.16				MUNIT	51°	* .					
PURGE DATE		WATER	APPEARAN	ICE / ODO	<i>W/N.D</i> R:							
FORGE DATE	2.7.18	CLEA	R, FA	INT C	DOR,	REDDL	H BROC	UN,TO	(RBID			
END OF PURGE TIME	1458	2.7.18 CLEAR, FAINT ODOR, REDDISH BROWN, TURBID COMMENTS: 1458										
PURGE AMOUNT .	5.50	5.50										
DTW (FEET)	26.20					•						
		F. C		SA	MPLING DA	ATA						
SAMPLE DATE	2.8.18		R CONDIT AR, Cr		60°							
DTW (FFFT)		WATER	APPEARAN	ICE / ODO	R:			·	·			
DTW (FEET)	22.70		R, FAIR	otto Tu	R			• ,	<u>ئى خىر</u>			
SAMPLE TIME		COMME		בר עב	UDAL	. 0	1 15~	-O A 1	1 A.s) T- C		
<u> </u>	,	سالات			AMPLE LO		<u>+ </u>	V14 +	L AME	SER		
SAMPLE ID	TIME		CONTAINE				CONTAINE	RS	PRESERVAT	IVE		
MKTF-3	3 10Z	<u>5</u>	40 M	LVOA					HCL			
 		····	1 \	AMBE					NEAT			
250 ML AMBER 1 NEAT												
	250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3											
	125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2504											
1	V 125 ML PLASTIC 1 NEAT											
GEOTECH												
INSTRUMEN	TS USED			RK O	IL WA	TER :	INTER	RFACE	METE	R		
YSI 5	56 MPS	S WA	TER	QUAL	TTY I	METER	2					
YSI 556 MPS WATER QUALITY METER												

COMPLETED BY: TRACY PAYNE

MKTF-22	WELL ID TEST PARAMETERS										-
MKTF-22					· · ·	Temperature			1	Dissolved	
GAUGE TIME 1515		<u> 22 </u>	Volumes	TIME	Hq	1 '		TDS (g/L)	Salinity (ppt)	ı	ORP (mv)
DHC (FEET) ND 2 1520 5.79 12.62 1.336 1.06 13.0 160	GAUGE DATE	2.7.18	Initial	1520	5.67	17.52	1.565	1.506	10,1	12.3	-101.9
DHC (FEET) DTW (FEET) 2.5.50 3 BAILED DOWN @ 1.50 GALS DTB (FEET) 3.5.60 4 DTS-DTW CAPACITY PER COLES 6 DUBLED DOWN @ 1.50 GALS PURGING DATA WEATHER CONDITIONS: CLENK CALM 51 PURGE DATE END OF PURGE TIME PURGE TIM	GAUGE TIME	1515	1	1524	5,40	12.71	1,527	1.297	1.02	27.8	0.911
DTB (FEET) DTB (F	DHC (FEET)	ND	2	1520	5.29	12.62	1.569	1.336	1,06		-1eo.5
DTB (FEET) DTB - DTW CAPACITY PER CAPACITY PER CO.74 - 4" FOOT CAPACITY PER CO.74 - 4" CO.163 - 2" DTB - DTW CAPACITY PER CO.74 - 4" CO.163 - 2" FOOT CAPACITY PER CO.74 - 4" CO.163 - 2" FOOT CAPACITY PER CO.74 - 4" CO.163 - 2" FOOT CAPACITY PER CO.74 - 4" CO.163 - 2" FOOT CAPACITY PER CO.74 - 4" CO.163 - 2" FOOT CAPACITY PER CO.74 - 4" CO.74 - 4" CO.74 - 4" CO.76 - 4" CO.76 - 4" CO.76 - 4" CO.76 - 4" CO.77 -	DTW (FEET)	25,50	3		BAIL	ED Do	D 46	4.50 c	ALS		
CAPACITY PER O.74 - 4" FOOT O.74 - 4" FOOT O.74 - 4" FOOT O.74 - 4" FOOT O.75 - 4" FOOT O.75 - 4" FOOT O.76 - 4	DTB (FEET)	35.60	4								
	DTB - DTW	10.10	5								
SWELL VOLUMES PURGE DATE VOLUMES PURGE DATE PURGE TIME PURGE AMOUNT U, 50 SAMPLE DATE Z-8-18 WEATHER CONDITIONS: CLEAR ABLM, 47° WATER APPEARANCE / DDOR: CLEAR HC ODOR SAMPLE TIME SAMPLE TIME TIME CONTAINER TYPE SAMPLE TO			6		W.F						
SWELL VOLUMES PURGE DATE PURGE DATE END OF PURGE TIME PURGE AMOUNT PURGE AMOUNT DTW (FEET) DTW (FEET) SAMPLE DATE DTW (FEET) SAMPLE TIME WEATHER CONDITIONS: CLEAR DEDPISH BROWN, HC ODOR SAMPLE DATE DTW (FEET) SAMPLE DATE Z.S. 18 WEATHER CONDITIONS: CLEAR DAIN 470 WATER APPEARANCE / DDOR COMMENTS: SAMPLE LOG SAMPLE TIME TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MEATT 250 ML PLASTIC: 1 HNO3 125 ML PLASTIC: 1 1-2504 V V 125 ML PLASTIC: 1 1-2504 NEAT CENTERLY CENTERLY PURGE AMOUNT AMOUNT AMOUNT AMOUNT LIST L	1.65		····		Pl	URGING DA	TA				
PURGE DATE 2.7.18 WATER APPEARANCE / ODOR: LEAR > REDDISH BROWN, HC ODOR COMMENTS: PURGE AMOUNT U, 50 SAMPLE DATE DTW (FEET) SAMPLE TIME DTW (FEET) SAMPLE TIME TIME CONTAINER TYPE SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 115 40 ML VOA 5 HCL 1 LANBER 1 NEAT 250 ML PASTIC 1 HNO3 125 ML PASTIC 1 NEAT GEOTECH			WEATH	R CONDIT	IONS:						
PURGE DATE END OF PURGE TIME PURGE AMOUNT U, 50 TW (FEET) SAMPLE DATE DTW (FEET) Z5.50 SAMPLE TIME WEATHER CONDITIONS: CLEAR CALM, 47° WATER APPEARANCE / DDOR: CLEAR, HC ODOR SAMPLE TIME SAMPLE TIME SAMPLE TIME SAMPLE TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 115 40 ML VOA 5 HCL 1 L ANDER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 NEAT GEOTECH	VOLUMES	4.95	CLE	AR, CA	ALM, E	٥١٥					
END OF PURGE TIME PURGE AMOUNT	PURGE DATE	7710			-				_		
PURGE TIME 1532 PURGE AMOUNT		2.1.10		AR->	REDDI	SH BA	zowy,	HC OI	or_		
AMOUNT 4,50 DTW (FEET) 35,03 SAMPLE DATE SAMPLE DATE DTW (FEET) 2.8.18 WEATHER CONDITIONS: CLEAR ALM, 47° WATER APPEARANCE / DDOR COMMENTS: SAMPLE TIME SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 11/5 40 ML VOA 1 LANDER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2 504 V 125 ML PLASTIC 1 NEAT GEOTECH		1532	COMME	N 15;							
SAMPLE DATE SAMPLE DATE DTW (FEET) DTW (FEET) SAMPLE TIME TIME CONTAINER TYPE SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 115 40 ML VOA 5 HCL 1 L ANBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 NEAT GEOTECH		4.50	4.50								
SAMPLE DATE 2.8.18 WEATHER CONDITIONS: CLEAR CALM 47° WATER APPEARANCE / ODOR: CLEAR, HC ODOR COMMENTS: SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 11.5 40 mL voa 5 HCL	DTW (FEET)	35,03			_				·		
SAMPLE DATE 2.8.18 CLEAR CALM 47° WATER APPEARANCE / ODOR					SA	MPLING D	ATA				
DTW (FEET) Z5.50 CLEAR ANCE / ODOR: CLEAR HC ODOR	SAMPLE DATE	٠									
SAMPLE TIME	CAMILLE DATE	2.8.18	CLE	AR CA	LM, 47	o				, _ ,	
SAMPLE TIME 1115 COMMENTS: SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 11/5 40 mL voa 5 HCL 1 LAMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2 SO4 V V 125 ML PLASTIC 1 NEAT GEOTECH GEOTECH GEOTECH SAMPLE LOG SAMPLE LOG SAMPLE LOG SAMPLE LOG SAMPLE LOG SAMPLE LOG NEAT 1 H2 SO4 NEAT GEOTECH NEAT SAMPLE LOG SAMPLE LOG	DTW (FEET)	75 50			·=·						
SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE MKTF-22 11/5 40 mL voa 5 HCL 1 LAMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2504 V V 125 ML PLASTIC 1 NEAT GEOTECH GEOTECH NEAT		L3.20			1C ODC	<u>r</u>				<u> </u>	
SAMPLE LOG	SAMPLE TIME	1115	COMME	NIS.							
MKTF-22 1115 40 ML VOA 5 HCL 1 LAMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2 GO4 V 125 ML PLASTIC 1 NEAT GEOTECH		<u> </u>			S	SAMPLE LO	G			<u> </u>	
MKTF-22 1115 40 ML VOA 5 HCL 1 LAMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 H2504 V 125 ML PLASTIC 1 NEAT GEOTECH	SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
1 LAMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC: 1 H2 SO4 V 125 ML PLASTIC 1 NEAT GEOTECH	MKTF-2	2 1115	5	40 MI	AOV		5				
250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC: 1 H2504 V 125 ML PLASTIC 1 NEAT GEOTECH						₹	1				
250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC: 1 H2 SO4 V V 125 ML PLASTIC 1 NEAT GEOTECH		ĺ					1				
125 ML PLASTIC 1 HNO3 125 ML PLASTIC: 1 H2 GO4 V 125 ML PLASTIC 1 NEAT GEOTECH				_		•	1				
125 ML PLASTIC: 1 H2 SO4 V 125 ML PLASTIC 1 NEAT GEOTECH		ı		125 M	LPA	STIC	1				
V V 125 ML PASTIC 1 NEAT' GEOTECH				125 M			1				
	V	1		125 M			1	_			1
			ĜE	OTECH							
INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER	INSTRUMEN	TS USED			RK O	AW JI	TER	INTER	FACE	METER	
YSI 556 MPS WATER QUALITY METER	YSI 5	556 MPS	3 WA	TER C	TJAUC	MY YT	ETER				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKTF-	-15	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial								
GAUGE TIME	1335	1								
DHC (FEET)	12.40	2		DID	NOT S	AMPL	E			
DTW (FEET)	12.47	3		1				IN WE		
DTB (FEET)	19.48	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
				PI	URGING DA	TA		•		
3 WELL VOLUMES		WEATH	R CONDIT	IONS:		`				
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATH	R CONDIT	IONS:						
DTW (FEET)		WATER	APPEARAN	CE / ODO	R:				****	
SAMPLE TIME		COMME	NTS:							
				5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
			<u> </u>							
		•								
INSTRUMEN	TS USED	<u>GED</u>	TECH	OIL 1	NATER	<u> </u>	TERF	ACE M	IETER	
L										

COMPLETED BY: TRACY PAYNE

SIGNATURE:

M_

WEI	LL ID	TEST PARAMETERS									
MKT	F-03	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.8.18	Initial									
GAUGE TIME	1352	1									
DHC (FEET)	7.40	2		DID 1	NOT SA	MPLE	-				
DTW (FEET)	8.25	3		1	ļ			WELL			
DTB (FEET)	E COMO L	4	18.45								
DTB - DTW	1	5									
CAPACITY PER		6	·								
FOOT	0.163 - 2"			DI	UDOING DA						
					URGING DA	NIA					
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:							
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:						
END OF PURGE TIME		COMME	NTS:								
PURGE AMOUNT											
DTW (FEET)									· ·		
•				SA	MPLING D	ATA					
SAMPLE DATE		WEATHE	R CONDIT	IONS:			, ,				
DTW (FEET)		WATER .	APPEARAN	CE / ODO	R:						
SAMPLE TIME		COMME	NTS:								
					SAMPLE LO	G					
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINEI	RS	PRESERVAT	IVE	
<u>-</u>						4					
					 ·						
				<u> </u>						-	
· · ·									-		
INSTRUMEN	TS USED	la /ATE		RK A-	1 \\10"	760 m	TEP		METER	,	
		GE	TECH	U.	LL WA		NIEL.				
-											

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS	3		
MKTF-05 Volumes TIME pH Temperature Conductive (ms/cm								Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial								
GAUGE TIME	1402	1								
DHC (FEET)	14.78	2		ו סוס	VOT S	AMPLE	t			
DTW (FEET)	15.20	3	(FEET			N WE		
DTB (FEET)	17.75	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				PI	URGING DA	TA	<u> </u>	 _		•
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE	******	WATER.	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT								.,		
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	ICE / ODO	R:					
SAMPLE TIME		СОММЕ	NTS:							
					SAMPLE LO	G	,			
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
	·									<u> </u>
			 -							
			1.0.1							
INSTRUMEN'	TS USED	WAT	ER M	ARK	OIL V	VATER	Z IN	TERFA	LE ME	TER
			1 -2-70-1 1				4.72			

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKTE	-06	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial					:			
GAUGE TIME	1408	1								
DHC (FEET)	17.14	2		DID	NOT E	AMPL	E			
DTW (FEET)	18.52	3		1.38				N WE		
DTB (FEET)	23.77	4		<u> </u>						
DTB - DTW		5								
CAPACITY PER	0.74 - 4"	6				-			-	
FOOT	0.163 - 2"		<u>.</u>	п	LIDCING DA	TA			<u> </u>	
	·····	14 (F) A 70 10	D CONDIT		URGING DA	NIA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER .	APPEARAN	CE / ODC	DR:					
END OF PURGE TIME		СОММЕ	NTS:						, <u>.</u>	
PURGE AMOUNT										
DTW (FEET)										
				SA	AMPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER	APPEARAN	CE / ODC	R:					
SAMPLE TIME		СОММЕ	NTS:			· · ·				
			<u> </u>		SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	IVE
					· · · · · · · · · · · · · · · · · · ·					, .
										
					## *					
·										
INSTRUMEN	TS USED 1	14-1-	- D - M -	ء يو	YT		-	-A < F \ \	A	
		GEC	TECH	ME C	oil wa	NEK_1	LNIEK	TACE P	1E IEK	

COMPLETED BY: TRACY PAYNE

WE	WELL ID TEST PARAMETERS Volumes TIME PH Temperature Conductivity TDS (g/() Salinity (npt) Dissolved ORP (my)									
MKT	F-07	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial								
GAUGE TIME	1413	1								
DHC (FEET)	11.33	2		DID	NOT 9	AMPL	E			
DTW (FEET)	12.55	3		Ĭ	FEET			1 WE	<u></u>	
DTB (FEET)	17.62	4								
DTB - DTW		5	-							
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6						,	· · ·	
			<u> </u>	PI	URGING DA	TA				
3 WELL VOLUMES		WEATHI	R CONDIT	IONS:						
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT	:									
DTW (FEET)			"							
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:					, 	
DTW (FEET)		WATER .	APPEARAN	CE / ODO	R:					
SAMPLE TIME		СОММЕ	NTS:							
			·	5	SAMPLE LO	G	 			
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
										
				<u></u>						
,							<u>.</u>		<u>-</u>	
INSTRUMEN	TS USED		RMA	RK D	IL WAT	ER I	NTER :	FACE	METER	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

55-

WE	WELL ID TEST PARAMETERS Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (mv)									
MK-	TF-08	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial								
GAUGE TIME	1418	1		i .						
DHC (FEET)	13.29	2	_	DI D	NOT S	AMPI	<u></u>		-	
DTW (FEET)	13.63	3	_				1	EN WE	=1 1	
DTB (FEET)	21.98	4	=	(), U .	<u> </u>	<u> </u>	<u> </u>	_14		- -
DTB - DTW		5		-						
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				P	URGING DA	TA				•
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER .	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:	''			- 1811			
PURGE AMOUNT				·····.						
DTW (FEET)		,							· · ·	
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:				,	
SAMPLE TIME		СОММЕ	NTS:						<u> </u>	
					SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS 	PRESERVAT	IVE
							<u></u>			
INSTRUMEN	TS USED -			RK C	IL WA	TER	INTER	RFACE	METE	<u>r</u>
-		<u> </u>	TECH						<u>.</u>	
	COMPLE	TED BY:	TRACI	(PAY	NE.	SIC	GNATURE:	M -		

COMPLETED BY: TRACY PAYNE

WE	LL ID			<u></u>		TEST PA	RAMETERS	3		
MKTE	11	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.8.18	Initial	1300	6.74	14.49	3,412	2.780	2,29	13.6	-164.5
GAUGE TIME	1245	1	1310	6.88	14.22	3.401	2.784	2.29	9.9	~13170
DHC (FEET)	ND	2	1316	6.88	14.30	3.741	2042	2.52	149	-165.8
DTW (FEET)	7.87	3	1325	6.87	14.32	3.890	3,409	2.84	21.9	-1503
DTB (FEET)	18.31	4		_					<u></u>	
DTB - DTW	10.44	5								
CAPACITY PER FOOT	0.74 - 4"	6				•				
7.73				Pl	JRGING DA	TA		<u>'</u>		'
3 WELL VOLUMES	23.19	LLEA	R CONDIT	57 W/	ND, 54	0		-		
PURGE DATE	2.8.18	GRE	APPEARAN Y <i>, HC</i>			(RB)D	-> m	UDDY		
END OF PURGE TIME	1325	COMME	NTS:	•				. ,		
PURGE AMOUNT	23.25									
DTW (FEET)	15.60									
				SA	MPLING D	ATA				
SAMPLE DATE	2.8.18		R CONDIT		ND. 56	0				
DTW (FEET)	7.95		APPEARAN Y, <i>HC</i>		<u>V<i>D, 56</i></u> R:					
SAMPLE TIME	1455	COMME	NTS:					<u></u>		
•	•			S	AMPLE LO	G				
SAMPLE ID MKTF-1	TIME L 145		CONTAINE 40 ML		NU	JMBER OF	CONTAINER	RS	PRESERVAT	IVE
				MBER	.		1		NEAT	
			250 M	LAME	BER		1		NEAT	
				LPLAS			1		HNO3	
				LPLAS		-	1		HNOS	
				L PLAS			1.		H2504	
<u> </u>	<u> </u>	<u> </u>	125 M	L MAS	otic		1		NEAT	
INICTOLINATION	TO HOED A	- GE	OTECH	44 A-						
INSTRUMENT	SEC M	AAKIE.	INTERNA	K OIL	- WATE	RIN	IEKFA	CE ME	IER	
12T	<u>556 M</u>	rs v	MAIER	<u>CYUAI</u>	1 Y T	TETER				

COMPLETED BY: TRACY PAYNE

WEI	TEST PARAMETERS Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved Oxygen (%) ORP (mv) Oxygen (%) Oxygen (%)										
MKTF	-39	Volumes	TIME	Hq			TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
	2.8.18	Initial	1548	6,35	_	7.430	5.906	. 5.11	23.9	-92.9	
GAUGE TIME	1540	1	1551	6.39		7.58)	6.092	5.29		105.2	
DHC (FEET)	Z	2	1554	6.31		8. 833	7.026	6.16	12.3	1127	
DTW (FEET)	8.18	3	1556	6.36	15.05	, i	6.584	5.74	13.0	118./	
DTB (FEET)	15.20	4	, _			<u> </u>	V	0.1		1211	
DTB - DTW	7.02	5				-111		-			
CAPACITY PER	0.74 - 4"	6	i								
FOOT	0.163 - 2"	J				-					
1.14					JRGING DA	TA					
3 WELL VOLUMES	3.42	WEATHE J.J.	ER CONDITI	ions: EST W	. , Cuil	58°					
PURGE DATE	2.9.18	WATER A	APPEARAN	CE / ODO	R:	*					
	2.0.10		R, HC	ODOR							
END OF PURGE TIME	1556	COMME	NIS:								
PURGE AMOUNT	3.5										
DTW (FEET)	9.40										
:				SA	MPLING DA	\TA					
SAMPLE DATE		_	R CONDITI					-			
	2.8.18		h <i>e as</i> Appearan								
DTW (FEET)	9,00		ne as	=							
SAMPLE TIME	,	COMME		.,		*		*			
SPIRIT EL TIME	1615										
SAMPLE ID	TIME	,	CONTAINE		AMPLE LO		CONTAINE	26	PRESERVAT	IVE	
MKTF-Z			40 ML		INC	NIDER UF	5	10	HCL	IVE.	
	1 101			MBER			1		NEAT	-	
				LAM			1		NEAT		
			250M		STIC		1		HNO2		
			125 M	LPLAS	STIC		1		HNOZ		
			125 M	LPAS	STIC		1		H250		
₩_	V		125 M	LPA	STIC		1		NEAT	_	
IN IOTED IN A STATE	TO 1/055										
INSTRUMENT	-				L WA		NTERF	ace M	1ETER		
YSI	356 MP	S WA	TER C	QUALT	TY ME	TER_					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
NAPIS	3-2	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.9.18	Initial		SH		ON N	VATER	- NO		TNGS
GAUGE TIME	0845	1	_							
DHC (FEET)	иD	2								
DTW (FEET)	8.25	3				:				
DTB (FEET)	14.60	4								
DTB - DTW	<i>4.</i> 35	5								
CAPACITY PER FOOT	0.74 - 4"	6								
1.00	0.163 - 2"			DI	JRGING DA	<u> </u>				
3 WELL	1	WEATH	R CONDIT							
VOLUMES	3.12		APPEARAN		320) 				
PURGE DATE	2.9.18									
	2.4.10	COMME	EAR,	SHEE	N					
END OF PURGE TIME	0900	COMINE	NIO.							
PURGE AMOUNT	3.25									
DTW (FEET)	12.44									
				SA	MPLING D	ATA				
SAMPLE DATE	Z.9.18		R CONDITI		WES	7 W/	N72. 6	2°		
DTW (FEET)	8.27	WATER A	APPÉARAN	CE / ODO	R:					
SAMPLE TIME	1450	COMME LOLL	nts: L <i>ECTE</i> J	D DL	IP05	•				
					AMPLE LC					•
SAMPLE ID	TIME -2 145		CONTAINE		N	JMBER OF		RS	PRESERVAT	IVE
NAPIS-	<u>- </u>		40 ML	. VOA 1L AM	RER)		HCL NEAT	
 			250 M		STIC	1	- -		HNO	
			125 M		STIC				HNO3	
			125 M		STIC	1	•		H2504	
<u> </u>	<u> </u>		125 M	L PLA	STIC	1			NEAT	
								· · · · · · · · · · · · · · · · · · ·	# *	
INSTRUMEN	TS USED				TL WA	TER	INTER	FACE N	1ETER	
			GEOTE	<u> </u>		*******				
								_		

COMPLETED BY: TRACY PAYNE

WE	LL ID		<u> </u>			TEST PA	RAMETERS	<u> </u>		
STP1	- NIM/	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2.7.18	Initial	1310	6.71	14.06	6.181	5,078	4,35	Oxygen (%) 식익, 3	-92.0
GAUGE TIME	1300	1	1319	6,54		-	5.392	· •	40.4	-28.6
DHC (FEET)	ND	2	1328	_	13.21	6.331		4.56		-32.7
DTW (FEET)	20,55	3	1337	6,45	1		5.237		34.1	-40.3
DTB (FEET)	49.73	4	1331	6,40	.0.0	۳.س	3.431	7,47	J40 (10.0
DTB - DTW	29.18	5	 .							
CAPACITY PER FOOT		6								
4/.75		-		Pl	JRGING DA	TA				<u></u>
3 WELL VOLUMES	14.25	CL	R CONDIT	STRO	NG WE	est w	IND, E	5/ ¹⁰		
PURGE DATE	2.9.18	CL	APPEARAN BAR	CE / ODO	R:					
END OF PURGE TIME	1337	COMME	NTS:							
PURGE AMOUNT	14,25									
DTW (FEET)	44.00									
				SA	MPLING DA	ATA				
SAMPLE DATE	2.9.18		R CONDIT		<u> </u>					
DTW (FEET)	40.58	WATER .	APPEARAN	CE / ODO	R:					
SAMPLE TIME	/355	COMME			-		***************************************			
					AMPLE LO	G			•	_
SAMPLE ID	NW /	355	250 250	ML A ML P	MBER LASTIC	1	CONTAINER 5 1	RS	PRESERVAT HCL NEAT HNO3	
V	,	<u> </u>	125 125 125	MLP	LASTIC LASTIC LASTIC	2	1 1		HNO3 H2SC NEAT	ير
INSTRUMEN'	TS USED	WAT		KRK (RFAC	E ME	TER

COMPLETED BY: TRACY PAYNE

WEI	LL ID	<u> </u>				TEST PA	RAMETERS	3		
KA-	3	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.9.18	Initial 🐧	917	6.80	19,71		1,3 54	1.07	16.4	-64.2
GAUGE TIME	0909		5922		23,63				18,3	-97.2
DHC (FEET)	ND			7.70		2,010			15.7	-96.9
DTW (FEET)	8,40		0933	7.69		2.007	_		15.8	-95.3
DTB (FEET)	24.30	4	0 (00	7.0 1	٠-٧،٦١	2,000	1,290	1,00	15,0	12.0
DTB - DTW	15.90	. 5								-
CAPACITY PER	0.74 - 4"	6	<u> </u>							-
FOOT	0.163 - 2"	0								
2.59	<i>}</i>	I	<u></u>		URGING DA	TA	•, •		·	
3 WELL VOLUMES	7.77		ER CONDIT		ان در د		•			
VOLUMES	7	WATER	<i>EAR, C</i> APPEARAN	ICE / ODO	4/ R.	···				
PURGE DATE	2.9.18		EAR	027 000	•••					
END OF PURGE TIME	0933	COMME	NTS:							
PURGE AMOUNT	26 8						181. 1		•	
AMOUNT	200							-		<u>.</u>
DTW (FEET)	20.∞			=				· · · · · ·		
					MPLING D	ATA				
SAMPLE DATE	2.18		ER CONDIT EAR,		NG WI	257 N	UND.	62°		
DTW (FEET)	0.00	WATER.	APPEARAN	CE / ODO	R:					•
` ,	8,80	COMME	EAR			·				
SAMPLE TIME	1530	COMM								
__				5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU		CONTAINE	RS	PRESERVAT	TIVE
KA-3	153		HO ML			<u>5</u>			<u>HCL</u>	
				L AM		<u>고</u>			NEAT HNO	
			250 M		ISTIC. ISTIC	<u></u> -			HNO	
				L PLA					Hosc	
	V			IL PLA		1			NEAT	
								<u>-</u>		
INICTOLINATION	TO LICED		EOTEC		ver 4			1-4/	N	
INSTRUMEN	6 MPS						LNTER	CHICE	WETE	<u>~</u>
127.25	ע ו־ארט ש	WHIL	T CALLE	<u> </u>	1.1212					
										

COMPLETED BY: TRACY PAYNE

WE	L ID	Γ				TEST PA	RAMETERS	<u> </u>			
NAPI	9-3	Volumes	TIME	рН	Temperature	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)	
GAUGE DATE	Z.9.18	Initial	1000	7.60	Degrees C			1.33	Oxygen (%)	-76.0	
GAUGE TIME	0952	1	1004	7.97		7.3 <i>5</i> 8			18.6	-52.5	
DHC (FEET)	ND	2	•	134	ILED		NO	5 GA			
DTW (FEET)	9.70	3									
DTB (FEET)	31.60	4									
DTB - DTW	21.90	5		_							
CAPACITY PER FOOT	0.74 - 4"	6									
3.5	7			PL	JRGING DA	TA			 -	_	
3 WELL VOLUMES	10.71		ER CONDIT AR, CA APPÉARAN		410						
PURGE DATE	2.9.18	CL	EAR								
END OF PURGE TIME	LO10 COMMENTS:										
PURGE AMOUNT											
DTW (FEET)	21.45										
					MPLING DA	ATA					
SAMPLE DATE			ER CONDITI EAR S APPEARAN		16 WG	<i>≦S</i> 7 ¹1	NIND.	_62°			
DTW (FEET)	20.85	WATER I	APPEÁRAN <i>AR</i>	CE / ODOI	R:						
SAMPLE TIME	1600	COMME	NTS:								
					AMPLE LO						
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE	
NAPIS.	-3 160		40 ML			<u> </u>			HCL		
				LAME		<u> </u>			NEAT		
			250 M		STIC	<u> </u>			HNO3		
			125 M		STIC				<u> HNO3</u>		
	·			L PLAS		<u> </u>			H2.90-	<u> </u>	
₩	V		140 M	L PLAS	2110				NEAT	_	
		GF	OTECH					<u> </u>			
INSTRUMEN	IS USED .		_		IAL IT	ATER	TNITE	RFM=	METER		
	56 MPS	WATE	R QU	ALTT	Y MET	ER					
	COMPLE	TED BY:	TRACY	PAYN	E	SIC	GNATURE:	787			
							•	•			

WE	LL ID	<u> </u>	-			TEST PA	RAMETERS	 }		
	IS-1.	Volumes	TIME	Hq	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE		Initial			Degrees C	(mS/cm)			Oxygen (%)	<u> </u>
ì	2.9.18		1036	8.10	15.73		4779	4.08	16.6	∂. £8−
GAUGE TIME	1028	1	1039	8 .05	15.86	6.087	4.794	4.09	14.4	1263
DHC (FEET)	MD	2	1044	7.98	16.06	6.127	4,803	4.10	15.3	107.8
DTW (FEET)	12.60	3	1049	7.97	16.02	6.141	4.812	4.10	18,0-	1178
DTB (FEET)	27.78	4								
DTB - DTW	15.18	5								
CAPACITY PER FOOT	0.74 - 4" (0.163 - 2")	6								
2.47				Pl	JRGING DA	TA.				<u> </u>
3 WELL			R CONDIT			*				
VOLUMES	7.41	LLE	AR, W. APPÉARAN	<u> 557 w</u>	IND,	530				
PURGE DATE	2.9.18					•				
END OF PURGE TIME	1049	COMME	IHT YE INTS:	<u> </u>	<i></i>				, , , , , , , , , , , , , , , , , , ,	<u></u>
PURGE										
AMOUNT	7.50				··-					<u>.</u> .
DTW (FEET)	26.40									
				SA	MPLING D	ATA	<u></u>			
SAMPLE DATE	7 67 763		R CONDIT		1/1/D	600			,	
DTM (FFFT)		WATER	<i>EAR, W</i> APPEARAN	CE / ODO	R: /					.
DTW (FEET)	24.40		GHT Y							
SAMPLE TIME	1645	COMME	NTS:							
	<u></u>			S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
<u>OAPIS-</u>	1 164!	5	40 ML			<u>5</u> _			HCL	
			1 LA	MBER	<u> </u>	2			NEAT	
			250 M		•	1			NEAT	
			250 M	L PLAS	3TIC	_1			HN03	
<u> </u>		-	125 MI						HNO3	
			125MI	- PLAS		<u> 1</u>			112804	
			<u> 125 MI</u>	<u> </u>	STIC_	1			NEAT	
<u> </u>	<u> </u>		500M			1			HOAN	<u> </u>
INSTRUMEN						ER I	STERF	KE MI	ETER	
YSI 5	56 MPS/1			LITY	METE	R				, <u>-</u>
		GE07	ELH							
									-	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

77-

WEI	LL ID	Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved Oxygen (%) ORP (mv)								
RW-5	5	Volumes	TIME	рН	Temperature Degrees C		TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.9.18	Initial								
GAUGE TIME	1143	1		DID N	OF GA	MPLE	TO	AB		
DHC (FEET)	25.50	2		8.10	ľ	OF SP		IELL		
DTW (FEET)	33.60	3							•	
DTB (FEET)	39.59	4		BAI	ED (GAL	LONS	OF 31	PH	
DTB - DTW	NA	5		PU	MP TO			TALLE	1	
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:	1 100 100 100 1					
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT							<u>.</u>	•		
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE	2.9.18	WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN 	CE / ODO	R:					
SAMPLE TIME	1150	COMME	NTS:							
				5	SAMPLE LO	G				
SAMPLE ID パルー5	TIME //50		CONTAINE £ L A!	R TYPE M <i>BER</i>		JMBER OF 		RS	PRESERVAT	VE
-					····			<u></u>		
					·-			<u></u>		
								_		
INSTRUMEN	TS USED				- WATI	ERT	NTER	FACE	METER	
		شك	OTECH	•						

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
RW-	6	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.9.18	Initial								
GAUGE TIME	1148	1		DID	NOT !	5AMPL	E TO	LAB		
DHC (FEET)	25.65	2		7.40	FEET		PH IN	_	·	
DTW (FEET)	33.05	3								
DTB (FEET)	40.90	4		BATU	D 0	GALL	210	OF SF	14	
DTB - DTW	NA	5			PUMP		1	STALL		
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
	0.163 - 2			<u> </u> Pi	L URGING DA	TA	<u> </u>			
3 WELL		WEATHE	R CONDIT							
VOLUMES										
PURGE DATE		WATER A	APPEARAN	NCE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT						,				
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	TONS:					·	
DTW (FEET)		WATER A	APPEARAN	ICE / ODO	R:					
SAMPLE TIME	1156	СОММЕ	NTS:	·						
					SAMPLE LO	G		· · · · · · · · · · · · · · · · · · ·		
SAMPLE ID RW-E	TIME 2 //5		CONTAINE	R TYPE MBER		JMBER OF 1	CONTAINE	RS	PRESERVAT	IVE
										
		-								
(NIOTO) 15 4551	TO 110ED		- <u>-</u>			·			·	<u></u>
INSTRUMEN	IS USED				L WAT	ER I	nterf	ALE M	IETER	
		(52)	DTECA	-1						
	COMPLE	TED BY:	TRAC	Y PAY	NE	SIC	GNATURE:	FF-		
								/	-	

WELL ID TEST PARAMETERS NIA OTC 1 Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (my)										
NAPI	9-1	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial								
GAUGE TIME	0830	1								
DHC (FEET)	6.15	2		DIDN	AC TO	MPLE				
DTW (FEET)	8.10	3		1.95	FEET	of Si	H IN	WELL		
DTB (FEET)		4					-			
DTB - DTW	-	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	·ΤΑ	•			
3 WELL VOLUMES		WEATHE	ER CONDIT	IONS:						
PURGE DATE		WATER.	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS.							
PURGE AMOUNT				4200						
DTW (FEET)	:		.	- 						
·				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:	i.					
DTW (FEET)		WATER .	APPEARAN	CE / ODO						
SAMPLE TIME		COMME	NTS:		•					
				5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NI *	JMBER OF	CONTAINE	RS	PRESERVATI	VE
					*		· · · · · · · · · · · · · · · · · · ·			
				<u></u>						
			· ·							
_					-					
INICTOLINATIA	TOLICED	1 . 1 ·	**						A A A B C C C C C C C C C C	_
INSTRUMEN	19 09ED	GE	OTECH		<u> </u>	TEK	LNIER	FACE	METER	Z

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
OTL S	SUMPLEX	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18									
GAUGE TIME	0945	1								
DHC (FEET)	ND	2		Dil	D NOT	SAM	PLE-	DRY		
DTW (FEET)	ND	3			•			_ , ,		
DTB (FEET)	6.60	4							•	
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATH	R CONDIT	IONS:					•••	
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							,
PURGE AMOUNT										•
DTW (FEET)										
_				SA	MPLING D	ATA	-		·	
SAMPLE DATE		WEATH	ER CONDIT	IONS:						
DTW (FEET)		WATER.	APPEARAN	ICE / ODO	R:		.			
SAMPLE TIME		СОММЕ	NTS:							
				5	SAMPLE LO	G		-		•
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
	······						·			
					 					
			,							
										
							<u> </u>			
INSTRUMEN	ITS USED	GEO'	TECH	OIL	WATER	Z IN	TERFA	CE ME	TER	
	· · · · · · · · · · · · · · · · · · ·									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
EAST	LDU	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial				-				
GAUGE TIME	0950	1								
DHC (FEET)	ND	2								
DTW (FEET)	1.50	3								
DTB (FEET)	12 × 12	.76								
DTB - DTW	N/A	5								
CAPACITY PER FOOT		6								
	0.103 - 2			<u>!</u> F	PURGING DA	ATA N	^			<u> </u>
3 WELL VOLUMES		WEATHI	ER CONDIT			IN/				
PURGE DATE		WATER	APPEARAN	ICE / OD	OR:					
END OF PURGE TIME	<u>.</u>	СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)	,									
	·	•		S	AMPLING D	ATA				
SAMPLE DATE	2.12.18		ER CONDIT ンD Y,		NG SW	GNIM	.45°			
DTW (FEET)	1.50		APPEARAN EY, HC				,			
SAMPLE TIME	10.25	COMME	NTS:		DUP06	, AT	THIS	WEL	L	
					SAMPLE LO)G				
SAMPLE ID	TIME		250 M	IL VC		UMBER OF 5 1 1	CONTAINE	RS 	PRESERVAT HCL NEAT HNO2	
V	¥		125M		ASTIC	1			HNO 2	
						= 50000				
		G	FOTEC	4						
INSTRUMEN	ITS USED	WATE	RMAR	K OIL	WATER	Z INT	ERFAC	E METE	ER	
								<u></u>		
	**		-						,	

COMPLETED BY: TRACY PAYNE

WE	LL ID	_				TEST PA	RAMETER:	S		
WEST	LDU	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial								
GAUGE TIME	0953	1								
DHC (FEET)	ND	2								
DTW (FEET)	11.74	3								
DTB (FEET)	12.50	4								
DTB - DTW		5							_	
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6				·				
				F	PURGING DA	TA N/A				
3 WELL VOLUMES		WEATHI	ER CONDIT			· / /				
PURGE DATE		WATER	APPEARAN	ICE / OD	OR:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
					AMPLING D	ATA .				
SAMPLE DATE	Z·12·18		ER CONDIT		THWES	T WA	ID, 46°	9		
DTW (FEET)	11.74	WATER OL	APPEARÁN IVE, I	ICE/ODI FA/N7	74 WES OR: ODOI	R CL	.EAR			
SAMPLE TIME	10 to	COMME	INTS:			,				
					SAMPLE LO					
SAMPLE ID WEST	LDU 101) 		AOV _		JMBER OF	CONTAINE	RS	PRESERVAT HCL	IVE
			250 M	_		<u> 1</u>			NEAT	•
	<u> </u>	*-	<u>250 r</u> 125 m		LASTIC ASTIC	<u>1</u> 1	<u> </u>		1-1NQ=	
INSTRUMEN	TS USED	GEOT	ECH C	JIL V	NATER	INTE	RFACE	E MET	ER	
					· · · · · · · · · · · · · · · · · · ·		_			
	COMPLE	TED BY:	TRALY	PAYN	E	SIC	GNATURE:	XX-7	, —	

WE	LL ID					TEST PA	RAMETER	S		
GWM	1-2-	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2-12-18	Initial							70 ,	
GAUGE TIME	1146	1		!						
DHC (FEET)	ND	2		Dı	D NOT	SAM	PLE.			
DTW (FEET)	ND	3			VATER					
DTB (FEET)	19.05	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6				- "				
-3	<u> </u>			PI	JRGING DA	TA				
3 WELL VOLUMES		WEATHI	ER CONDIT	TONS:						
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATH	ER CONDIT	TONS:						
DTW (FEET)		WATER	APPEARAN	ICE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
		<u> </u>		5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	TVE
	<u> </u>								***	
										
								···		
INSTRUMEN	TS USED	TAW	CRM	ARK C	JIL W	ATER	INTE	RFACE	METE	2
_		GE	SOTEC	H						
										•

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X-1-

WE	LL ID					TEST PA	RAMETERS	3		
GWM-	1	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial								
GAUGE TIME	1151	1								
DHC (FEET)	21.83	2		DID	NOT	SAME	NE			
DTW (FEET)	22.20	3		0.37	FEET	OF.	SPH I	N WE	<u>[</u>	
DTB (FEET)		4		, ·						
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUM E S		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	75	PRESERVAT	VE
								····		
			 	···	<u>.</u>					
										
			·							
IN IOTO III	TO LICES		_		<u></u>					
INSTRUMEN	IS USED .	WATE GE	RMAR	KK 07.	EL WA	TER -	INTER	RFACE	METE	R

COMPLETED BY: TRACY PAYNE

WEL	L ID						RAMETER	S		
GWM	3	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial								
GAUGE TIME	1156	1								
DHC (FEET)	ND	2		D.	D NO	1A2 T	MPLE			
DTW (FEET)	ND	3		İ	WATE		1			
DTB (FEET)	18.05	4								
DTB - DTW		5								
CAPACITY PER		6								
FOOT	0.163 - 2"				LIDOING DA					
	······	/MEATUR	ER CONDIT		URGING DA	MA				
3 WELL VOLUMES		AAEWIU[
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
					MPLING D	ATA				
SAMPLE DATE		WEATHE	ER CONDIT	IONS:						
DTW (FEET)		WATER .	APPEARAN	ICE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
					SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
										<u> </u>
								· 		· <u>-</u>
								•=		
14122-1										
INSTRUMEN	IS USED	TAW	ERMA	RK (OIL W	ATER	INT	ER FAC	'E ME	TER
					<u></u>					

COMPLETED BY: TRACY PAYNE

DITE	ALL					TEGT D		•		
∠→ -₩=	FF ID			i	T		RAMETER	S	Dissolved	т -
STP-1 -	O EP-Z	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE		Initial				;				
GAUGE TIME		1								
DHC (FEET)		2					•			
DTW (FEET)		3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				F	PURGING DA	TA		······································		
3 WELL VOLUMES		WEATH	R CONDIT	IONS:						
PURGE DATE		WATER	APPEARAN	CE / OD(OR:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT							-			
DTW (FEET)										
				S	AMPLING D	ATA				
SAMPLE DATE	9 4	WEATH	R CONDIT	IONS:						
·	2.12.18	Clo	OUDY,	57K	?ONG _	5W n	IND,	480		
DTW (FEET)	NA	WATER	APPEAKAN	CE / ODG	JR:		·			
SAMPLE TIME	1325	СОММЕ	NTS:		· · · · · ·	-				,
		•			SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		N	JMBER OF		RS	PRESERVAT	IVE
STP-1 TO		25	40 MI			<u> </u>	<u> 5</u>		<u> HCL</u>	
EP-2	-		<u> 250 r</u>	1L AM			<u>1 </u>		NEAT	
			500 M	PLAS			<u> </u>		NEAT NEAT	
	1/		5001				<u> </u>		Ho SOU	
			1						12 000	
INICTOLINATIV	ITC LICED									
INSTRUMEN	113 USED									
									,	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MKTF	-38	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.12.18	Initial	1416	7.02	12.32	1.853	1. 588	1.27		141.0
GAUGE TIME	1405	1		The Paris					E WAT	
DHC (FEET)	ND	2		The second second					VALTT	
DTW (FEET)	8.40	3			DING		7.731			
DTB (FEET)	20,30	4		112	NOT NO	3				
DTB - DTW	11.90	5								
CAPACITY PER FOOT	F - 25 3 2 2 2 3 2 5 5 5 5 5	6								
1.94				PI	JRGING DA	ATA				
3 WELL		WEATHE	R CONDIT			*****				
VOLUMES	5.82	CL	DUDY	, SW	WINZ	,48°				
PURGE DATE	2.12.18		APPEARAN			HEEN,	HC C	DOR		
END OF PURGE TIME	1432	СОММЕ	NTS:		,					
PURGE AMOUNT	6.0.									
DTW (FEET)	10.25									
				SA	MPLING D	ATA				
SAMPLE DATE	2.12.18		R CONDIT							
DTW (FEET)	10.00	WATER	APPEARAN	ICE / ODO	R:					
SAMPLE TIME	111	COMME	NTS:			25 10				
ONIVIT EE TIIVIE	1455	COLL	ECTEL			IL AME	BER			
SAMPLE ID	TIME		CONTAINE		SAMPLE LO		CONTAINE	00	DDECEDVAT	IV/E
MKTF-36		55			INC	JMBER OF	CONTAINE	15	PRESERVAT	IVE
I IVIL 36	772		40 ML			<u>5</u>	7		HCL NEAT	
			250 M		KED	1			NEAT	
			250 M			1			HNO3	
			125 M			1			HNO3	
			125 M			1			H250	
V	V		125 M			1			NEA.	
	*		OTECH						141-04	1
INSTRUMEN	TS USED				MIATE	R INT	EDEA	E ME	TED	
	56 MPS	MAT	FR M	IAI TT	MET	ER TIN	ENTAL	FIE	151	
1010	טט ויורט	IMVY	سار کیا	July I,	ITE	EL				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
RW-	1	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.13.18	Initial								
GAUGE TIME	1130	1		0.28	FEET	OF 8	H IN	WELL		
DHC (FEET)	26.94	2		_			BALLON		SPU	
DTW (FEET)	27.22	з								
DTB (FEET)	CE 28m	4								
DTB - DTW	43.04	5						:		
CAPACITY PER		6								
FOOT	0.163 - 2"			DI	JRGING DA		<u> </u>		<u></u>	
		Ivaze A eri ce	D CONDIT		JRGING DA	VIA				
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:						
PURGE DATE		WATER .	APPEARAN	CE / ODO	R:			-	•	
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT				100.00						
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATH	R CONDIT	IONS:						
DTW (FEET)	*	WATER .	APPEARAN	CE / ODO	R:		****			
SAMPLE TIME		СОММЕ	NTS:							
			•	5	SAMPLE LO	G			-	
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	VE
							<u></u>			
							•,-			
DIOTOLIC (C)	TO 110 TT		_							
INSTRUMEN	IS USED	GE07	ECH O	IL WA	TER :	INTER	FACE M	ETER	.	
	COMPLE	TED BY:	TRAC	Y PA:	YNE	SI	GNATURE:	XF-	·	
						-		r -		

WEI	LL ID					TEST PA	RAMETER	S		
MKT	(F-10	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
	2.14.18	Initial		SHEE	N ON	PURG	E WA	TER		*** *
GAUGE TIME	0908	1							DINGS	-
DHC (FEET)	ND	2				COL		1		
DTW (FEET)	7.30	3								
DTB (FEET)	16.10	4								
DTB - DTW	8.80	5								
CAPACITY PER	0.74 - 4"	6					,			
6.51	0.163 - 2			Pl	JRGING DA	ATA		<u> </u>	<u> </u>	
3 WELL		WEATHE	R CONDIT							
VOLUMES	19.53	LLC	DADY, U	WEST V	NIND.	37°				
PURGE DATE	n 11/0	WATER /	APPEARAN	CE / ODO	R: '					
	2.14.18	CLE COMME	MTC.	<u>GREY,</u>	TURBI	D, SHE	EN, I	4C 0D	OR	
END OF PURGE TIME	0923	COMME	NIS:							
PURGE AMOUNT	7								····	
DTW (FEET)	15.75									
				SA	MPLING D	ATA		•		
SAMPLE DATE	2.14.18		R CONDITI		JUD 5	రి				
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:					
- · · · (·,	7.30	<u> </u>	AR, S	HEEN	, HC	DOR.				
SAMPLE TIME	1455	COMINE	N 19:							
				S	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVATIV	/E
MKTF-1	.D 145	5	40 ML			5	<u> </u>		<u> </u>	
				MBER			-	<u>.</u>	<u>NEAT</u>	<u></u> .
	-			LAMB			<u>. </u>		NEAT	<u></u>
			250 M						<u>HN03</u>	
	ì			L PLAS					HNO3	
	- 1	<u>. </u>	125 M		<u> </u>		-		H250	4
V	Ψ	-1	125 M		JIIC.				NEAT	
INICTOLINACIO	TO HOUR	<u> </u>	EOTECH	4						
ING IKUMEN	TS USED	HATTE	K MAK	SK OI	TAW_	R IN	ERFA	CE MET	ER	
75.T.51	56 MP9 1	WATE	R QUAL	TTY M	ETER					

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	L ID	1				TEST PA	RAMETERS	<u> </u>		
MILT	<u>- ^0</u>	Volumes	TIME	рН	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	F-09			· _	Degrees C	(mS/cm)		1	Oxygen (%)	
	2.14.18	Initial	0953	6.90	11.30	1711	1,506	1.70	30.0	-78.3
GAUGE TIME	0946	1	0958	6.93	12.19	1.682	1.448	1.15	14.3	-164.9
DHC (FEET)	ND	2		SHEE	N OB	SERVED	ON	PURGE	WATER	<u> </u>
DTW (FEET)	13.76	3		DIS	CONTIN	UED Z	COLLEC	71NG		
DTB (FEET)	22.74	4		•		MALIT				
DTB - DTW	8.98	5			•					
CAPACITY PER FOOT	0.74 - 4"	6			····		n=			
6.65	-			Pl	JRGING DA	TA		ı		
3 WELL	· · · · · · · · · · · · · · · · · · ·	WEATH	ER CONDIT	IONS:						
VOLUMES	19.95				<i>ID, 37</i> ° R:	o				4
PURGE DATE	2.14.18					OR, SA	IEEN			
END OF PURGE TIME	1014	СОММЕ	NTS:			-	-		" 	
PURGE AMOUNT	20# G								<u> </u>	_
DTW (FEET)	18.35				. .					
				SA	MPLING DA	ATA			,	
		WEATHE	R CONDITI							
SAMPLE DATE	<i>a 111 10</i> 1				D. 49	0				
DTM (EEET)		WATER A	APPEARAN	CE / ODO	<u>'D , 49'</u> R:					
DTW (FEET)	13,77	CLEA	IR, SHE	EN, H	C ODOI	<u>e</u>				
SAMPLE TIME	1540	COMME	NTS:	,						
	1970				AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE			JMBER OF	CONTAINE	RS	PRESERVATI	VE .
MKTF-C	09 154	0	40 ML	AOV-		5			HCL	
				MBEF	<u> </u>	1			NEAT	
				MAJI		1			NEAT	
				IL PLA		1			HNOZ	
			125 M	1L PLA	STIC	1			HNO3	
			125 M	1L PLA	4STIC	1_			H2.50	4
<u> </u>		<u> </u>		1L PLA	YSTIC.	1_			NEAT	
		-BE	EOTECH			-:				
INSTRUMENT	S USED 🥎	WATE	RMAR	K OI	L WATE	R IN	TERFA	CE ME	TER	
YSI 5	56 MPS	WATE	er Qu	ALITY	METE	ER				

COMPLETED BY: TRACY PAYNE

WE	LL ID				<u> </u>	TEST PA	RAMETER	S		<u> </u>
MKT		Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.14.18	Initial	_	SHEE	NON	PIRG	E 11/4-	TEP	Oxygen (x)	
GAUGE TIME	0818	1			1	ſ		READI	N/ES	_
DHC (FEET)	MD	2				COLL	i			
DTW (FEET)	9.85	3	,						 -	
DTB (FEET)	22.37	4								. .
DTB - DTW	12.52	5				<u> </u>				
CAPACITY PER	0.74 - 4"	6							 .	<u> </u>
FOOT	0.163 - 2"	-								
9.2		14/547115	- CONDIT		JRGING DA	TA				
3 WELL VOLUMES	27.78		ER CONDIT		NIND,	200				
		WATER	APPEARAN	ICE / ODO	<u>・/ / () </u>	<i>3 </i>				<u>.</u>
PURGE DATE	2.14.18	GK	EY,		V, 11C	ODOR	2			
END OF PURGE TIME	0838	СОММЕ	NTS:			-				
PURGE AMOUNT	16 GALS							<u> </u>		
DTW (FEET)	21.88	_	_						<u>-</u>	_
			-	SA	MPLING DA	\TA	-		"	"
SAMPLE DATE			R CONDITI			0				
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>ረ-ረ</u> 0 ረ WATER /	1774 S APPEARAN	CE / ODO	<u>v D , 50</u> R:	<u> </u>				
DTW (FEET)	10.60	GRE	YSHE	EN A	ND, 50 R: UC OX	OR				g en
SAMPLE TIME	1405	COMME	NTS:	- , 	^ 4==Z	. 4			<u>.</u>	
	1400	LOLL	ECTEL	DUF	0/ <u>8</u>	1 EX	MA	11 1	MBER	,
SAMPLE ID	TIME		CONTAINE		AMPLE LOC	MBER OF (CONTAINE	20	DDECEDVATI	VE
MKTF-2	1405				INU		JONIAINEI	70	PRESERVATI	VE
10111-	7,700	<u> </u>	40 ML			5	2,		11CL_	
-				MBER			<u></u>	***	NEAT	
	-		250 MI						NEAT	
			250 MI			_ 	•	<u>.</u>	HNO3	
			125 M			_ _	<u> </u>		HNO3	
- 1,			125 MI		TIC				H2504	<u></u>
V	Ψ	_	<u> 25 ML</u>	_ PLAS	TIC	1			NEAT	
			TECH							
INSTRUMENT	. -	MATER	-MARK	OIL	WATER	INTE	RFACE	METE	R	
<u> </u>	556 MPS	3 W	ATER I	QUAL	ETY MI	ETER				
	COMPLET			4 CDA V		010	NATURE:	<i>(</i>).		

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3	.	
NAKT	- V-	Volumes	TIME	На	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	_	Initial	3 4 4	<u> </u>	Degrees C	(mS/cm)			Oxygen (%)	
	2.14.18		1046	6.93			2.626	_	17.1	-99.4
GAUGE TIME	<u>/038</u>	1	1048	6.92	<i>/5</i> .72	3.340	2.640	2.17	16.5	-111.6
DHC (FEET)	MD	2	1050	6.91	15.25	<u>3427</u>	2.691	2.20	36.0	-/09.5
DTW (FEET)	8,80	3	1052	6.89	15.24	3.47/	2.669	2.19	15.6	-115.6
DTB (FEET)	14.10	4								
DTB - DTW	5.30	5			ĺ					
CAPACITY PER FOOT	0.74 - 4"	6								
0.86	,		L s.	P	URGING DA	TA	<u> </u>	•	<u></u>	·
3 WELL VOLUMES			ER CONDIT		TWIN	D, 50'	o O			· ·
PURGE DATE	2.14.18	WATER	APPEARAN EAR, /	ICE / ODO	R:					
END OF PURGE TIME	1052	COMME	NTS: /					·		
PURGE AMOUNT	2.6								=	
DTW (FEET)	13.70									
			-	SA	MPLING D	ATA				
SAMPLE DATE	2.4.18	WEATH	R CONDIT	IONS:						
SAIVIPLE DATE		LU	DUDY, I	CALM,	36°			- · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
DTW (FEET)			APPEARAN	-		Tr - ()				
	8.90			<u>BKOWN</u>	,1460	UOK				
SAMPLE TIME	0915	COMME		D DI	P08 8	1 =	YTDA "	1 , 1	MRED	
	7,0				SAMPLE LO		<u> </u>	F L M	MOEK	
SAMPLE ID	TIME		CONTAINE				CONTAINE	RS	PRESERVAT	IVE
MKTF-16	0913	5	40 ML	AOV			5		HCL	
				MBER			\$ 2		NEAT	
			- :	1LAME			1		NEAT	
			250 M	IL PLAS	STIC		1		HNO ₃	
			125 M	IL PLAS	STIC		1		HNO3	
	ì	3	125 M	IL PLA	STIC		1		H2.90	չել
<u> </u>		<u>.</u>	125 M	L PLAS	STIC		1_		NEAT	-
		<u>G</u> e	OTELH	<u> </u>						原生
INSTRUMEN	-						NTER	FACE	METER	
YSI E	556 MPS	WA	TER	QUALT	TY ME	TER				17
				-		-				12

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS	3		
MKTF	-20	Volumes	TIME	Нą	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.14.18	Initial	1242	6.43	14.90	10.32	8,310	7.38	19.7	119.7
GAUGE TIME	1230	1					WATER	1		
DHC (FEET)	ND	2					•	6 WA7	ER	
DTW (FEET)	7.45	3			[EADIN				
DTB (FEET)	2,55	4								
DTB - DTW	2.10	5					1-11			
CAPACITY PER		6								
FOOT	0.163 - 2"	<u> </u>							<u> </u>	
1.55		1.47m 4 = 1 ··	ED ACUE		URGING DA	ATA				
3 WELL VOLUMES	4.65	l	ER CONDIT		(417)	500				
VOLUMED	<u>-</u>	WATER	APPEARAN	ICE / ODO	R:	<u> </u>		-		
PURGE DATE	2.14.18	CL	EAR,	LT GR	EY, O	DOR, S	HEEN			
END OF PURGE TIME	1250	COMME	ENTS:	-				· ·		
PURGE AMOUNT	3 GALS									
DTW (FEET)	9.40									
		•		SA	MPLING D	ATA				
SAMPLE DATE	2.15.18	WEATH!	ER CONDIT	IONS:	WD 36	0				
DTW (FEET)		WATER	APPÉARAN	ICE / ODO	R:					
DIW (FEET)	7.42	C'LE1	ak, exe	R, SH	EEN					
SAMPLE TIME	1010	COMME	ENTS:							
	1010				SAMPLE LO)G	· · · · · · · · · · · · · · · · · · ·			
SAMPLE ID	TIME		CONTAINE	R TYPE	N	UMBER OF	CONTAINE	RS	PRESERVA [*]	ΓΙVE
MKTF-2	0 10	10	40 ML	_ VOA		<u>. </u>	<u>5 </u>	****	HCL	
			1 L A	MBER			1		NEAT	
			250 M	1L AME	BER		1		NEAT	
				IL PLAS			1		HNO3	
				LPLAS			1		HNOZ	
				IL PLAS			1		H250	
	$\overline{}$			L PLAS			1		NEAT	
		CF	OTECH		, <u>, , , , , , , , , , , , , , , , , , </u>				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
INSTRUMEN	TS USED				MT1 14	ルナビタ	ירוגד	DEA CE	E METE	īR.
	_					METE			- 1.15-16	<u></u>
			· · · · · · · · · · · · · · · · · · ·					u		
									_	

COMPLETED BY: TRACY PAYNE

WE	LLID					TEST PA	RAMETERS	3		·-
MKT	F	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.14.18	Initial		SHEE	N ON	PURGE	WATE	R		
GAUGE TIME	1304	1				DLLECT		1		
DHC (FEET)	ND	2				PEADI				
DTW (FEET)	6.88	3]					
DTB (FEET)	8,80	4								
DTB - DTW	1.92	5								
CAPACITY PER FOOT	0.74 - 4"	6								
1.42	·			Pl	URGING DA	\TA				
3 WELL		WEATHE	R CONDIT	IONS:			-			
VOLUMES	4.26	2600	DY, GI	V WIN	10,50	9				
PURGE DATE	e ·				<i>ID 50°</i> R:					
FUNGE DATE	2.14.18	CLEA	R, GRE	Y, OD	OR, SA	IEEN				
END OF PURGE TIME	1320	COMME	NTS:	•••	,					
PURGE AMOUNT	1.756								- 741 - 121	
DTW (FEET)	98.64									
	<i> </i>			SA	MPLING D	ATA				<u> </u>
		WEATHE	R CONDIT	IONS:						
SAMPLE DATE	2.15.18				2.36€	•				
		WATER /	APPEARAN	CE / ODO	<u>シ, 3८ [€]</u> R:					
DTW (FEET)	7.52	CLEA	R. OZ	OR .	SHEEN	•				
CANADI E TINAE		COMME	NTS:							
SAMPLE TIME	1100									
	,				SAMPLE LO					
SAMPLE ID			CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	VE
MKTF-	110	<u>o</u>	40 ML			<u>5</u> _			HCL	
		.		ABER_		144	<u> 1</u>		NEAT	
			<u>250 M</u>		•	<u> </u>			NEAT	
			<u> 250 m</u>			<u> </u>			HN03	
			125 M						HNO3	
			125 M			1			H250-	
			125 M		जार	1_			NEAT	
INSTRUMEN	TS USED		OTECH		T	T=0 =	مرسولية . - استرسانية .		N	
	556 MP							PACE !	METER	
	COMPLE	TED BY:	TRACY	PAY	VE_	SIG	NATURE:	X7.		<u> </u>

WEI	LL ID					TEST PA	RAMETERS	3		
MKTF	- 37	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial			208.0000				0/95011 (10)	
GAUGE TIME	1511	1		DID	· NOT	SAMA	PLE			
DHC (FEET)	8.96	2		Ø.	04'0	F SPH	ZN k	VELL		
DTW (FEET)	9,00	3				•				
DTB (FEET)	24.60	4				•			•	
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6			-					
100.	(0.103-2)			Pl	JRGING DA	TA				1
3 WELL		WEATH	R CONDIT		, raina b,					
VOLUMES										
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER .	APPEARAN	ICE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
		<u> </u>			AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NI	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
									,	
										
	-								, <u></u>	
INSTRUMEN	TS USED	GFO	TECHI	071 b	1/A7F F	TAM	FREA	CE ME	FIFR	
	·	لنسوب			√·√! (<u>—</u> —	<u>, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>				

COMPLETED BY: TRACY PAYNE

SIGNATURE:

E:

WEI	LL ID					TEST PA	RAMETERS	3		
MKTF	-45	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial								
GAUGE TIME	152.1	1								
DHC (FEET)	13.09	2		DID	NOT S	AMPLE	•		•	
DTW (FEET)	13.24	3				OF SP		JELL		
DTB (FEET)	30.24	4								
DTB - DTW	э <u>г</u>	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"	Ť								
		I			URGING DA	ATA				
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:						
PURGE DATE		WATER	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	:NTS:							
PURGE AMOUNT							. ,,,			
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATH	ER CONDIT	IONS:						
DTW (FEET)	·	WATER	APPEARAN	ICE / ODO	R:					
SAMPLE TIME		СОММЕ	NTS:							
					SAMPLE LO)G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	UMBER OF	CONTAINE	RS	PRESERVAT	IVE
							•			
<u> </u>									<u>.</u>	
									··	
	<u>.</u> .									
	<u> </u>	GR	TECH							
INSTRUMEN	TS USED	WATE	RMAR	SK OI	L WAT	er I	NTERI	FACE Y	IETER	-
		· · · · · · · · · · · · · · · · · · ·	-							
L	_									

COMPLETED BY: TRACY PAYNE

SIGNATURE:

一

WE	LL ID	-				TEST PA	RAMETER	S		
MKTE	-36	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2./5./8	Initial		SHEER	ONF	URGE	WATE	R		
GAUGE TIME	1532	1		The state of the s	VOT CO		1 1 1 1 1 1 1 1		ALITY	
DHC (FEET)	ND	2			PINGS					
DTW (FEET)	6.86	3						1		
DTB (FEET)	15.45	4								
DTB - DTW	8.59	5								
CAPACITY PER FOOT	1 - 1 - 1 - 1	6								
1.410				Р	URGING DA	TA				
3 WELL		WEATHE	R CONDIT		20,000					
VOLUMES	4.20				Y. 61E	ST W	IND A	400		
PURGE DATE	21-10	WATER A	PPEARAN	NCE / ODC	Y, WE OR: OR, SHE		,			
TOTAL DATE	2.15.18	CL	EAR -	GRE	Y, SHE	EN, F	IC OD	OR		
END OF PURGE TIME	1545	COMMEN	NTS:							
PURGE AMOUNT	4.50G	445								
DTW (FEET)	12.75									
				SA	AMPLING DA	ATA				
CAMPLE DATE		WEATHE	R CONDIT	IONS:						
SAMPLE DATE	2.15.18	SA	ME A	SABO	OVE					
DTW (FEET)		WATER A	PPEARAN	ICE / ODC	R:					
	9.60	SAI	ME A	S ABO	OVE					
SAMPLE TIME	1610	COMMEN	ITS:							
	1010				SAMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE
MKTF-36	1610	2	40 ML	AOV.		5			HCL	
			40 MI			3		1	VA2 520)3
				MBER		1.			NEAT	4.5
		2	District Control	LAMB	ER	1			NEAT	
				L PLAS		1			HNO3	
			25 M	_	STIC	1			HNO3	
				L PLAS		1			H2504	
1	1		25 MI			1				
INSTRUMEN'	TS LISED				STIC		1	300 .	NEAT	
INDIKUMEN	IS USED	MATE	K MA	KK O	IL WA	IER I	NIERF	ACE P	METER	

COMPLETED BY: TRACY PAYNE

a supplement						ILOTTA	RAMETERS	,		
MKTF	-35	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
GAUGE DATE	2.15.18	Initial		LIGH	T SHE	EN O	N PUR	GE W	ATER	
GAUGE TIME	43/643	3 1		10.20		COLLE				
OHC (FEET)	ND	2		100		READ				
OTW (FEET)	8.70	3						n		
OTB (FEET)	16.47	4								
OTB - DTW	7.77	5								
CAPACITY PER	0.74 - 4"	6								
	(0.103-2)			DI	JRGING DA	TΔ				
1.27 3 WELL		WEATHE	R CONDIT		ortania Dr	NIA.				
OLUMES					9W	WIND	400			
PURGE DATE	2.15.18					WIND,				
END OF		COMME	NTS:		LIBAI	SHEE	, 14			
PURGE TIME	1645									
PURGE MOUNT	4 GALS									
DTW (FEET)	9.50									
				SA	MPLING D	ATA				
AMPLE DATE			R CONDITI		3.2					
	2.15.18	SAN	ne as	ABOV	E					
TW (FEET)	9.03		PPEARAN ME AS							
		COMMEN		ABO	VE .			_	1.	
AMPLE TIME	2000									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF		RS	PRESERVAT	IVE
MKTF-3	5 170	0	40 MI	_ VOA		5			HCL	
			HOM			3			VAZ SZ C)-3
			1 LA	MBEF	2	2	1		NEAT	75
			250 M	LAME	BER	1			NEAT	
			250 M	LPLAS	TIC	1			HNO3	
			125 M		STIC	1			HN03	
			125 M			1	-		HzSO	
					STIC	1				4
V	TO LIGHT		125 M		STIC		-		NEAT	
NSTRUMENT	S USED	NATE	R MAR	K O	IL W	ATER	INTE	ERFAC	E ME	TER
	2012		TD 4 45			4	CNIATUDE		/_	

COMPLETED BY: TRACY PAYNE

WE	LL ID	<u> </u>				TEST PA	RAMETERS	3	· · · · · · · · · · · · · · · · · · ·	
MKTF	=-17	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial	1254	7,00		Q 1.579	1.327	1,05	14.4	-105.9
GAUGE TIME	1242	1			I ON PI					1,50,5
DHC (FEET)	70	2	-		NTINU					
DTW (FEET)	11.65	3						TINGS		
DTB (FEET)	24.68	4		TVRIC	r cxu	Alab 11	KEA	711/62		
DTB - DTW		5			<u> </u>				_	
CAPACITY PER	0.74 - 4"									
FOOT	0.163 - 2"	6								
2.12				Pl	JRGING DA	TA .				
3 WELL	4.5.		R CONDIT			_				
VOLUMES	6.36	CL	DUDY, S	W WI	<i>ND, 38</i> R:	3ິ				· = ·
PURGE DATE	2.15.18	WATER .	APPEARAN	ICE / ODO	R: -	14 00	~O			
END OF	2.15.18	COMME	AK WIT NTS:	HC FII	EEN,	HC OD	OK			
PURGE TIME	1302									
PURGE	_									
AMOUNT	2			M	,	 .				
DTW (FEET)	24.49									
				SA	MPLING DA	ATA		*.		
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
0 22 22	2.16.18	CLEA	R, CALA	n, 23°) 					
DTW (FEET)			APPEARAN	-						
	15.20	COMME	NTS:	SOGO						
SAMPLE TIME	0730									
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF		RS	PRESERVAT	IVE
MKTF-	7 073	<u>30 </u>	HO WI				5		HCL	
			1 L A!				<u>L</u>		NEAT	
				L AME			<u>L</u>		NEAT	
			<u> 250 M</u>				1		<u> HNO3</u>	
				L FLAS			<u>L</u>	:	HNO3	
			125 M	L PLAS	TIC.		1		H2SO4	
			125 M				1		NEAT	
		GEO	TECH							
INSTRUMEN [*]	TS USED .			د شتا	WATE	R TH	TERFA	KE MI	ETER	
YST F	56 MPS						,, _,			
	,,,,	* x x x /			· 1 11—'					

COMPLETED BY: TRACY PAYNE

SIGNATURE:

Mi-

WEL	L ID					TEST PA	RAMETERS	S		
MKTF	-19	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial		SHEE	NO N	PURGE	WATE	R		
GAUGE TIME	1318	1			Contract Contract	LECT				
DHC (FEET)	ND	2				READI				
DTW (FEET)	12,00	3								
DTB (FEET)	18.45	4								
DTB - DTW	6.45	5								
CAPACITY PER FOOT	0.74 - 4"	6								
1.05		-		PI	URGING DA	ATA		· · · · · ·		
3 WELL VOLUMES	3.15	CLOU	R CONDIT	TONS: UND ICE/ODO	380					
PURGE DATE	2.15.18	CLE	AR TE			BROWN,	HCO	DOR, S	HEEN	
END OF PURGE TIME	1335	COMME	NIS:							
PURGE AMOUNT	3.25									
DTW (FEET)	17.11									
				SA	MPLING D	ATA				
SAMPLE DATE	2.16.18	CLE	R CONDIT	acm.	23°					
DTW (FEET)	12.26	CLEA	AR, HC	ICE / ÓDO						
SAMPLE TIME	0810	COMME	NTS:							
				5	SAMPLE LO)G				
SAMPLE ID	TIME		CONTAINE		N	UMBER OF		RS	PRESERVAT	IVE
MKTF-1	9 081	0	HO ML				5		HCL	
				MBER			1		NEAT	
				1L AM			1		NEAT	
			2501		STIC		1		HNO3	
			125 M		STIC		1		HNO3	
			125 M		STIC		1		H250L	L
V	V		125 M	IL PLA	STIC		1		NEAT	
INSTRUMEN	TS USED .		R MA		IL WAT	ER I	NTERF	ACE N	NETER	
									,	

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS			
MKTE	ニースロ	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial	1354	7.26	13.14	1.756	1.475	1.17	77.2	44.6
GAUGE TIME	1347	1	1357	7.32	13.54	,	1.464	1.16	64.6	50.3
DHC (FEET)	ND	2	1400	7.31		1.768	1.467	1.17	63.0	<i>5</i> 3. I
DTW (FEET)	18.80	3	1403	7.31		1.785	1,474	1.17	35.7	53.7
DTB (FEET)	27.71	4	7700	1.31	10.00	1. (05	1,4 (1	1.1	<u> </u>	35.7
DTB - DTW	8.91	5								
CAPACITY PER FOOT		6								
1.45				Pi	URGING DA	ATA				
3 WELL		WEATH	ER CONDIT	IONS:						
VOLUMES	4.35	PAR	<u> 7LY </u>	LOUDY	, WE	57 W/	ND, 42	20		
PURGE DATE	2.15.18	CL	EAR,	NO OI						
END OF PURGE TIME	1403	COMME	NTS:							
PURGE AMOUNT	4.5									
DTW (FEET)	26.21									
				SA	MPLING D	ATA				
SAMPLE DATE	2.16.18		ER CONDIT		o		-			
DTW (FEET)	23.25	WATER	APPEARAN	ICE / ODO	R:			_		
CAMBI E TIME		COMME	NTS:				· -			
SAMPLE HIME	0900	COLL	ECTE	DU	1909 8	1 E	XTRA -	/ AM.	BER	
SAMPLE ID	TIME		CONTAINE		SAMPLE LO		CONTAINE	RS	PRESERVAT	TIVE
MKTF-3				L VOA	141	5 S	_	110	HCL	
	,			AMBER	<u>e</u>	2			NEAT.	
				IL AM		1			NEAT	
			250 M		STIC	1			HNO-Z	
			125 N		ASTIC	1			HNO-	
			125 h		ASTIC	1			H250	
			125 M		ASTIC	1			NEAT	
		GEC	TECHT							
INSTRUMEN	TS USED				L WAT	er in	TERFA	CE ME	TER	
YSI 5	556 MPS									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
MKTF	18	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.15.18	Initial	_	SHEEN	ON	PURGE	WATE	R		
GAUGE TIME	1442	1				LECT 1			-	
DHC (FEET)	ND	2				READI				-
DTW (FEET)	6.47	3					•		···-	
DTB (FEET)	26.80	4							_	
DTB - DTW	20.33	5								
CAPACITY PER		6								
FOOT	0.163 - 2"									
3.3	1				URGING DA	ATA				
3 WELL VOLUMES	9.93		ER CONDIT		6		A 4 11 4 77	,,, o		
VOLUMES	7	WATER	APPEARAN	CE / ODO	R: (2)	<u> 557 W</u>	TND,	41		
PURGE DATE	9.93 2·15·18	LLE	EAR TO	O GRE	Y, H	ODOR	2, SH	EEN		
END OF PURGE TIME	1456	COMME	NTS:		····		•	-		
PURGE AMOUNT	3 GALS	•								
DTW (FEET)	26.59									
-	1			SA	MPLING D	ATA				
SAMPLE DATE			R CONDIT							
SAMIFLE DATE	2.16.18	CLER	R, NO	DRTH W	IND, 3	20				
DTW (FEET)	8.15									
	8.10	COMME	R, HC	SHEE	<u> </u>					<u> </u>
SAMPLE TIME	1000	001111112								
					SAMPLE LO)G				
SAMPLE ID	TIME		CONTAINE		N	JMBER OF		RS	PRESERVATI	VE
MKTF-	<u>18 1000</u>	<u> </u>	40 ML			<u></u>	5		HUL	
 -				<u> MBER</u>			<u>1</u>		NEAT	
				LAMB	-		1		NEAT	
	-		250 M				<u>1</u>	<u>,</u>	HNO3	
				LPAS			1.	<u></u>	<u>HN03</u>	
	/			IL PLAS]		H2504	
<u>V</u>			125 M	IL PLAS	जाट		<u>1</u>		NEAT	
INSTRUMEN	TS USED	A Ch	TE OU A	N7/ 14/	A-F/	ساسارها ليد	FICE	Mr	D	
OITCOMEN	-	שבט	ieur C	THE AN	N/E/K	TNICE	FACE	METE		
										

COMPLETED BY: TRACY PAYNE

WE	LL ID	<u> </u>				TEST PA	RAMETERS	3		
OW-	.57	Volumes	TIME	p∺	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	2-19-18	Initial	13:59	6.92		1.59.5	1356	1,07	0xygen (%)	-1247
GAUGE TIME	1340	1			12.68			1.04		156.4
DHC (FEET)		2	1402	6.82	13.13	1.568			13,4	155.4
	ND	3			DATE	בט טיי	RY@2	GALLO	Ki-	
DTW (FEET)	17.88	 								
DTB (FEET)	2835	4								
DTB - DTW	8.47	5								
CAPACITY PER FOOT	0.74 - 4"	6	i							
1.38				Pl	JRGING DA	TA	<u> </u>			
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	4.14	CLOU	DY, S-	TRONG	SW WI	ND , 4	<u>د °</u>			
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:					
	2.19.18	CLE	AR, HC	ODOR	<u> →> B</u>	ROWN				
END OF PURGE TIME	1405	COMME	INTS:							
PURGE AMOUNT	2									
DTW (FEET)	28.03									
		·		SA	MPLING DA	ATA				
SAMPLE DATE	- ~ ~ 142		R CONDIT						-	
ONIVII LE DATE	2.20.18	CLOL	DY, WE	EST W	IND, Z	<u>. 8° </u>				
DTW (FEET)	20.13									
' '	20.10	CLE	NTS!	. <u>ODOR</u>	<u> </u>					
SAMPLE TIME	1005	COMME	M12:							
	1000			S	AMPLE LO	G			••	
SAMPLE ID	TIME		CONTAINE	****		*	CONTAINE	RS	PRESERVAT	IVE
OW-57	1005	5	40 M	AOV J			5		HCL	
			1 1	AMBE			1_		NEAT	
			250	ML AM	BER		<u>1</u> ·		NEAT	
					STIC		1		<u>HN03</u>	
			125 M		STIC		1		<u> HN03</u>	
 			125 M		STIC		1		H ₂ 50	
<u> </u>	<u> </u>	11-2	125 M	IL HLA	STIC		1		NEAT	
INSTRUMEN	TS USED	WATE	TELH B MA	OK . NT	1 2018-	70 T	17000	ANE MI	TEP	
					L WATE		NTERF	Arr LI		
1 July J.	<u> </u>	VYAL	-r- (y)		11010					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	<u> </u>		
RV	1-2	Volumes	TIME	рH	Temperatur Degrees C		TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.19.18	Initial		SHE	EN OI	1 PURG	E WAT	ER		
GAUGE TIME	1434	1	·			POLLEC				
DHC (FEET)	ND	2				READI				
DTW (FEET)	20.00	3								
DTB (FEET)	40.00	4				1				
DTB - DTW	20,00	5						- ::		
CAPACITY PER	(0.74 - 4")	6								
FOOT	0.163 - 2"	_			IDOINO F	1.74				
14.80		NA/EATU	ER CONDIT		JRGING D	PAIA				·
3 WELL VOLUMES	44.4				a Ku	OUERS.	450			
DUDGE DATE	•	WATER	APPEARAN	ICE / ODO	2 0 		, '\2 _	• •		
PURGE DATE	2.19.18	C	EAR,	SHE	EN, H	1c 0D	OR			
END OF PURGE TIME	1500	СОММЕ		LILED	Dow	N@ 18	3.5 GA	مدح		
PURGE AMOUNT	18.5					_				
DTW (FEET)	39.55									
				SA	MPLING	DATA				
SAMPLE DATE	2.20.18		ER CONDIT		IND 3	.e^				
DTW (FEET)	20.30		APPEARAN							
SAMPLE TIME	1100	COMME	nts: <i>Ectet</i>			AT TH	15 WE			
	1,00			× 5	SAMPLE L		-		···· <u>,</u>	
SAMPLE ID	TIME		CONTAINE		-	NUMBER OF	CONTAINE	RS	PRESERVAT	IVE
RW-2	1100		<u>40 Mi</u> 250 M	AOV I		<u> </u>			HCL NEAT	-
			<u> </u>	<u>- ~\!^\</u>	<u> </u>				1 7 bea [7]	
				·						
		-v.								
										
	_									
INSTRUMEN	TS USED			RK-O	EL WA	TER I	NTERF	ACE M	ETER	
		GEO!	ECH					<u>.</u>	· -	
				_	-				· · · · · · · · · · · · · · · · · · ·	

COMPLETED BY: TRACY PAYNE

WE	LL ID			•••		TEST PA	RAMETERS	3		
OW-	<u></u>	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.20.18	Initial	1204 1005	7.07	10.57	1.486	1,334	1,05	301	-69.4
GAUGE TIME	1155	1	1214	6.41	12.56	1.573	1.342	1.06	16.8	-1367
DHC (FEET)	ND	2	1224	6.40	12,69	1.576			16,6	134.5
DTW (FEET)	24.52	3	1234	6,35	12.75	1.578	1.333		12.4	141.1
DTB (FEET)	47.62	4								
DTB - DTW	23,10	5						t	-	
CAPACITY PER FOOT		6								
3.11				Pl	JRGING DA	TA				<u>'-</u>
3 WELL VOLUMES	11.31	CUDDY, WEST WIND, SO								
PURGE DATE	2.20.18	WATER	APPEARAN AR ->	ICE / ODO	R: <u>ハ, ぱく</u>		R			
END OF PURGE TIME	12.34	COMME	NTS:							
PURGE AMOUNT	200G									
DTW (FEET)	24.54									
				SA	MPLING D	ATA				
SAMPLE DATE	2.20.18	91	ER CONDIT とから へら	ABO						
DTW (FEET)	24.54	Si	appearan AME as	•						
SAMPLE TIME	1300	COMME			_		AMBE	R		
SAM PLE ID	TIME		CONTAINE		SAMPLE LO		CONTAINE	DS	PRESERVA ⁻	TIVE
OW-58	1300		40 ML		iNi	SWIBER OF			HCL	
	1,0,0			MBER			2_		NEAT	
			-	LAMBE	ER	7			NEAT	
			250 M	L PLAS	TIC	1	•		HNO3	
				L PLAS			L		HNO3	
			125 M			1			H2504	
<u> </u>		<i>N.</i>		L PLAS	STIC		_		NEAT	
INIOTEDLISAES	ITO LIGER		<u>TECH</u>					<u> </u>		
INSTRUMEN							TERFA	CE ME	ETEK	<u> </u>
12T 2	56 MPS	TAW	ER QL	ALIT	MET	EK				<u> </u>
L								<u> </u>		

COMPLETED BY: TRACY PAYNE

WEI	LL ID				•	TEST PA	RAMETER	S			
OW-!	53	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.21.18	Initial									
GAUGE TIME	1005	1,									
DHC (FEET)	ND	2									
DTW (FEET)	ND	3				·					
DTB (FEET)	33.90	4									
DTB - DTW		5									
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6									
				F	URGING DA	TA AT	1/A - i	DRY			
3 WELL VOLUMES		WEATHE	ER CONDIT	IONS:				,			
PURGE DATE	WATER APPEARANCE / ODOR:										
END OF PURGE TIME	COMMENTS:										
PURGE AMOUNT							•				
DTW (FEET)											
				S	AMPLING D	ATA 🖊	A-D	RY			
SAMPLE DATE		WEATHE	R CONDIT	IONS:				•			
DTW (FEET)		WATER .	APPEARAN	ICE / OD(OR:						
SAMPLE TIME		СОММЕ	NTS:								
					SAMPLE LO	G	.,,			-	
SAMPLE ID	TIME		CONTAINE	R TYPE	NI	JMBER OF	CONTAINE	RS	PRESERVAT	IVE	
"											
	·										
											
INSTRUMEN	TS USED	<u> </u>	-0	NR K	OTI WI	ATER	Thite	2EA/E	METER		
" 40 ! I (OIVIE)	.5 5525	GEO	TECH		<u> </u>	NIER.	<u> </u>	Tree	METER	<u> </u>	
											
	COMPLE	TED BY:	TRACY	PAY	NE.	. SIG	GNATURE:	W-	ļ		

POND I	D	SAMPLE DATE	SAMPLE TIMI		
EP-2		2-21-18	/320		
			SAMPLING	DATA	
WEATHER CONI					
PAR	PTLY L	ODOR:	W WIND,	400	
	REY -	- <i>BIO</i> ODO	R		
COMMENTS:					
		<u>,,,,</u>			
				*	
			SAMPLE	LOG	
SAMPLE ID			R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-2	/32	40 ML VC)A	5	HCL
EP-2		1 LITER A	MBER	2	NEAT
EP-2		250 ML F	PLASTIC	1	HNO ₃
EP-2		125 ML F	PLASTIC	1	HNO ₃
EP-2	-I	125 ML P	PLASTIC	1	H ₂ SO ₄
EP-2	1	125 ML P	PLASTIC	1	NEAT
					
INSTRUMENTS U	ISED	N/A			
INSTRUMENTS	JUED	<u> </u>			

COMPLETED BY: TRACY PAYNE

SIGNATURE:

E: 577-

POND II	D	SAMPLE DATE	SAMPLE TIME		
EP-3	i	2.21-18	1350		
	***		SAMPLING	DATA	
WEATHER COND	DITIONS:				
PARTI	Y Cuc	100 SW SW W	1ND, 400		
<i>GREY</i> COMMENTS:	BIO	ODOR			
MINITER 13.					
					•
	·		SAMPLE	LOG	
SAMPLE ID	MPLE ID TIME		R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-3	/35	40 ML VC)A	5	HCL
EP-3		1 LITER A	MBER	1	NEAT
EP-3		250 ML F	PLASTIC	1	HNO₃
EP-3		125 ML F	PLASTIC	1	HNO ₃
EP-3	1	125 ML F	PLASTIC	1	H ₂ SO ₄
EP-3		125 ML F	PLASTIC	1	NEAT
	V				
NSTRUMENTS U	ISED	N/A			
NOTRUMENTO C	JJED	IV/A			
			. .		

SIGNATURE:

POND ID	SAMPLE DA	TE SAMPLE TI	ME	
EP-4	2.21.18	1425		
			NG DATA	
WEATHER CONDITIO	ns: Partly	CLOUDY, S	W WIND, 40°	
WATER APPEARANCE	E/ODOR: GREY, 1	FAINT BIO	W WIND, 40° ODOR	
COMMENTS:	,			
		SAMP	LE LOG	
SAMPLE ID	TIME CONT.	AINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-4	1425 40 M	L VOA	5	HCL
EP-4	1	ER AMBER	1	NEAT
EP-4	250	ML PLASTIC	1	HNO ₃
EP-4	125	ML PLASTIC	1	HNO ₃
EP-4	125	ML PLASTIC	1	H ₂ SO ₄
EP-4	125	ML PLASTIC	1	NEAT
INSTRUMENTS USED	N/A			

SIGNATURE:

POND ID	SAMPLE DATE	SAMPLE TIM	E	
EP-5		1310	-	
	2.21.18	SAMPLIN	J DATA	
		OAIM LIN	u DAIA	
WEATHER CONDITION		משי בשנח	NO ODOR AND	
WATER APPEARANC	E / ODOR:			_
	GREENI	SH GREY	NO ODOR AND	2
COMMENTS:				
	•		*** ·	
		SAMPLE	LOG	
SAMPLE ID	TIME CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-5	310 40 ML V)A	5	HCL
EP-5	1 LITER A	MBER	1	NEAT
EP-5	250 ML F	PLASTIC	1	HNO ₃
EP-5	125 ML F	PLASTIC	1	HNO ₃
EP-5	125 ML F	PLASTIC	1	H ₂ SO ₄
EP-5	125 ML F	PLASTIC	1	NEAT

			· · · · · · · · · · · · · · · · · · ·	
INSTRUMENTS USED) N/A			····
			***·	

SIGNATURE:

		I			
POND II) S	AMPLE DATE	SAMPLE TIME		
EP-6		2.21.18	1355		
			SAMPLING	DATA	
EATHER COND	ITIONS:			.,00	
	PARTLY	CLOUDY /	CLOUDY,	30 WIND, 40°	
VATER APPEARA	ANCE / ODO	R:		,	
	GRE	EY, NO OI	WR		
COMMENTS:					
			SAMPLE	LOG	
AMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-6	1555	40 ML VO	Α	5	HCL
EP-6		1 LITER A	MBER	1	NEAT
EP-6	- 1	250 ML P	LASTIC	1	HNO₃
EP-6		125 ML P	LASTIC	1	HNO ₃
EP-6		125 ML P	LASTIC	1	H ₂ SO ₄
EP-6	J	125 ML P	LASTIC	1	NEAT
	<u> </u>				
	٠				
NSTRUMENTS U	SED N/	A			
	COMPLETED) BY: 1534	Y PAYNE	SIGNATURE: <	
		BY: RAC	A LAINE		<u> </u>

WEL	L ID					TEST PA	RAMETERS	3		·	
0W-6	60	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.21.18	Initial	0824	6.80	8.80	5.555	5.237	4.48	52.6	153,0	
GAUGE TIME	0800	1	083.3		10.54	5,910	5,315	4,56	24.0	13.3.3	
DHC (FEET)	ИD	2	-		-	DRYC	l				
DTW (FEET)	16.26	3									
DTB (FEET)	46.06	4							-		
DTB - DTW	29.80	5									
CAPACITY PER	0.74 - 4"	6	*								
FOOT	(0.163 - 2")				100111000					<u>L</u> .	
T T	4.86 PURGING DATA										
3 WELL VOLUMES	14,58	WEATHER CONDITIONS: 14.58 CINIDY, SE WIND, 19* WATER APPEARANCE / ODOR:									
DUDGE DATE		WATER	APPEARAN	ICE / ODO	R:		•				
PURGE DATE	2.21.18	CLE	AR 70		UN, NO						
END OF PURGE TIME	9050	COMME	INTS:								
PURGE	0850										
AMOUNT	8 GALS	8 GALS									
DTW (FEET)	45.63										
<u> </u>				SA	MPLING D	ATA					
SAMPLE DATE		WEATHI	R CONDIT	IONS:							
SAMPLE DATE	2.22.18				IND, 2	, o					
DTW (FEET)	34.80	- C	APPEARAN <i>Ear,</i> N	•							
		COMME		0 0 50							
SAMPLE TIME	0820		1								
					SAMPLE LO						
SAMPLE ID	TIME 082		CONTAINE		N	JMBER OF سے	CONTAINE	KS	PRESERVAT	IVE	
0W-60	<u> </u>	<u></u>	40 ML	MBET	?				NEA.	<u> </u>	
				AMB		1			NEA.		
			250 M	PLAS		1			HNO		
			125 M	LPLAS	TIC	1			HNO	3	
			125 M			<u> 1</u>			H25		
V V 125 ML PLASTIC 1 NEAT											
<u> AEOTECH</u>											
INSTRUMEN							ITERFA	CE ME	STER		
YSI	556 MPS										

COMPLETED BY: TRACY PAYNE

WE	LL ID	<u> </u>	-			TEST PA	RAMETERS	3			
ow-	59	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.21-18	Initial	2919	7.29	11.36		8.195	7.27	1099	102.8	
GAUGE TIME	0910	1	0924	7.83	-		8.212		18:9	73.60	
DHC (FEET)	ND	2		7.32		_	8.268		15.3	66.5	
DTW (FEET)	24.00	3	0939	7.30	12.48		8.279		13,6	62.3	
DTB (FEET)	38.55	4			_						
DTB - DTW	14.55	5									
CAPACITY PER FOOT	0.74 - 4"	6	6								
2.37				. bi	URGING DA	ATA					
3 WELL	WEATHER CONDITIONS:										
VOLUMES	7.11	PAR	TLY CL	S, YGUO	EWIN	D 25°					
PURGE DATE	2.21.18		APPEARAN		к: У, МО	@D. o. C					
END OF	2.21.10	COMME		erecur,	<u>v, 700</u>	CDOR	•				
PURGE TIME	0939							l _y			
PURGE AMOUNT	7.25										
DTW (FEET)	38.29								<u>.</u>		
				SA	MPLING D	ATA					
SAMPLE DATE	2.22:18	1	ER CONDIT と、ソウン		D, 21°	•			•		
DTW (FEET)			APPEARAN								
DIW (I LLI)	25.55			ROWN,	NO OD	OR					
SAMPLE TIME	0900	COMME		າ <i>ກ</i>	iDit	0 1	,	. 11	AMBE	·o	
	070-	رسال	<u>LECTE</u>		SAMPLE LO		= A /KF	4	AMBE		
SAMPLE ID	TIME	. (CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE	
OW-59	090	0	HOML	. VOA		<u>_</u>			HCL		
		į, ·	1 L A	MBER	<u> </u>				NEAT		
		1.		_AMB		1	<u> </u>		NEAT		
			250 M				<u> </u>		HNO		
 				LPAS			-		HNO		
				LAAG		2	<u> </u>		H29		
W V 125 ML PLASTIC 1 NEAT GEOTECH NEAT											
INSTRUMEN	TS LISED				T				M		
_							TNIFF	CPACE	METER	-	
127 =	56 MPS	AVV C	HEK C	4117FT	1 4 12 E	TEK		***			

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PARAMETERS						
OW-5	54	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)		
GAUGE DATE	2.21.18	Initial	1025	7,03	11.49	1.781	1.560	1.24	132.9	36,1		
GAUGE TIME	1015	1	1038	7.23	11.95	1.817	1.574	1.26		5.4		
DHC (FEET)	ND	2	1032	7.11	11.84	1.835	1.594			-31.7		
DTW (FEET)	18.05	3	1036	7.09	11.93	1.842			20.1	-52.2		
DTB (FEET)	30.87	4					7.072	, , _				
DTB - DTW	12.82	5										
CAPACITY PER		6	6									
FOOT	0.163 - 2"											
2.09	•	VAIC ATT I	D OONDIT		JRGING DA	NIA						
3 WELL VOLUMES	6.27		ER CONDIT		/> ==.		110015	ح عر _و	>			
	<u> </u>	WATER	APPEARAN	CE / ODO	<i>IU, -</i> 34 R:	IOW I- L	URRIE.	2,50	-			
PURGE DATE	2.2/.18	CL	EAR, H									
END OF PURGE TIME	1036	COMME	NTS:							-		
PURGE	10512	036										
AMOUNT	6.50											
DTW (FEET)	18.15											
				SA	MPLING D	ATA						
OAMBLE DATE			R CONDIT						, <u> </u>			
SAMPLE DATE	2.22.18	CLO	APPEARAN	5 W W	IND 🐗	°24°						
DTW (FEET)	18,06	WATER										
		COMME	NTS:	ODOR	<u>.</u>							
SAMPLE TIME	0955											
					AMPLE LO	G		١				
SAMPLE ID	TIME	_	CONTAINE		N		CONTAINE	RS	PRESERVAT	IVE		
OW-54	095	7	40 M			5	<u> </u>		<u> HCL</u>			
				MBEF		1	•		NEAT			
				L AME		<u> </u>	•		NEAT	•		
				L PLA	STIC	1	•		HNO-	3		
			125 M	L PLAS	3TIC_	1	•		HNO-	5		
			125 M	LPLA	STIC	1			H250			
✓												
GEOTECH 2												
INSTRUMEN	TS USED .				L WAT	ER IN	TERFA	CE ME	TER			
Y9I 5	56 MP9											
					· · · · · · · · · · · · · · · · · · ·		·-··	<u></u> .	·			
	· · · · · · · · · · · · · · · · · · ·				_							

COMPLETED BY: TRACY PAYNE

WEI	L ID					TEST PA	RAMETERS	8				
OW-50		Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)		
GAUGE DATE	2-21-18	Initial	1059	6.95	10.73	2.229	1.992	1-61	59.8	37.8		
GAUGE TIME	1053	1	1101	6.94	10.69	2.199		1.59	55.7	47.3		
DHC (FEET)	ND	2	1103	6.85	10.77	2.230	1.992	1.61	36.6	55.4		
DTW (FEET)	12.84	3	1106	6.81	10.83	2.215	Z <i>0</i> 53	1.66	31.9	50.0		
DTB (FEET)	18.59	4										
DTB - DTW	5.75	5	-									
CAPACITY PER FOOT	0.74 - 4"	6	6									
0.94												
3 WELL	INCATHED CONDITIONS											
VOLUMES	2.82	<u>C</u> L00	104 , S	OUTH V	VIND,	38°						
PURGE DATE	2.21.18		APPEÁRAN	-								
END OF	2.41.10	COMME	AR F	ant c	SDOR							
PURGE TIME	1106											
PURGE AMOUNT	3 GALS											
DTW (FEET)	18.37											
				SA	MPLING D	ATA						
SAMPLE DATE		WEATH	R CONDIT	IONS:								
0, ,,,,,	2.22.18	A C	LOUD	Y, WE	ST WI	ND, Z	.8°					
DTW (FEET)	16.28		APPEARAN	•	r: (INT)	ヘンりゃ						
	•	COMME		<u>.~ </u>	<u> </u>	<i>5001</i> C						
SAMPLE TIME	1035											
CANADIE ID	**************************************		CONTAINE		SAMPLE LO		CONITAINE	<u>.</u>		11 /F		
SAMPLE ID	TIME		CONTAINE HO ML		N	JMBËR OF 5		KO	PRESERVAT HCL	IVE		
1 CVV - 34	<u>, (09.</u>			MBER			1		NEAT			
	·	 -		IL AMB	ER	i			NEAT			
				L PLAS		1	_		HNO:			
			125 M	L PLAS	STIC				HNO:			
			125 M	L PLAS	TIC		L		H250			
V V 125 ML PLASTIC 1 NEAT												
GEOTECH												
INSTRUMEN		WATE					TERFA	LE ME	TER			
YSI 5	56 MPS	TAW	ER QU	ALTT	Y MET	ER						
L												

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
OW-	- 	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.21.18	Initial	1234	6.71	12,97	2,008	1.694	1.36	26.0	142.1
GAUGE TIME	1224	1	1238	6.51	13.27	2.043	_	1.37	18.4	-163,2
DHC (FEET)	ND	2	1241	6.27	1	2.071		h40	19.0	157.5
DTW (FEET)	17.80	3	1246	6.15			1.746	1.40	20.9	1537
DTB (FEET)	30.95	4	,	<u> </u>		<u> </u>			<u> </u>	
DTB - DTW	/3./5	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"	·			IDONIO D					<u> </u>
2.1	•	VAIC ATT 1	TD CONDIT		JRGING DA	AIA				
3 WELL VOLUMES			ER CONDIT		Sha a service	1.1.6.4.T	300			
		WATER	724 <i>21</i> APPEARAN	CE / ODO	<u>эсигн</u> R:	WIND	<u>. 28 </u>			
PURGE DATE	2.21.18	CLE	AR HO							
END OF PURGE TIME	COMMENTS:									
PURGE										 -
AMOUNT	6.5G						<u> </u>			
DTW (FEET)	17.95			٠						
				SA	MPLING D	ATA				
SAMPLE DATE			R CONDIT		- 4	- 90				
	2.22.18	CLC	APPEARAN	DE 1000	WIND	, <u>28°</u>				
DTW (FEET)	17.81		APPEARAN <i>R. HC</i>	-						
0.44B) = =::::=		COMME			<u>-</u>					
SAMPLE TIME	1120		- <u>-</u> -							
					SAMPLE LO					
SAMPLE ID	TIME 11 24		CONTAINE		NI	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
OW-55	1120	<u> </u>	40 ML 1 L AM			<u> </u>			HCL NEAT	
			250 M		SR	<u>고</u>			NEAT	
			250 M			1			HNO3	
			125 M			1,			HN03	-
			-	L PLA		1			H2504	
			•	L PLA		<u> </u>			NEAT	
	•	GEO	TECH							
INSTRUMEN	INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER									
YSI 5	56 MP3									

COMPLETED BY: TRACY PAYNE

POND I	D	SAMPLE DATE	SAMPLE TIM	E	
EP-12	3	2.22.18	1215		
			SAMPLIN	G DATA	
WEATHER COND	PAR	DOR:	Y, STRON	6 WEST WIND	
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12B	121	5 40 ML VC)A	5	HCL
EP-12B	1	1 LITER A	MBER	1	NEAT
EP-12B	1	250 ML F	PLASTIC	1	HNO ₃
EP-12B		125 ML F	PLASTIC	1	HNO ₃
EP-12B		125 ML F	PLASTIC	1	H₂SO₄
EP-12B	1	125 ML F	PLASTIC	1	NEAT
	₹		V		
INSTRUMENTS U	JSED	N/A			•
,		<u> </u>			
				<u></u>	

SIGNATURE:

POND I	D	SAMPLE DATE	SAMPLE TIME		
EP-8		2-23-18	0830		
			SAMPLING	DATA	
WEATHER CON					
	EAR	CALM, Z3	0		
WATER APPEAR			_		
OOLAN AENTO.	LT E	REY FAINT	ODOR_		
COMMENTS:		·		1L AMBER	
		1	EXTRA	IL APIBER	
					•
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	r Type	NUMBER OF CONTAINERS	PRESERVATIVE
EP-8	0830	5 40 ML VC)A	5	HCL
EP-8	1	1 LITER A	MBER	#2	NEAT
EP-8		250 ML F	PLASTIC	1	HNO ₃
EP-8		125 ML F	PLASTIC	1	HNO ₃
EP-8		125 ML F	PLASTIC	1	H ₂ SO ₄
EP-8	V	125 ML P	PLASTIC	1	NEAT
	-				₩
		· · · · · · · · · · · · · · · · · · ·	- MANAGE - I		· · · · · · · · · · · · · · · · · · ·
,					
INSTRUMENTS (JSED	N/A			,
	··				
				1	

SIGNATURE:

POND	ID .	SAMPLE DATE	SAMPLE TIM	E	
EP-7	-	2.23.18	0850	7	
·			SAMPLIN	G DATA	
WEATHER CON					
LLE	AR, CI	ALM, 24° DOR:			
COMMENTS	AR, G	REY, FAINT	ODOR		
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-7	085	6 40 ML VC)A	5	HCL
EP-7	\	1 LITER A	MBER	1	NEAT
EP-7	1	250 ML P	PLASTIC	1	HNO ₃
EP-7		125 ML P	PLASTIC	1	HNO ₃
EP-7		125 ML P	PLASTIC	1	H ₂ SO ₄
EP-7	1	125 ML F	PLASTIC	1	NEAT
	•		· · · · · · · · · · · · · · · · · · ·		
INSTRUMENTS	USED	N/A			
		· · · ·	 .		
		2 to	-		

COMPLETED BY: TRACY PAYNE

SIGNATURE:

S43-

POND I	D SAM	IPLE DATE	SAMPLE TI	ME	
EP-11	2.	23.18	0900		
	,	- (-		NG DATA	
WEATHER CON					
CLE	AR CALMANCE / ODOR:	1,240	7 		
CLE	AR -> GR	ZEY, FA	AINT ODE	DR	
COMMENTS:					
			SAMP	LE LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-11	# O 900	40 ML V)A	5	HCL
EP-11	1	1 LITER A		1	NEAT
EP-11		250 ML F	PLASTIC	1	HNO ₃
EP-11		125 ML F	PLASTIC	1	HNO ₃
EP-11		125 ML F	PLASTIC	1	H ₂ SO ₄
EP-11	1	125 ML F	PLASTIC	1	NEAT
•				· -	
INSTRUMENTS	USED N/A				
INCTROMENTO.	14/A				

COMPLETED BY: TRACY PAYNE

POND I	ID :	SAMPLE DATE	SAMPLE TIM	E	
EP-12	2 2	2-23-18	1025		
	•		SAMPLIN	G DATA	
WEATHER CON	DITIONS:	R CALM	310		
WATER APPEAR	RANCE / ODO	R CALM, DR: FAINT	ODOR	·-	
COMMENTS:		/			
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12	1025	40 ML V)A	5	HCL
EP-12	\	1 LITER A	MBER	1	NEAT
EP-12		250 ML F	PLASTIC	1	HNO₃
EP-12		125 ML F	PLASTIC	1	HNO ₃
EP-12	1	125 ML F	PLASTIC	1	H ₂ SO ₄
EP-12	1	125 ML F	PLASTIC	1	NEAT
INSTRUMENTS	USED N,	/A			

SIGNATURE:

POND I	<u> </u>	SAMPLE DATE	SAMPLE TIME	.	
EP-9			1125	\exists	
		2-23-18	•	DATA	
			SAMPLING	DATA	<u>-</u>
WEATHER CON	DITIONS:		0		
	EAR,	SW WIND), <u>35°</u>	<u> </u>	
WATER APPEAR	ANCE / O	DOR:			
COMMENTS:	K, N	o odor			
COMMENTS.					
					=
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-9	112	5 40 ML VC)A	5 .	HCL
EP-9		1 LITER A	MBER	1	NEAT
EP-9		250 ML F	PLASTIC	1	HNO ₃
EP-9		125 ML F	PLASTIC	1	HNO ₃
EP-9		125 ML F	PLASTIC	1	H ₂ SO ₄
EP-9	₩	125 ML F	PLASTIC	1	NEAT
	•		WW.	···	
			-2-2	# -	
INSTRUMENTS (JSED	N/A			
<u> </u>					

WE	LL ID					TEST PA	RAMETERS	3	linity (ppt) Dissolved ORP			
Bw-	44	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)		
GAUGE DATE	2.26.18	Initial										
GAUGE TIME	1026	1	"									
DHC (FEET)	ND	2		DID	NOT S	AMPLE	- NO	WATE	R			
DTW (FEET)	ND	3										
DTB (FEET)	38.80°	4							_			
DTB - DTW		5										
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6										
		•		PI	URGING DA	AN ATA		·		<u>' </u>		
3 WELL VOLUMES		WEATH	R CONDIT									
PURGE DATE		WATER .	APPEARAN	ICE / ODO	R:							
END OF PURGE TIME		СОММЕ	NTS:									
PURGE AMOUNT												
DTW (FEET)												
				SA	MPLING D	ATA NA	,					
SAMPLE DATE		WEATHE	R CONDIT	IONS:					10-110-1			
DTW (FEET)		WATER .	APPEARAN	ICE / ODO	R:							
SAMPLE TIME		СОММЕ	NTS:									
					SAMPLE LO	G NA						
SAMPLE ID	TIME		CONTAINE	R TYPE	NI	JMBER OF	CONTAINE	RS	PRESERVAT	IVE		
			74									
								<u>.</u>				
			,.									

									_			
·-												
INSTRUMEN	TS USED	TES	(WELL	WATE	er le	VEL M	IETER					
	,						•					
		,							arait.	. <u></u>		

COMPLETED BY: TRACY PAYNE

WEI	LL ID	TEST PARAMETERS						Dissolved			
BW-5	5A	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.26.18	Initial									
GAUGE TIME	1048	1									
DHC (FEET)	ND	2		DI	D NOT	SAMPL	E- N	D WAT	ER		
DTW (FEET)	ND	3									
DTB (FEET)	23.021	4									
DTB - DTW	-	5									
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6									
				Pl	JRGING DA	TA NA	1				
3 WELL VOLUMES		WEATH	R CONDIT	IONS:		-	-				
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:						
END OF PURGE TIME		COMME	NTS:	· · · · ·						·	
PURGE AMOUNT	-										
DTW (FEET)											
				SA	MPLING D	ATA NA					
SAMPLE DATE		WEATHE	R CONDIT	IONS:							
DTW (FEET)		WATER .	APPEARAN	ICE / ODO	R:			\ <u>-</u>			
SAMPLE TIME		COMME	NTS:								
					SAMPLE LO	G NA					
SAMPLE ID	TIME	•	CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE	
										· -	
						· · · · · · · · · · · · · · · · · · ·					
INSTRUMEN	TS USED	TEST	WELL	WATE	ER LEVI	EL ME	TER				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS			
BW-	5B	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/cm)	TD\$ (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.28.18	Initial	1134	6.37	11.47	1.114	8.976	0.76	36.7	45.5
GAUGE TIME	1052	1								
DHC (FEET)	ND	2		PU	MPED	DOW	NOE	B GALS)	
DTW (FEET)	10,28	3								
DTB (FEET)	61.45	4								
DTB - DTW	51.17	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	(0.163 - 2")				IDOING DA					<u> </u>
8,34	/	MEATIT	ED CONIDIT		JRGING DA	NIA				-
3 WELL VOLUMES	25.02		ER CONDIT		WID W	50				
DUDOE DATE		WATER	EAR S APPEARAN	CE / ODO	R:	<u> </u>				
PURGE DATE	2.26.18		EAR 7	O LT.	BROWN	V, NO	ODOR			
END OF PURGE TIME	1/55	COMME	NTS:			,				
PURGE AMOUNT	8.00									
DTW (FEET)	53.80									
			,	SA	MPLING D	ATA			·	
SAMPLE DATE	1 7 6 10	WEATH	R CONDIT							
0/11/11 22 0/112	2.26.18	LL.	EAR, S APPEARAN	3W W/	ND, 5	5°				
DTW (FEET)	2.26.18 43.40	WAIER.	APPEARAN BROV	•		פנ				
		СОММЕ		<u> </u>	<u> </u>					
SAMPLE TIME	1530									
					SAMPLE LO		<i>t -</i>			
SAMPLE ID	TIME		CONTAINE		NI		CONTAINE	RS	PRESERVAT	IVE
BW-SE	153	<u>x</u> O	40 ML		<u> </u>	<u> 5</u>			HCL HEAT	
				MBER		<u> </u>			NEAT	,
				L AMBE		<u> </u>			NEAT	-
 				L PLAS		<u> </u>			HN03 HN03	· .
				I PLAS						
				L PLAS		<u> </u>			H290	
	<u> </u>		16517	L PLAS	نا ۱۱ ن	<u>_</u>			NEAT	
INSTRUMEN	TS USED	TECT	WIELI	MATI	FRIE	VEL I	METER			
	56 MPS						10154			
		44611		<u> </u>	1					
									,	

COMPLETED BY: TRACY PAYNE

WEL	L ID	TEST PARAMETERS									
BW-5	C	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	2.20.18	Initial	1148	6.02	11.33	4.245	3.733	3.13	24.7	96.7	
GAUGE TIME	1344	1	1400	5.83			3698	3.10	89	-23.8	
DHC (FEET)	ND	2		5.82			3.694		17.8	-72.6	
DTW (FEET)	2.63	3	-	5.95	11.80		3.698		19.9		
DTB (FEET)	76.35	4		•	<u>-</u>	•				-82.0	
DTB - DTW	73.72	5									
CAPACITY PER	0.74 - 4"	6				-					
FOOT	0.163 - 2"										
	PURGING DATA WEATHER CONDITIONS:										
3 WELL VOLUMES	36				ID,54	0					
PURGE DATE	2.26.18	WATER.	APPEÁRAN	CE / ODO	R:	**-					
PONGE DATE	2-2040	CL	EAR, A	IONE							
END OF PURGE TIME	1425	ICOMMENTS: '									
PURGE AMOUNT	36										
DTW (FEET)	5.95										
				SA	MPLING D	ATA	,				
SAMPLE DATE	2.26,18		R CONDIT		s SW I	1//1/27	540				
DTM (FFFT)		WATER A	APPEARAN	CE / ODO	9 	viive,	27				
DTW (FEET)	5.95	CL	EAR, N	ONE							
SAMPLE TIME	1435	COMME	NTS:								
				S	AMPLE LO	G					
SAMPLE ID	TIME	_	CONTAINE		N		CONTAINE	RS	PRESERVA		
BW-50	, 143.	<u>ე</u>	HO W		~	5			1+CL		
				MBER	• • •	<u>2</u> 1			NEAT		
			250 M	IL AM	DEK STIC	1			NEAT HNO3		
-			125 M		STIC	1	<u>. </u>	,	HNO3		
			125 MI		STIC	1	<u>*</u>		H250	<u> </u>	
Y	V		125 M		STIC	<u> </u>	<u> </u>		NEAT		
INSTRUMEN	TS USED	TEST	WELL	WATE	ER LE	VEL M	ETER				
YSI 5	56 MPS	WAT	ER Q	TIAL	MET	ER		<u></u>			

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>	.	
BW-	4.B	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.26.17	Initial	1012	6.96		1.496	1.346	1.06	14.7	-218.1
GAUGE TIME	0950	1	1018	7.09	11.87	1.491	1.292	· ·	12.6	220.0
DHC (FEET)	ND	2								
DTW (FEET)	38,43	3								
DTB (FEET)	63.50	4								
DTB - DTW	25.07	5								
CAPACITY PER FOOT	0.74 - 4"	6				,				
4.09				PI	URGING DA	TA				
3 WELL VOLUMES	12.27		ER CONDIT		MIND	1250			-	
PURGE DATE	2.26.17	WATER	APPEARAN LR. NO	ICE / ODO	R:	•				
END OF PURGE TIME	lozo COMMENTS:									
PURGE AMOUNT	4.5									
DTW (FEET)	49.78		_							
					MPLING D	ATA //	ŧ			
DATE DATE	2.27.1 0	WEATHI	ER CONDIT	TIONS:						
DTW (FEET)	49.00	WATER	APPEARAN	NCE / ODO	R:					
SAMPLE TIME	1	COMME					70 E	BAMPLE	-	
	715.47		OON TABLE		SAMPLE LO		CONTAINE	DC	DDECED\/A	
SAMPLE ID	TIME		CONTAINE	RIYPE	N	OWREK OF	CONTAINE	KS	PRESERVA	IIVE
			<u> </u>			·		· · · · · · · · · · · · · · · · · · ·		
	 									
					*					
INSTRUMEN	_				ER LEV		ETER	·		
127	556 MP	S W	AIEK	CUALT	LIY ME			<u></u>		

COMPLETED BY: TRACY PAYNE SIGNATURE:

7

WEL	WELL ID TEST PARAMETERS									
OW		Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	227.18	Initial	0820	7. 2.5	10.29	1.256	1.133	0,89	39.2	115.2
GAUGE TIME	0800	1		7.27	11.65	_	1.028	0.80	112	94.1
DHC (FEET)	ND	2		7.65	12,10	1,195	1.032	0.81	98.1	94.7
DTW (FEET)	1.45	3	KENES							
DTB (FEET)	94.55	4	No page							
DTB - DTW	93.10	5								
CAPACITY PER FOOT	0.74 - 4"	6						2.		
69			PURGING DATA							
3 WELL		WEATH	ER CONDIT	IONS:						ļ
VOLUMES	207	CLE	AR, SO APPEARAN	UTH WI	ND, 2	<u> </u>				
PURGE DATE	227.18	WATER	APPEARAN	ICE / ODC)K: <i>Q</i>					
END OF PURGE TIME	1006	COMMI	AR, NO Ents:	0001			· · · · ·			
PURGE AMOUNT	15	_								
DTW (FEET)	94									
	<u> </u>	<u></u>	-	Si	AMPLING E	ATA				
SAMPLE DATE	2.27.18		IER CONDI NE AS		<u> </u>					
DTW (FEET)	90.12	WATER	APPEARAI	NCE / ODG	OR:					
SAMPLE TIME		COMM	ENTS:			(5)				
SAIVII EL TIVIE	1050	C	OLLEC	11ED	DUP SAMPLE L					
SAMPLE ID	TIM	E	CONTAIN	ER TYPE		NUMBER OF	CONTAIN	ERS	PRESERVA	TIVE
0W-1	105			AOV J			5		HCL	
				L VOA			3	_	NA2 ST	_
				ML AN			<u></u>		NEAT HNO	
250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3										
		<u>.</u>							H25	
125 ML PLASTIC 1 H2504 V 125 ML PLASTIC 1 NEAT										
-	<u>_</u>		, .							
INSTRUME		JEG	TWELL	- WA	TER I	EVEL	MET	ER_		
YSI	<u>556 M</u>	PS '	WATER	<u>rank</u>	LITY	METE	ER			
				_			CONATI IDE			

COMPLETED BY: TRACY PAYNE

SIGNATURE:

#5-

WE	LL ID					TEST PA	RAMETERS		<u></u>		
OW-	-1 0	Volumes	TIME	рН	Temperature	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)	
GAUGE DATE	2.27.18	Initial	1,04155	110	Degrees C		1.690	135	Oxygen (%)	1/10/	
GAUGE TIME	1140	1	1945	6.60	/2.33	3,077			31.9 50./	148.6	
DHC (FEET)		2	120.57	· ·	12.50			•	· ·	120.4	
	ND		1230		12.39		Z.886		14.3	/08.3	
DTW (FEET)	1.99	3	1243	6.38	12.36	3.500	3,006	2,49	9.3	86.1	
DTB (FEET)	60.33	4								 	
DTB - DTW	58,35	5									
CAPACITY PER FOOT	0.74 - 4")	6									
43	0.103-2	PURGING DATA									
3 WELL		WEATH	R CONDIT								
VOLUMES	129		LR, SW		. 47°						
PURGE DATE	2.27.18	WATER	APPEARAN	CE / ODO	R:						
FORGE DATE	2.2170	CLEAR, NO ODOR									
END OF PURGE TIME	1001	COMMENT'S:									
	1243										
PURGE AMOUNT	/30	'30									
DTW (FEET)	DTW (FEET) 2.25										
				SA	MPLING D	ATA					
SAMPLE DATE	_	WEATH	R CONDIT	IONS:							
O/ IIVII LL D/ II L	2.27.18	SA	ME AS	ABOVE			·	*-			
DTW (FEET)	フゥド		APPEARAN	•							
	2,25	COMME	v <i>e a</i> s ints:	ABOVE	<u>. </u>						
SAMPLE TIME	1245										
				Ş	SAMPLE LO	G					
SAMPLE ID	TIME		CONTAINE				CONTAINE	RS	PRESERVAT	IVE	
0W-1	0 124	<u>u</u>	40 M			· <u> </u>			HCL_	•	
				AOV			<u> </u>		NA2S	203	
	250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3										
125 ML PLASTIC 1 HNO3											
			125 M		STIC		1		H250-		
<u> </u>	<u> </u>		125 M	IL PL	ASTIC		<u>1</u>		NEAT	-	
INSTRUMEN	TS USED	77770	T\\!=!		INTER	1 1-1/-	=		-		
	-				VATER			155			
		, , , , , .		YSI 556 MPS WATER QUALITY METER							

COMPLETED BY: TRACY PAYNE

WF	LL ID		•			TEST PA	RAMETERS	3		
		Volumes	TIME	nll n	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
ow-	29		IIIVIE	pH	Degrees C	(mS/cm)	IDS (g/L)	Samily (ppt)	Oxygen (%)	ļ
GAUGE DATE	2.27.18	Initial	1340	7.08	12.17	1.688	1,452	1.15	13.2	44.8
GAUGE TIME	1325	1	1357	7, o.5	12.50	1.675	1.424	1.13	15.1	-45.3
DHC (FEET)	ND	2	1414	6.98	12.28	1.665	1.430	1.13	30.2	-55, <u>2</u>
DTW (FEET)	17.12	3	1431	7.06	12.30	1.670	1.432	1.//	10.5	-49.5
DTB (FEET)	51.08	4								
DTB - DTW	33.96	5					_			
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6					-			
25		PURGING DATA								
3 WEATHER CONDITIONS:										
VOLUMES	75	75 CLEAR, STRONG SW WIND, 51° WATER APPEARANCE / ODOR:								
PURGE DATE	0									
	2.27.18	CLE	AR, F	AINT	ODOR.					
END OF PURGE TIME	1431	18 CLEAR, FAINT ODOR. COMMENTS:								
PURGE AMOUNT	75	5								
DTW (FEET)	DTW (FEET) 27.65									
		-		SA	MPLING D	ATA				
SAMPLE DATE			ER CONDIT							
CAMILLE DATE	2.21.18	SAM	VE AS	ABOV	<u>e</u>					
DTW (FEET)	27.65	WATER	APPEARAN	ICE / ODO	R: سيس					
	27.60	COMME	IE AS	ABOVE	<u> </u>					
SAMPLE TIME	1435		.1410.							
				(SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	JMBER OF	CONTAINE	RS	PRESERVAT	TVE
OW-29	143	<u>35</u>	HO ML		· · · · ·		<u>5</u>		HCL	
		w .	40 MI	VOA		<u> </u>	3		NAZS-	, O3
<u> </u>			250 M				<u>1</u>		NEAT	
				IL PLAS					HNO-	
V 125 ML PLASTIC 1 HNO3										
INICTOLINATIO	TO LICED		1				3.4			
INSTRUMEN					TER L		METE	Κ		.
12T	556 MP	S W	AIEK	WUAL	LIA TI					<u> </u>
									, 	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

#7-

WE	LL ID					TEST PA	RAMETERS	3	-	
OW-:	14	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.27.18	Initial	1540	७.7 8	13.11	1.689	1.421	1.13	11-2	7139.8
GAUGE TIME	1535	1	1552	6.78	12-95	1.688	,	1.13	13,0	-149.9
DHC (FEET)	ND	2	1604	6.71	13.21		1,424	1.13	12.4	-149.9
DTW (FEET)	21.80	3	1616		13.16	1.699	1.427	1.13	10.1	-139.7
DTB (FEET)	46.52	4	•						•11 12	
DTB - DTW	24.72	5							,	
CAPACITY PER FOOT	0.74 - 4")	6								
18	`, \			Pl	JRGING DA	TA				
3 WELL VOLUMES	54	WEATHER CONDITIONS: CLEAR, STRONG SW WIND, 50° WATER APPEARANCE / ODOR:								
PURGE DATE	2/27.18									
END OF PURGE TIME	1616	COMMENTS:								
PURGE AMOUNT	55									
DTW (FEET)	DTW (FEET) 22.70									
				SA	MPLING D	ATA				
SAMPLE DATE	2.27.18		ER CONDIT		E					
DTW (FEET)	22.70	WATER.	APPEARAN	CE / ODO	R:					
SAMPLE TIME	1620	COMME		,						
ã					SAMPLE LO	G				
SAMPLE ID OW-14										
<u> </u>	<u></u>	<u> </u>		L VOA			3		NAZS2	<u>.05</u>
250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO-3										
					ASTIC ASTIC		<u> </u>		HN0-3	
	·									
INSTRUMEN	TS USED	TEC	T ME	1 /414	TER		METE	·R	· ·	
	556 MR									

COMPLETED BY: TRACY PAYNE

13 2.28.18 12.08 ND 20,50 99.15 78.65 (0.74-4") 0.163-2"	1 2 3 4 5	1215 1245 1315 1345	7.20 6.93 6.97 6.87	12.55 12.38	Conductivity (ms/cm) 1.190 1.079 1.073		Salinity (ppt) 0.79 0.71 0.71 0.72	Dissolved Oxygen (%) 24-8 /5.3 //	ORP (mv) -48.1 -119.2 -57.6 -39.1			
2.28.18 12.08 ND 20.50 99.15 78.65 (0.74-4") 0.163-2"	1 2 3 4 5	1245 1315	6.93 6.97	12.55 12.38	1.079	0.920	0.71	15.3 11.0	-119.Z -57.6			
1208 ND 20,50 99:15 78.65 (0.74-4") 0.163-2"	1 2 3 4 5	1315	6.93 6.97	12.55 12.38	1,073	0.9/9	0,71	11.0	-57.6			
20,50 99,15 78.65 (0.74-4") 0.163-2"	3 4 5								1 1			
99:15 78.65 (0.74 - 4") 0.163 - 2"	4 5 6	1345	6.87	/2.30	1.061	0.924	0.72	26,4	-39.1			
78.65 (0.74 - 4") 0.163 - 2"	5											
0.74 - 4"	6											
0.163 - 2"	-			5								
174	WEATU					******						
174	WEATH	PURGING DATA										
	1 =											
Z.28.18	CLE	EAR.	•									
1345	COMME	DMMENTS:										
180												
DTW (FEET) 24.60 '												
				MPLING D	ATA							
2.28.18												
24.70	_		-									
1350												
•			5	SAMPLE LO	G							
SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE OW-13 /350 40 ML VOA 5 HCL												
				<u> </u>		3			03			
						<u>L</u>						
V 125 ML PLASTIC 1 HNO3												
-						METE	R					
	1345 180 24.60' 2.28.18 24.70 1350 TIME 135	2.28.18 COMME 1345 180 24.60 24.60 WEATHE SAME 1350 TIME 1350 TIME 1350 TIME 1350 TIME 1350	2-28-18 WEATHER CONDIT 345 WEATHER CONDIT 345 WEATHER CONDIT 345 WATER APPEARAN 347 COMMENTS: 350 COMMENTS: 350 CONTAINE 350 CONTAINE 350 CONTAINE 250 CO	WATER APPEARANCE / ODO CLEAR, NO OD COMMENTS: /80 24.60' SA WEATHER CONDITIONS: SAME AS ABOVE WATER APPEARANCE / ODO SAME AS ABOVE COMMENTS: TIME CONTAINER TYPE /350 HO ML VOA 40 ML VOA 250 ML AME 250 ML PLA 125 ML PLA TSUSED TEST WELL WATER SOUND TO THE TOPO TO T	WATER APPEARANCE / ODOR: CLEAR, NO ODOR COMMENTS: SAMPLING D. SAMPLING D. WEATHER CONDITIONS: SAME AS ABOVE WATER APPEARANCE / ODOR: SAME AS ABOVE COMMENTS: COMMENTS: SAMPLE LO TIME CONTAINER TYPE NI SAMPLE LO TIME STORY TEST WELL WATER 1	WATER APPEARANCE / ODOR: CLEAR, NO ODOR COMMENTS: SAMPLING DATA WEATHER CONDITIONS: SAME AS ABOVE WATER APPEARANCE / ODOR: SAME AS ABOVE COMMENTS: SAMPLE LOG TIME CONTAINER TYPE NUMBER OF 1350 40 ML, VOA 40 ML, VOA 250 ML, AMBER 250 ML, PLASTIC 125 ML, PLASTIC	WATER APPEARANCE / ODOR COMMENTS: /345 /80 24.60 SAMPLING DATA WEATHER CONDITIONS: GAME AS ABOVE WATER APPEARANCE / ODOR: GAME AS ABOVE COMMENTS: SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINER /350 SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINER /350 HO ML VOA 5 40 ML VOA 3 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1	Z.28.18 WEATHER CONDITIONS: SAMPLING DATA WEATHER CONDITIONS: SAMPL AS ABOVE WATER APPEARANCE / ODOR: 34.70 SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS 1350 SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS 1350 HO ML VOA SOML AMBER 1 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	Z.28.18 WATER APPEARANCE / ODOR COMMENTS: /345 /80 24.60' SAMPLING DATA WEATHER CONDITIONS: GAME AS ABOVE WATER APPEARANCE / ODOR: SAME AS ABOVE COMMENTS: SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVAT /350 HO ML VOA 5 HCL 40 ML VOA 3 NA2 S2 AD ML ANBER 1 NEAT 250 ML PLASTIC 1 HNO3 SUSED TEST WELL WATER LEVEL METER			

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
OW	-30	Volumes	TIME	p∺	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	2.28.18	Initial	0855	7.27	10.44	1.654	1.490	1.78	27.8	109.6
GAUGE TIME	0845	1	0916	7.28	11.73	1.648	1.435	1:14	11,7	41,6
DHC (FEET)	ND	2	0937	7.30	11.79	1.657	1.438	1.14	10.7	27.4
DTW (FEET)	21.33	3	1000	\$ 7.32	11.81	1.667	1.441	1.14	9.8	18.6
DTB (FEET)	49.90	4	, -					:		
DTB - DTW	28.57	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"		PURGING DATA							
21 PURGING DATA 3 WELL WEATHER CONDITIONS:										
VOLUMES	63	9								
PURGE DATE	2.28.18	SNOW, 30° WATER APPEARANCE / ODOR: CLEAR, FAINT ODOR								
END OF PURGE TIME	1000		COMMENTS:							
PURGE AMOUNT	65									
DTW (FEET)	24.14									
				SA	MPLING D	ATA				
SAMPLE DATE	4		R CONDIT							
	2.28.18		AME AS APPEARAN						<u></u>	
DTW (FEET)	24.14		ME AS							
SAMPLE TIME	Info	COMME								
	1010	COL	LECTED		3 SAMPLE LO	nG				
SAMPLE ID	TIME		CONTAINE				CONTAINE	RS	PRESERVAT	TVE
0W-30	5 (01)	>	40 M	AOV L		5	5		HCL	
				LVOA		7			NA2S2	03
				MA JE		1			NEAT	
250 ML PLASTIC 1 HNO3										
V 125 ML PLASTIC 1 HNO3										
INSTRUMEN					TER L		METER	ع		
12T 2	56 MPS	<u> </u>	ier c	MALT	TY ME	TER				
						<u>.</u>				

COMPLETED BY: TRACY PAYNE

WELL ID TEST PARAMETERS										
PW-	4	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE		Initial								
GAUGE TIMĘ	{	1								
DHC (FEET)		2								
DTW (FEET)	_	3								
DTB (FEET)	1	4								
DTB - DTW	1	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				F	PURGING DA	TA				
3 WELL VOLUMES			ER CONDIT AR C APPEÁRAN		/LT WE	57 W/N	D, 37	. 0		
PURGE DATE END OF	_	COMME	<u>ar — ,</u> nts:	No c	DOR					
PURGE TIME	-									
PURGE AMOUNT	}									
DTW (FEET)	-									
				S	AMPLING D	ATA				
SAMPLE DATE	3/1/18		R CONDIT		37°					
DTW (FEET)	Î	WATER .	APPEARAN	ICE / OD	OR:	- NO	ODOR	-		
SAMPLE TIME	0940	COMME	NTS:		•					
					SAMPLE LO					
SAMPLE ID	TIME 094			R TYPE <u>1L VOA</u> <u>4MB E</u>	1	JMBER OF S <u>5</u> 2.	CONTAINE	RS	PRESERVAT HCL NEAT	
					571C- *	1			HNO3	
			/25 M	L PLA	57 <i>I</i> C	1			HNO3	
/_			<u> 125 M</u>	_					14504	/
	<u></u>		125 M			1			NEAT	
-	<u> </u>		500ML	. PLAS	5//C				NAOH	
INSTRUMEN	TS USED	N	4		-					
			•						***	

COMPLETED BY: TRACY PAYNE

SAMPLE CONDITIONS: CLEAR, CALM, 32°	POND	ID	SAMPLE DATE	SAMPLE TIME		
SAMPLING DATA WEATHER CONDITIONS: CLEAR CALM 32° WATER APPEARANCE / ODOR: CLEAR NO ODOR COMMENTS: SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 0 848 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄	EP-9	İ	3-1-18	0848		
WATER APPEARANCE / ODOR: CLEAR NO ODOR COMMENTS: SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 0848 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT INSTRUMENTS USED N/A					i DATA	
WATER APPEARANCE / ODOR: COMMENTS: SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 08-18 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄	WEATHER CON	DITIONS:			* *	
WATER APPEARANCE / ODOR: COMMENTS: SAMPLE LOG SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 08-18 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄	CLE	AR, CA	LM 32°			
SAMPLE LOG	WATER APPEA	RANCE / O	DOR:			
SAMPLE LOG	CLEA	RI	10 ODOR			
SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 0848 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄ INSTRUMENTS USED N/A	COMMENTS:	•				
SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE EP-9 0848 500 ML PLASTIC 1 NEAT EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄ INSTRUMENTS USED N/A						
EP-9 0848 500 ML PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄				SAMPLE	LOG	
EP-9 1 LITER PLASTIC 1 NEAT EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄ INSTRUMENTS USED N/A	SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-9 100 ML PLASTIC 1 NEAT EP-9 500 ML PLASTIC 1 H ₂ SO ₄ INSTRUMENTS USED N/A	EP-9	0848	ع 500 ML F	PLASTIC	1	NEAT
EP-9 500 ML PLASTIC 1 H ₂ SO ₄ INSTRUMENTS USED N/A	EP-9		1 LITER P	LASTIC	1	NEAT
INSTRUMENTS USED N/A COMPLETED BY:	EP-9		100 ML F	PLASTIC	1	NEAT
COMPLETED BY:	EP-9	1	500 ML F	PLASTIC	1	H ₂ SO ₄
COMPLETED BY:				*		
COMPLETED BY:						
COMPLETED BY:						
COMPLETED BY:						
COMPLETED BY: TRACY PAYNE SIGNATURE:	INSTRUMENTS	USED	N/A			
COMPLETED BY: TRACY PAYNE SIGNATURE:						
COMPLETED BY: TRACY PAYNE SIGNATURE:						
		COMPLE	TED BY:	1 PAYNE	SIGNATURE:	X-1-

PONE	DIC	SAMPLE DATE	SAMPLE TIME	- -	
EP-	6	3.1.18	0905		
			SAMPLING	DATA	
WEATHER CO					·
CLE	AR,	CALM, 32 DOR:			
COMMENTS:	Y, FAII	UT ODOR			
O THIN LIVIO					
					· · · · · · · · · · · · · · · · · · ·
			CAMPIE	100	
			SAMPLE		
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-6	0905	1	NEAT		
EP-6	1	1 LITER F	PLASTIC	1	NEAT
EP-6		100 ML F	PLASTIC	1	NEAT
EP-6	$\overline{}$	500 ML F	PLASTIC	1	H ₂ SO ₄
INSTRUMENTS	S USED	N/A			
	,	•			No. 11 - 10 - 10 - 10 - 10 - 10 - 10 - 10
				,	
	COMPL F	TED BY:		SIGNATURE: -	~
	00m LL	TED BY: TRAC	y Payne		N-7-
				•	

POND I)	SAMPLE DATE	SAMPLE TIME		
EP-5		3.1.18	0915	1	
			SAMPLING D	ATA	
WEATHER COND					
CLEAS	2 C	ALM, 32 DOR:	<i></i>		
<u> </u>	<u> 112H</u>	GREY, NO	ODOR		
	<u></u>				
			SAMPLE LO)G 	
SAMPLE ID	TIME	CONTAINE	R TYPE N	UMBER OF CONTAINERS	PRESERVATIVE
EP-5	091	5 500 ML F	PLASTIC	1	NEAT
EP-5		1 LITER P	LASTIC	1	NEAT
EP-5		100 ML F	PLASTIC	1	NEAT
EP-5	1	500 ML F	PLASTIC	1	H₂SO₄
	•				
INSTRUMENTS U	SED	N/A			
	-	·			· · · · · · · · · · · · · · · · · · ·
<u>-</u>					
	COMPLE	TED BY:	0444.5	SIGNATURE: <	
		TRA	LY PAYNE	· -	x ¬ —

POND I	D	SAMPLE DATE	SAMPLE TIMI	Ξ	
EP-4		34.18	1005		
			SAMPLING	G DATA	
WEATHER CONI	DITIONS:				
CLEA	R, L	IGHT WEST	WIND, 3	5ິ	
	<u> </u>	AINT ODO	R	· · · · · · · · · · · · · · · · · · ·	_
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-4	1005	5 500 ML F	PLASTIC	1	NEAT
EP-4	1	1 LITER P	PLASTIC	1	NEAT
EP-4		100 ML F	PLASTIC	1	NEAT
EP-4	→	500 ML F	PLASTIC	1	H ₂ SO ₄
·					
			· · · · · ·		
	IOED	11/4			
INSTRUMENTS (JSED	N/A			
<u>, </u>					

COMPLETED BY: TRACY PAY NE

SIGNATURE: <

- TV-

POND I	D	SAMPLE DATE	SAMPLE TIME		
EP-3		3.1.18	1015		
			SAMPLING	B DATA	
WEATHER CONI		•			
CLE	AR. L	TGHT WES	T WIND ?	38°	
WATER APPEAR	RANCÉ / O	DOR:	,		
	BIO	ODOR			
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-3	1015	500 ML F	PLASTIC	1	NEAT
EP-3	(1 LITER P	LASTIC	1	NEAT
EP-3		100 ML F	PLASTIC	1	NEAT
EP-3	+	500 ML P	PLASTIC	1	H ₂ SO ₄
				·	

INSTRUMENTS (USED	N/A			
	-				

SIGNATURE:

POND	ID S	AMPLE DATE	SAMPLE TIMI	E	
EP-2	· -	3.1.18	1025	7	
	· ·· · · · · · · · ·	1	SAMPLING	G DATA	
WEATHER CON	IDITIONS:				
CLEA	R, WE	ST/SW	WIND, 40	<u> ၁</u> ၀	
			•		
	- 13Ic	ODOR			
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-2	1025	500 ML F	PLASTIC	1	NEAT
EP-2	ţ	1 LITER P	PLASTIC	1	NEAT
EP-2		100 ML F	PLASTIC	1	NEAT
EP-2	→	500 ML F	PLASTIC	1	H ₂ SO ₄

			*	· · · · · · · · · · · · · · · · · · ·	
		7-3-W			
	HOED NA	Λ			
INSTRUMENTS	USED N/	4			
,	<u> </u>				

SIGNATURE:

COMPLETED BY: TRACY PAYNE

POND	ID	SAMPLE DATE	SAMPLE TIME	7	
EP-8	}	3.1.18	1045		
			SAMPLING	DATA	
WEATHER CON	IDITIONS:				
CLE	EAR .	5W WIND), 44°		
WATER APPEA	RANCE /'O	DOR:	,		
LIGHT	GRE	Y, FAINT	ODOR		
COMMENTS:					
			,		
			SAMPLE	LOG	
CAMBLEID	TIME	CONTAINE			DDCCCDVATIVE
SAMPLE ID	TIME	CONTAINE	K 117E	NUMBER OF CONTAINERS	PRESERVATIVE
EP-8	104	5 500 ML P	PLASTIC	1	NEAT
EP-8		1 LITER P	PLASTIC	1	NEAT
EP-8		100 ML F	PLASTIC	1	NEAT
EP-8	→	500 ML P	PLASTIC	1	H ₂ SO ₄
					, a
_					
			· · · · · · · · · · · · · · · · · · ·	SAMMY .	
INSTRUMENTS	USED	N/A			
					
				72.1.	· · · · · ·
	COMPLE	TED BY:		SIGNATURE:	
	OOMII LL	TRAC	Y PAYNE	- SIGNATORE.	*-

POND	ID	SAMPLE DATE	SAMPLE TIME	1	
EP-7	,	3.1.18	1055	1	
			SAMPLING [DATA	
WEATHER CON					
CLEA	R, S	W WIND,	440		
CLEAR	2-7 L	IGHT GREY	Y VERY F	AINT ODOR	
COMMENTS:					
			SAMPLE L	OG .	
SAMPLE ID	TIME	CONTAINE	R TYPE N	UMBER OF CONTAINERS	PRESERVATIVE
EP-7	1055	500 ML F	PLASTIC	1	NEAT
EP-7	1	1 LITER P	PLASTIC	1	NEAT
EP-7		100 ML F	PLASTIC	1	NEAT .
EP-7	V	500 ML F	PLASTIC	1	H ₂ SO ₄
	•				
					·
.					
INSTRUMENTS	LISED	N/A			
III TO THOME INTO					

SIGNATURE:

COMPLETED BY: TRACY PAYNE

POND I	D	SAMPLE DATE	SAMPLE TIME		
EP-11	•	3118	1105		
			SAMPLING	i DATA	
WEATHER CONI		W WIND, 4	15 ⁰		
WATER APPEAR	RANCE / O	DOR:	•		
CLEAR COMMENTS:	70 L	IGHT GRE	Y, FAINT	ODOR	
			SAMPLE	100	
		···· -			
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-11	1105	500 ML F	PLASTIC	1	NEAT
EP-11	1	1 LITER P	PLASTIC	1	NEAT
EP-11	1	100 ML F	PLASTIC	1	NEAT
EP-11	V	500 ML F	PLASTIC	1	H ₂ SO ₄
INSTRUMENTS I	USED _	N/A			
					
	COMPLE	TRACY	PAYNE	SIGNATURE:	-

POND ID	SAMPLE DATE	SAMPLE TIME									
EP-12	3.1.18	1120									
<u></u>		SAMPLING D	DATA								
WEATHER CONDITIONS: CLEAR S WATER APPEARANCE / 0	CLEAR, SW WIND, 46° ITER APPEARANCE / ODOR:										
LIGHT GREY	FAINT C	DOR									
COMMENTS:	•										
		SAMPLE L	OG								
SAMPLE ID TIME	CONTAINE	R TYPE N	IUMBER OF CONTAINERS	PRESERVATIVE							
EP-12 1/20	500 ML F	PLASTIC	1	NEAT							
EP-12	1 LITER F	PLASTIC	11	NEAT							
EP-12	100 ML F	PLASTIC	1	NEAT							
EP-12	500 ML F	PLASTIC	1	H ₂ SO ₄							
INSTRUMENTS USED	N/A										
		· · · · · · · · · · · · · · · · · · ·	A COURT								
COMPLE	TED BY: TRAC	Y PAYNE	SIGNATURE:	77-							

POND	ID	SAMPLE DATE	SAMPLE TIMI	E .	
EP-12	В	3/1/18	1130		
			SAMPLING	G DATA	
WEATHER CON					
CLEA	R, S	W WIND, 6	t6°		
	FAIN	T ODOR			
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12B	1130	500 ML F	PLASTIC	1	NEAT
EP-12B		1 LITER F	PLASTIC	1	NEAT
EP-12B		100 ML F	PLASTIC	1	NEAT
EP-12B	$\overline{}$	500 ML F	PLASTIC	1	H ₂ SO ₄
INSTRUMENTS	USED	N/A			

COMPLETED BY: TRACY PAYNE

WEL	L ID					TEST PA	RAMETERS	3			
0W	/-63	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	
GAUGIE DATE	4.29.18	Initial	0835	7.16	13.2	1766	1150	0.90	573	-64.6	
GAUG E TIME	0820	1	0846	7.15	13.2	1774	1150	0.91	ల. 58	-703	
DHC (FEET)	DZ DZ	2	0853	7.24	13.5	1756	1144	0.90	2.02	-77.8	
DTW (FEET)	20.29	3	0907	7.19	13.3	1777	1157	0.91	0.79	-79.0	
DTB (FEET)	32.18	4									
DTB - DTW	11.89	5					,				
CAPACITY PER FOOT	0.74 - 4")	6				•					
8.8	영.80 PURGING DATA										
3 WELL			ER CONDIT								
VOLUMES	26.40	CLEA	LR, WE	ST WIK	D, 54°			<u> </u>			
VOLUMES 26.40 CLEAR, WEST WIND, 54° WATER APPEARANCE / ODOR: 4.29.18 CLEAR, HC ODOR -> BROWN											
END OF COMMENTS:											
PURGE TIME	0907	COMMENTO:									
PURGE AMOUNT	27.00										
DTW (FEET)	24.93					,			-		
				SA	MPLING D	ATA					
SAMPLE DATE			ER CONDIT								
SAMI LL DATE	4.29.18	CLE	R, V.S	TRONG	WEST	MIND					
DTW (FEET)	20.43		APPEARAN	•							
SAMPLE TIME	1030	COMME							LECTED		
	1030	COLLE	ECTED	FB01	<u>. </u>	<u>5 cov</u> 16	LECTE	D E60	10095	0	
SAMPLE ID	TIME		CONTAINE			UMBER OF	CONTAINE	ERS	PRESERVA	ΓΙVE	
0W-63	103	Sa	40 ML VO	Α		5			HCL		
	Ì		1 LITER A			2	-		NEAT		
			250 ML A	MBER		1			NEAT		
			250 ML P	LASTIC		1			HNO ₃		
			125 ML P	LASTIC		1		<u> </u>	HNO ₃		
			125 ML P	LASTIC		1			H ₂ SO ₄	· · · · · · · · · · · · · · · · · · ·	
1	V		125 ML P	LASTIC		1			NEAT		
INICTOLIMEN	ITS LISED	OIL / W	ATER INTE	REACE PR	OBF					·	
IINO I KUIVIEN	NSTRUMENTS USED OIL / WATER INTERFACE PROBE WATER QUALITY METER										

COMPLETED BY: TRACY PAYNE

WEI	LL ID			· · · · · · · · · · · · · · · · · · ·		TEST PA	RAMETERS	3				
OW	/-64	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)		
GAUG E DATE	4.29.18	Initial	1133	7.76	14.5	1901	1235	0.97	0.70	-3.4		
GAUGIE TIME	1119	1	1141	7.70	13.7	1878	1222	0.96	1.28	-57.0		
DHC (FEET)	9	2			BSERV			AW CE				
DTW (FEET)	7.83	3						NG W				
DTB (FEET)	27.63	4			TTY D			77	7101			
DTB - DTW	19.80	5		O O PIL	2(1)	7 11						
CAPACITY PER	(0.74 - 4")	6						:				
FOOT	0.163 - 2"											
14.65												
3 WELL VOLUMES	44.00		ER CONDIT					- (05	>			
VOLOIVILO		WATER	APPEARAN	CE / ODO	<u>. 5 (RO)</u> R:	16 WES	ST WIN	1D, 68°				
PURGE DATE	4.29.18			•	ROUN, F	ic a do	R / SH	ICEN				
END OF		COMME	NTS:	,, <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>						
PURGE TIME	1200	BAI	BAILED DOWN @ 29 GALLONS									
PURGE AMOUNT	29.0											
DTW (FEET)	27.15					***************************************						
				SA	MPLING DA	ATA	· · · · · · · · · · · · · · · · · · ·		<u> </u>			
		WEATHE	R CONDIT	IONS:								
SAMPLE DATE	4.29.18	SAM	E AS A	BOVE	-							
DTW (FEET)	23,60	WATER	APPEARAN	CE / ODO	R:							
Diw (i LLi)	275	BRO	WN, HO	000	R		<u> </u>					
SAMPLE TIME		COMME	NTS:		•							
	1300			Ş	SAMPLE LO	G		·				
SAMPLE ID	TIME		CONTAINE			JMBER OF	CONTAINE	RS	PRESERVAT	VE		
OW-64	1300	>	40 ML VOA	١		5			HCL			
			1 LITER AN			1	hay '		NEAT			
			250 ML AN	/IBER		1			NEAT			
			250 ML PL	ASTIC		1			HNO ₃			
			125 ML PL	ASTIC		1	-		HNO ₃			
			125 ML PL	ASTIC		1			H ₂ SO ₄			
V	√		125 ML PL	ASTIC		1			NEAT			
V												
INSTRUMENT	_		TER INTER		BE					-15		
	· · · · · · · · · · · · · · · · · · ·	WATER (QUALITY ME	ETER						4		

COMPLETED BY: TRACY PAYNE

WE	LL ID	Tampagatura Conductivity									
OW	V-62	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	
GAUGE DATE	4.29.18	Initial	1353	7.49	14:4	781	507	6.38	0.82	-67.7	
GAUGE TIME	1345	1	1400	7.81	13.3	949	618	0.47	0.80	-95.8	
DHC (FEET)	ND	2				-			ě		
DTW (FEET)	23.18	3									
DTB (FEET)	31.58	4									
DTB - DTW	8.40	5									
CAPACITY PER		6									
FOOT	0.163 - 2"					·					
6.22		PURGING DATA									
3 WELL			R CONDIT		_						
VOLUMES	18,66	CLEAR	R VERY	1 STRO	ne wes	T WIN.	D. 76°				
DUDOE DATE		WATER A	APPEARAN	ICE / ODG	R:		,				
PURGE DATE	4.29.18	CLE	AR. FAI	NT OD	or >	SITGH	דנא ידי	URBID	BROWN		
END OF		СОММЕ	NTS:				<u> </u>				
PURGE TIME	1413	BAI	IED T	MW C	@ 12.5	GALE					
PURGE		1413 BAILED DOWN @ 12.5 BALS									
AMOUNT	12.50										
	12.00										
DTW (FEET)	31.25										
		10 a hi i i i		SA	MPLING DA	\TA					
		WEATHE	R CONDIT	IONS:							
SAMPLE DATE	4.29.18	SAME	EAS /	L'BRUP	_						
		WATER A	APPEARAN	CE / ODC	PR:						
DTW (FEET)	29.86										
		COMME		ABOVE							
SAMPLE TIME	1620	COMME	1413.								
	1020				SAMPLE LO	^					
SAMPLE ID	TIME		CONTAINE				CONTAINE	D C	PRESERVAT	VE	
0W-62			40 ML VOA		INC		CONTAINE	1.3		V .	
0VV-62	162					5			HCL,		
			1 LITER AN						NEAT	1	
			250 ML AN			. 1			NEAT		
	\longrightarrow		250 ML PL		····	1			HNO ₃		
			125 ML PL		•	1			HNO ₃		
			125 ML PL	ASTIC		1			H ₂ SO ₄		
V	V		125 ML PL	ASTIC		1			NEAT		
INSTRUMENT	TS USED	OIL / WA	TER INTER	FACE PRO	DBE				· · · · · · · · · · · · · · · · · · ·		
	-		UALITY ME		-						
			- · · · · · · · · · · · · · · · · · · ·								
					····						
	COMPLE	TED BY: 🗲	TRACY	PAYN	E	SIG	NATURE:	XY7			

WE	WELL ID TEST PARAMETERS									
EAS	T LDU	Volumes	TIME	pH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	4.30.18	Initial	1815	7.15	zz.1	223	145	0.11	1.76	-176.7
GAUGE TIME	0825	1								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
DHC (FEET)	ND	2								
DTW (FEET)	0.00	3								
DTB (FEET)		4								
DTB - DTW	- Action 1	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				P	URGING DA	TA /	Al			
3 WELL VOLUMES		WEATHE	R CONDITI	ONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:	<u>.</u>				
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	·ΤΑ			'	
SAMPLE DATE	4/30/18		R CONDITI		WEST	MIN	0.68	3 e	······································	¢.
OTW (FEET)	0.00	WATER A	APPEARANG	CE / ODO	R:		- 1			
SAMPLE TIME	1350	COMME	NTS:		-	,	,,,,,,	- ,,		• ,
					AMPLE LO					
SAMPLE ID EAST LDU	TIME 1350) 4	CONTAINER 40 ML VOA		NU	5	CONTAINE		PRESERVATI HCL	VE
			250 ML AM 250 ML PL		***	1	***		NEAT	
V	*		125 ML PL/			1			HNO ₃	
	-									
NSTRUMENT	SUSED () / \\\^	TER INTERF	ACE DDO	DC DC					
		JIL / VVA	ILT INIERI	AUE PRU	DC					
				·						

COMPLETED BY: TRACY PAYNE

WE	WELL ID TEST PARAMETERS										
WES	T LDU	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	
GAUGE DATE	4.30.18	Initial									
GAUGE TIME	0830	1									
DHC (FEET)	ND	2									
DTW (FEET)	8.13	3									
DTB (FEET)	12.45	4									
DTB - DTW	4.32	5									
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6		iş te							
1001	0.103 - 2	L		<u> </u>	L PURGING DA	ATA / NA	<u> </u>	<u> </u>			
		NACATU	ER CONDIT		Olding Di	·// N	_				
3 WELL VOLUMES		WEATH	EK CONDII	IONO.							
PURGE DATE		WATER	APPEARAN	ICE / OD	OR:						
END OF PURGE TIME		COMME	ENTS:								
PURGE AMOUNT	, .										
DTW (FEET)								-			
				S	AMPLING D	ATA					
		WEATHI	ER CONDIT	IONS:							
SAMPLE DATE	4.30.18	CLE	EAR =	STRO	NG, WE	EST W	IIND,	<u>රවි</u>			
DTW (FEET)	8.13	WATER	APPEARAN	ICE / OD	OR: Y - FA	19 YT A	2008				
	٠,١٦	COMME	ENTS:	GRE	<u> </u>	<u> </u>	7001~	•			
SAMPLE TIME	1415	COMMINIC									
					SAMPLE LC						
SAMPLE ID	TIME		CONTAINE		N	JMBER OF	CONTAINE	RS	PRESERVAT	IVE	
WEST LDU	1415	.	40 ML VO			5			HCL NEAT		
			250 ML A			1 1			HNO ₃		
			125 ML P			1			HNO ₃		
<u> </u>			125 WIL F	LASTIC							
								<u>.</u> .	nes.		
		•	-								
			· · · · · · · · · · · · · · · · · · ·	 							
INSTRUMEN	TS USED	OIL / W	ATER INTER	RFACE PF	ROBE		.,.	· · · · · · · · · · · · · · · · · · ·			
	·										
										,	

WELL ID TEST PARAMETERS										
NAF	PIS-1	Volumes	TIME	pH	Temperature Degrees C	Conductivity (μS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	4.25.18	Initial	1820	7.52	13.8	1939	1261	0.99	6.60	-69.9
GAUGE TIME		1	4.30.18		DUNDW					
DHC (FEET)	6.58	2			ľ		ECTED			
DTW (FEET)	7.82	3		1.24	OF S	PH IN	WELL			
DTB (FEET)	13.76	4				,				
DTB - DTW	•	5								
CAPACITY PER FOOT		6								
FUUI	0.163 - 2"			DI	JRGING DA	ΤΛ				
OWELL		WEATH	R CONDIT		JRGING DA	IIA				
3 WELL VOLUMES			ik oordin	10140.						
PURGE DATE		WATER .	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)				-						
				SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)	1	WATER /	APPEARAN	CE / ODO	R:	****				
SAMPLE TIME		COMME	NTS:							
	<u>.</u> <u>.</u>			S	AMPLE LO	G		***************************************		
SAMPLE ID	TIME		CONTAINE	R TYPE	NL	IMBER OF	CONTAINER	RS	PRESERVATI	VE
										
							·			
					-					
					F- 111.					
NSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE	····	<u></u>			
		,								
					-					

COMPLETED BY: IRACY PAYNE

SIGNATURE:

5-

_us/cn

WEI	LL ID					TEST PA	RAMETERS	<u> </u>	MG/L	
NAF	PIS-2	Volumes	TIME	pН	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
	· · · · · · · · · · · · · · · · · · ·	<u> </u>			Degrees C	uc/ms)	<u> </u>		Oxygen (🍅)	
GAUGE DATE	4,30.18	Initial	0950	7.25	19.6	1766	1150	0.90	1.21	-67.9
GAUGE TIME	0945	1	0954	7.25	21.1	1762	1144	0,90	0.71	-77.9
DHC (FEET)	ND	2	0957	7.25	21.2	1809	1177	0.92	0.74	-81.8
DTW (FEET)	8.45	3	1000	7.25	21.1	1819	1180	0.93	1.21	-84.1
DTB (FEET)	14.52	4	•							
DTB - DTW	6.07	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"	O i			<u> </u>		ļ			
0.99				P	URGING DA	NTA				
3 WELL VOLUMES	2.97		R CONDIT		WES	F WIND	590			- 4 - 100 - 1
		WATER	APPEARAN	CE / ODO	R: WEST	7 1710	, 0,			,
PURGE DATE	4.30.18		R. FAI							
END OF PURGE TIME	1000	COMME	NTŚ:				,			
PURGE AMOUNT	3 GALS									
DTW (FEET)	10.40									:
				SA	MPLING D	ATA				······
 		WEATHE	R CONDIT							•
SAMPLE DATE	4.30.18	LLE	AR, V.S	TRONG	WEST	WIND,	70°			
DTM (FFFT)	0	WATER	APPEARAN	CE / ODO	R:					
DTW (FEET)	8.51	CLEA	R, NO	ODOR	•					
SAMPLE TIME		COMME	NTS: <i>COL</i>	LECTO	ed ee	301.0	0920			
	1510	COLL	ECTED		<u>1@143</u>		OLLEC	TED D	UPOZ	
OAMBI E ID	TINAC		CONTAINE		SAMPLE LO		CONTAINE	20	DDECED! (AT	1) /C
SAMPLE ID NAPIS-2	TIME 1510		CONTAINE 40 ML VOA		. NU	JMBER OF 5	CONTAINE		PRESERVAT HCL	IVE
IVAFIO-2	1210		250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
<u> </u>			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
	1		125 ML PL			1			NEAT	
INSTRUMENT	_		TER INTER)BE					
	•	WATER (UALITY ME	TER						
							·			

COMPLETED BY: TRACY PAYNE

WEI	L ID					TEST PA	RAMETERS	3		
K	4 -3	Volumes	TIME	рН	Temperature Degrees C	Conductivity (μS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	4.30.18	Initial	1025	7.29	20.7	1699	1105	0.86	1.24	<u>-77.2</u>
GAUGE TIME	1022	1	1029	7.27	23.1	1708	1111	0.86	1.14	-75.7
DHC (FEET)	ND	2	1037	7.24	22,3	1712	ш	0.87	1.22	-89.4
DTW (FEET)	8.53	3	1045	7.25	22.0	1715	1112	0.87	1.84	-89.9
DTB (FEET)	24.24	4								
DTB - DTW	15.71	5								
CAPACITY PER FOOT	0.74 - 4"	6								
2.56			<u> </u>	P	URGING DA	TA				
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	7.68	CLE	AR, VI	ery s	TRONG	WEST	WIND	620		
PURGE DATE	430.18	WATER.	APPEARAN	CE / ODO	PR:	. 18	· ·			
END OF PURGE TIME	1045	COMME	NTS:		3	No.				
PURGE AMOUNT	8.0									
DTW (FEET)	19.50								***	
				SA	MPLING D	ATA				
SAMPLE DATE	4.30.18	LLEA	ER CONDIT	RY 57	RONG	WEST	WIND,	690		
DTW (FEET)	8.54	WATER A	APPEARAN I <i>ペ、NO</i>	CE / ODO	R:					
SAMPLE TIME	1540	COMME	NTS:							
	`.				SAMPLE LO					
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	RS	PRESERVAT	TVE
KA-3	1540	<u> </u>	40 ML VO 250 ML Ai	-	<u> </u>	5 1			HCL NEAT	
			250 ML PI			1	· · · ·		HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI	•		1			H ₂ SO ₄	
V			125 ML PI			1			NEAT	
INSTRUMEN			ATER INTER		OBE					
	COMPLE	TED BY:	IRACY	PAY	NE	SIG	GNATURE:	X	3-	

M6/1 TEST PARAMETERS WELL ID Dissolved / Temperature Conductivity ORP (mv) TDS (g/L) Salinity (ppt) NAPIS-3 Volumes TIME Нq Oxygen 🎒 Degrees C GAUGE DATE Initial 1242 -6715 4.30.18 1103 3.18 8.19 20.6 1913 0,98 1.04 GAUGE TIME 1 7.81 2319 1508 1.20 ·39.7 1058 19.2 1111 2 DHC (FEET) ND 3 DTW (FEET) 9.90 DTB (FEET) 4 31.51 5 DTB - DTW 0.74 - 4" CAPACITY PER 6 FOOT 0.163 - 2" **PURGING DATA** 3.52 WEATHER CONDITIONS: 3 WELL CLEAR, VERY STRONG WEST WIND, 61° 10.56 VOLUMES WATER APPEARANCE / ODOR: PURGE DATE 4.30.18 CLEAR, NO ODOR COMMENTS: END OF 1120 BAILED DOWN 4.5 GALS. PURGE TIME **PURGE** 4.5GALS AMOUNT DTW (FEET) 31.00 SAMPLING DATA **WEATHER CONDITIONS:** SAMPLE DATE 4.30.18 SAME AS ABOVE - 690 WATER APPEARANCE / ODOR: DTW (FEET) 9.98 SAME AS ABOVE COMMENTS: SAMPLE TIME 1605 SAMPLE LOG NUMBER OF CONTAINERS **PRESERVATIVE** TIME **CONTAINER TYPE** SAMPLE ID HCL 40 ML VOA 5 NAPIS-3 1605 NÉAT 250 ML AMBER 1 HNO_3 1 250 ML PLASTIC HNO₃ 125 ML PLASTIC 1 1 H₂SO₄ 125 ML PLASTIC NEAT 1 125 ML PLASTIC INSTRUMENTS USED OIL / WATER INTERFACE PROBE WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

77-

WEI	L ID					TEST PA	RAMETERS	3		
OAF	PIS-1	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	4-30.18	Initial	1150	7.13	15.0	6555	4258	3.60	1.58	-76.7
GAUGE TIME	1144	1	1(55	7.16	14.9	6591	4283	3.63	1.71	-79.2
DHC (FEET)	ND	2	1203	7.16	15.4	6593	4284	3.63	L15	-66.9
DTW (FEET)	12.28	3								
DTB (FEET)	27.75	4								
DTB - DŤŴ	15.47	5								
CAPACÎTY PER FOOT	0.74 - 4" 0.163 - 2"	6					:			
2.52			l	P	URGING DA	TA				
3 WELL		WEATH	ER CONDIT	IONS:	<u>.</u>					
VOLUMES	7.56	LLE	AR, V.	STRON	GWES	T WIN	0,610			
PURGE DATE	4.30.18	1	APPEARAN	•			, -			
	4.30.10	COMME	BER, F	AINT	ODOR	······································	·			
END OF PURGE TIME	1210	B	ailed	DOWN	@ 66	ALS.				
PURGE	:			<u> </u>						
AMOUNT	6 GALS		·							
DTW (FEET)	27.25							,		
				S/	AMPLING D	ATA				
SAMPLE DATE	11.00.10	WEATH	ER CONDIT	TIONS:		0				
O/MAIN EE B/ME	4.30.18	SA	ME AS	> ABC	NE -	56				
DTW (FEET)	24.20		APPEARAN	-						
		COMME		S AUC	<u> </u>					
SAMPLE TIME	1650	ı	ECTED	1 E	EXTRA	AMB	ER_			
					SAMPLE LO				DD505D1/43	ED /E
SAMPLE ID	TIME		CONTAINE		N	UMBER OF		:KS	PRESERVAT HCL	IIVE
OAPIS-1	165	<u> </u>	40 ML VO			5 2			NEAT	
			250 ML A						NEAT	
			250 ML P			1		<u></u>	HNO ₃	
			125 ML F						HNO ₃	
_			125 ML P			1			H ₂ SO ₄	···
			125 ML F			1			NEAT	
	1	,	125 ML F			1		<u> </u>	NAOH	
V INCEDIDATE	TO LICED	OIL (M	ATER INTE		ORE					· · · · · ·
INSTRUMEN	NIS USED				UDE				 .,	
		WATER	QUALITY N	'ILIEK						

COMPLETED BY: TRACY PAYNE

WEI	LL ID			·		TEST PA	RAMETERS	3		
STP-	1-NW	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGĚ DATE	4.30.18	Initial	1243	8.31	15.0	6413	4167	3.52	5.56	-16,0
GAUGE TIME	1234	1	12.51	7.80	14.2	7520	4988	4.17	3.20	3.7
DHC (FEET)	ND	2	1304	7.88	13.9	7307	4752	4.05	2.96	10.1
DTW (FEET)	20,70	3 ,	1316	7,87	13.8	7295			3.39	16.4
DTB (FEET)	49.65	4								
DTB - DTW	28.95	5								
CAPACITY PER	0.74 - 4"	6	:							
FOOT	0.163 - 2"			DI	IDOING DA	ΤΛ				
4/.7	2	WEATLI	R CONDIT		URGING DA	AIA			i	
3 WELL VOLUMES	14 11				ATPNACE	WEST	- WINI	636	>	
PURGE DATE	14.16	WATER	APPEARAN	CE / ODO	R:	VV	<u> </u>	<i>y, 20</i>		
PURGE DATE	4.30.18)	LR, NO	ODOR	<u>د</u>					
END OF PURGE ȚIME	1316	COMME	NTS:				× 10 10 20 20 20 20 20 20 20 20 20 20 20 20 20			
PURGE AMOUNT	15.0	,								·
DTW (FEET)	45.35									
				SA	MPLING D	ATA				
SAMPLE DATE	4:30:18		R CONDIT		RONG	W/EST	INCINIZO	668		
	•	WATER	APPEARAN	CE / ODO	R:		vviid _t	<u> </u>		
DTW (FEET)	42.45		AR, NO	ODO	R					
SAMPLE TIME	1720	СОММЕ	NTS:		•					
	1120		··· ·	5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE			JMBER OF	CONTAINE	RS	PRESERVAT	IVE
STP-1-NW	17.	20	40 ML VO	4	,	5			HCL	
			250 ML AN	MBER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
V		/	125 ML PL	ASTIC		1			NEAT	
										,
INSTRUMEN	-		TER INTER		BE					
		WATER (QUALITY MI	FIFK						
			· ·							

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS	3		
OIL SUI	MP LDU	Volumes	TIME	рH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	4.30.18	Initial	·	-						
GAUGE TIME	0820	1								
DHC (FEET)	ND	2								
DTW (FEET)	ND	3								
DTB (FEET)	6.55	4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6						:		
	•			Р	URGING DA	TA/NA	<u> </u>	<u></u>		
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:						
PURGE DATE		WATER	APPEARAN	CE / ODC	DR:					
END OF PURGE TIME		COMME	NTS:							:
PURGE AMOUNT										
DTW (FEET)										-
				S/	AMPLING D	ATA /NA	7			
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER .	APPEARAN	CE / ODC	DR:					
SAMPLE TIME	_	COMME	NTS:		*	·· •				
		·			SAMPLE LO	G/NA				
SAMPLE ID	TIME		CONTAINE	R TYPE	VI	JMBER OF	CONTAINE	RS	PRESERVAT	VE
						· · · · · ·			. =	
· -	-								· · · · · · · · · · · · · · · · · · ·	
							i de an			
									· · · · ·	
INSTRUMEN	TS USED	OIL / WA	ATER INTER	RFACE PR	OBE					
				•						
•										

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-30	Volumes	TIME	На	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	T .	Initial	1010	· · ·	Degrees C	(μS/cm)			Oxygen (mg/L)	OKF (IIIV)
	<i>5-1-18</i>		1016	7.58	13.1	3340	2171	1.76	1.83	46.4
GAUGE TIME	1007	1	1020	7.52	13.1	3360	2184	1.77	2.97	45.1
DHC (FEET)	ND	2	1023	7.52	13.1	3434	2229	1.81	2.48	444
DTW (FEET)	13.78	3	1026	7.52	[3.]	3395	2210	179	6.94	45.2
DTB (FEET)	23.10	4			!		. = 3 = 1		- 11	
DTB - DTW	9.32	5								
CAPACITY PER	0.74 - 4"	6	***		-		-			
FOOT	0.163 - 2"									-
1.52					JRGING DA	TA				
3 WELL VOLUMES			R CONDIT			. 0			***	
VOLUMES	4.56	CLE	AR WE	ST WI	ND, 55 R:				·	
PURGE DATE	5.1.18									
END OF		COMME	NTS.	KOWN,	NO O	DOK_				
PURGE TIME	1026	JOHN ME	11.01					,		
PURGE									· · · · · · · · · · · · · · · · · · ·	
AMOUNT	4.75									
DTW (FEET)	14.30									
				SAI	MPLING DA	TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:				······································		
SAMPLE DATE	51.18	MAR	E AS A	BOVE			•			
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	₹:					
	13.80		2, No (DOR		- Lawrence	<i>.</i>	·		
SAMPLE TIME	i	COMMEN			ED I E	_		R AMBE		
<u> </u>	1110	COLLE	CTED A	EBOS	<u>@ /00</u> AMPLE LOG	0,000	LECTEL	FBOS	5@104	0
SAMPLE ID	TIME	(ONTAINER				ONTAINER	9 1	PRESERVATIV	/E
MKTF-30	1110		O ML VOA		. 1101	5 NBER OF C	ONTAINER		-RESERVATIV HCL	/ C.
İ	1		O ML VOA			3			VA ₂ S ₂ O ₃	
			LITER AM			2	<u> </u>		NEAT	
		2	250 ML AM	BER		1			VEAT	
		2	50 ML PLA	ASTIC		, 1		F	HNO₃	
		1	.25 ML PLA	ASTIC		1			INO₃	
	<u> </u>		25 ML PLA			1		ŀ	1 ₂ SO ₄	
<u> </u>	V		25 ML PLA			1		N	VEAT	
NSTRUMENT:			ER INTERF		3E					
		VATER QU	JALITY ME	rer	·					
<u> </u>				···						

COMPLETED BY: TRACY PAYNE

W	ELL ID				· · · · · · · · · · · · · · · · · · ·	TEST PA	RAMETERS	3		
MK	TF-29	Volumes	TIME	рH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.1.18	Initial	1146	7,79	18.1	2441	1586	1.26	3.54	69.4
GAUGE TIME		1	1151	7.53	13.0	2407		1.25	1.30	69.7
DHC (FEET)	ND	2	1157	7,50	13.0	2387	1553		1.34	68.3
DTW (FEET)		3				_				
1 ' '	2.08	4	1203	7.51	13.1	2375	1540	1.23	1.75	67.4
DTB (FEET)	22.77	<u> </u>		1						
DTB - DTW	20.69	5								
CAPACITY PE FOOT	0.74 - 4" 0.163 - 2"	6								
3.3	l			PI	JRGING DA					<u> </u>
3 WELL		WEATH	R CONDIT		ortainta bi					
VOLUMES	10.11				ND - 59	.0				
PURGE DATE		WATER.	APPEARAN	ICE / ODO	אָ <i>ס <u>59</u></i> R.					
PURGE DATE	5.1.18	CLE	AR-> F	REPDIS	H BRO	NWE	no od	0R		
END OF PURGE TIME	1203	COMME	NTS:			J				
1	1205				·-			.		
PURGE AMOUNT	10.5									
DTW (FEET)										
DIW (I EEI)	12.41									
			-		MPLING DA	ATA				
SAMPLE DATI	5.1.18		R CONDIT							
	37110	CLE	APPEARAN	EST V	VIND,	<u></u>				
DTW (FEET)	3.29		ne As	=	•			•		
]	12.35	COMME		ABOV						
SAMPLE TIME	312	Loc	LECTE	D DU	PO3					
				S	AMPLE LO	G				
SAMPLE ID			CONTAINE		NL	IMBER OF (CONTAINE		PRESERVATI	VE
MKTF-29	/23		40 ML VOA		-	5			HCL	
			1 LITER AN 250 ML AN			<u>1</u> 1			NEAT NEAT	
 			250 ML AN			<u>+</u> 1			HNO ₃	
			125 ML PL		· · · · · · · · · · · · · · · · · · ·	1			HNO ₃	
			125 ML PL		<u></u>	1			H ₂ SO ₄	
	1		125 ML PL			1			NEAT	
	<u></u>									
INSTRUME	-		TER INTER		BE					
		WATER (UALITY ME	ETER						
						<u></u>				

COMPLETED BY: TRACY PAYNE

SIGNATURE:

*-

ANDEAVOR - GALLUP REFINERY

SECOND QUARTER 2018 US/cm TEST PARAMETERS WELL ID Conductivity (mS) Dissolved Temperature ORP (mv) MKTF-28 TIME TDS (g/L) Salinity (ppt) На Volumes Oxygen (mg/L) Degrees C GAUGE DATE Initial 1.40 5,69 79.5 5.1.18 16.2 2691 1749 1312 7.62 15.5 1304 **GAUGE TIME** 1 7.58 1710 1.40 4.96 **2,08** 2634 DHC (FEET) 2 80./ ND 1742 1319 2701 1.420 15.3 7.60 3 80.T DTW (FEET) 7.61 4.22 1.42 6.65 1323 272/ 1768 15.2 4 DTB (FEET) 16.04 DTB - DTW 9.39 5 0.74 - 4" CAPACITY PER 6 FOOT 0.163 - 2" **PURGING DATA** 1.53 WEATHER CONDITIONS: 3 WELL 4.59 VOLUMES CLEAR WEST WIND 63° WATER APPEARANCE / ODOR: PURGE DATE 5.1.18 CLEAR, NO ODOR COMMENTS: END OF /323 **PURGE TIME** PURGE 5 AMOUNT DTW (FEET) 12.95 SAMPLING DATA WEATHER CONDITIONS: SAMPLE DATE 5.1.18 SAME AS ABOVE WATER APPEARANCE / ODOR: DTW (FEET) SAME AS ABOVE COMMENTS: SAMPLE TIME 1340 SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS **PRESERVATIVE** SAMPLE ID HCL MKTF-28 1340 40 ML VOA 5 1 LITER AMBER 1 **NEAT** 250 ML AMBER 1 NEAT 1 HNO_3 250 ML PLASTIC HNO₃ 125 ML PLASTIC 1 H₂SO₄ 125 ML PLASTIC 1 125 ML PLASTIC 1 **NEAT** INSTRUMENTS USED OIL / WATER INTERFACE PROBE WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

WEL	L ID					TEST PA	RAMETERS			
MKTI	F-24	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.1.18	Initial	0829	7.13	11.9	3870	2516	2.06	2.22	55.8
GAUGE TIME	0820	1	0833	7.08	12.1	4043	2.626	2.15	1,95	23.8
DHC (FEET)	ND	2	0836	7.09	12.3	3899	2535	2.07	1.91	14.4
DTW (FEET)	21.55	3								
DTB (FEET)	30.78	4								
DTB - DTW	9.23	5								-
CAPACITY PER	0.74 - 4"	6								
F00T	0.163 - 2"			<u> </u>	LIDCING DA				<u> </u>	
1.50					URGING DA	ATA .				
3 WELL			ER CONDIT		,	^				
VOLUMES	4.5	CLE	AR, WE	ST W	IND, 49 DR:	<u> </u>				
		WATER	APPÉARAN	ICE / ODG	DR:					
PURGE DATE	5.1.18	LLE	EAR ->	BROW	IN, HO	DDO!	٧			
FND OF		СОММ	ENTS:		NN (a)					
PURGE TIME	0842	17	BAILEC	ם ס	NN Q	4.0 B	ALS_			
· PURGE		_~	7 1							
AMOUNT	4.0									
DTW (FEET)	30.52									
·	00.0-	<u> </u>		S	AMPLING D	ATA				
		WEATH	ER CONDI	TIONS:						
SAMPLE DATE	5.1.18				- W//	VD 6	70			
		WATER	APPFARAN	ICE / OD	ST W/	(1), (0)				
DTW (FEET)	22.50									
		COMMI	AR, HC	000) PC					
SAMPLE TIME	15110	COMMI	ENIS:							
	1540				CAMPLET	20	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
					SAMPLE L		CONTAINE	DC	PRESERVAT	TIVE
SAMPLE ID	TIM		CONTAIN		N	IUMBER OF		CN	HCL	1 1 V L
MKTF-24	154	<u> </u>	40 ML VC		<u> </u>	5				
			40 ML VC			3			NA ₂ S ₂ O ₃	
			1 LITER A			2			NEAT	
			250 ML A			1			NEAT	
			250 ML F	PLASTIC		1	<u> </u>	···	HNO ₃	
			125 ML F	PLASTIC		1	L		HNO ₃	.
			125 ML F	PLASTIC		1	<u> </u>		H ₂ SO ₄	
	<u> </u>	·	125 ML F	PLASTIC		1	L		NEAT	
INSTRUMEN	ITS LISED	OIL / W	ATER INTE		ROBE				······································	
III STRUMEN	110 0000		QUALITY N		· -					11
		4 A L/ 1 L I /	QUALITY						_	
									7	- ;
	COMPL	ETED RY	: ARAC	y FAYI	JE A	S	IGNATURE:	W-	7 —	
	50.m.L		7 4 11 400	, , ()		_				

WEL	L ID					TEST PA	RAMETERS	3		
MKTI	-02	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.1.18	Initial	0900	7.55	10.3	3667	2125	1.72	1.46	-53,4
GAUGE TIME	0857	1	0907		11.8	3243			1.29	-56.0
DHC (FEET)	ND	2								
DTW (FEET)	7.42	3								
DTB (FEET)	20.36	4								
DTB - DTW	12.94	5			· · ·					
CAPACITY PER	0.74 - 4"	6								:
FOOT -	0.163 - 2"				LIBOING BA	TA				
Herr	9.58	INC.	ER CONDIT		URGING DA	NIA .		······································		
3 WELL VOLUMES	28.74	WEATH	ER CONDIT	ions: eqt 1	JIND 4	190				,
		WATER	APPEARAN	ICE / ODC	NIND, L					
PURGE DATE	5.1.18	CLE	ENR-	BROWN	1, HCE	DOR				
END OF	DA IA	СОММЕ			~.	a	e.			
PURGE TIME	0919		BAILE	V Da	<u>0N@1</u>	D BAL				
PURGE AMOUNT	18.0				<u> </u>					_
DTW (FEET)	2.0.03									
				S	AMPLING D	ATA				
SAMPLE DATE	_	WEATH	ER CONDIT	IONS:						
SAIVIPLE DATE	5.1.18	OVE	RCAST,	WEST	ア W/N i OR:	0 67	 _			
DTW (FEET)	15.55		APPEARAN EAR A							
	15.55	COMM		1000	OR					
SAMPLE TIME	1615									
					SAMPLE LO				DDECED!/AT	1/ /г
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	.RS	PRESERVAT	IVE
MKTF-C	2 16	5	40 ML VO			5		·	HCL NA S O	
	1.		40 ML VO			3			NA ₂ S ₂ O ₃	
			1 LITER A			1			NEAT NEAT	
		- ,	250 ML A			1			HNO ₃	
			250 ML P			1			HNO ₃	
			125 ML P		<u> </u>	1				
<u> </u>			125 ML P		48 · 4	1			H ₂ SO ₄ NEAT	
<u> </u>	<u> </u>		125 ML P		ODE T	1			NEAT	···
INSTRUMEN	TS USED		ATER INTE		······					<u> </u>
		WATER	QUALITY M	ILIER						<u>. </u>
	·			\overline{O}			· · · · · · · · · · · · · · · · · · ·	$\overline{}$		

COMPLETED BY: TRACY PAYNE

WEI	L ID					TEST PA	RAMETERS)	/	
MKT	F-27	Volumes	ŢIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	51.18	Initial	1405	7.03	14.9	14137	9191	8.23	2.10	114-1
GAUGE TIME	1356	1	14038	6.95	12.5	15389	10003	9,00	1.29	117.3
DHC (FEET)	ND	2	1411	6.97	12.1	15699	10205	9,20	1.55	118.4
DTW (FEET)	6.32	3	1415	7.04	12.1	16149	10498	9.49	1.46	119.1
DTB (FEET)	14.62	4								
DTB - DTW	8.30	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
1.35				Pl	JRGING DA	TA				
3 WELL VOLUMES	4.05	CLEA	ER CONDIT LR, WE APPEARAN	ST WI	ND, 63 R:	30	******			
PURGE DATE END OF PURGE TIME	5.1.18	COMME	EAR, A Ints:	T G e	NO OD	OR_	·		 , ,	
PURGE AMOUNT	4.25									
DTW (FEET)	12.03									
					MPLING D	ATA				
SAMPLE DATE	5.1.18		ER CONDITER CONDITER CONTROL C		WIND	670				
DTW (FEET)	11.63	C	EAR,							
SAMPLE TIME	1650	COMME	NTS:							
					SAMPLE LO					
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	RS	PRESERVAT	IVE
MKTF-27	165	i ó	40 ML VOA			5 1		·	HCL NEAT	==
 			250 ML AN			<u>1</u>	<u> </u>		NEAT	
			250 ML PL			1			HNO ₃	
 			125 ML PL	· · · · · · · · · · · · · · · · · · ·	V	1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
1	1		125 ML PL			1			NEAT	
INSTRUMEN	TS USED		ATER INTER QUALITY MI		DBE					
	COMPLE	TED BY:	TRAC	PAYN	E	Sid	GNATURE:	X	-	

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-15	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.218	Initial		SHEE	N ON	PURGE	WATE	ER		
GAUGE TIME	1130	1		DID	NOT C	OLLEC	T REA	DINGS		
OHC (FEET)	ND	2]					
DTW (FEET)	12.30	3								
OTB (FEET)	19.40	4								
DTB - DTW	7.10	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
1.16				Р	URGING D	ATA				
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	3.48	OVER	CAST R	AIN /	LEET					
	<u> </u>	WATER	CAST, R APPEARAN	ICE / ODC)R:					
PURGE DATE	5.7:18					IEEN(•			
END OF		СОММЕ	NTS:		OR, SH					
PURGE TIME	12:02									
	12,02	<u> </u>								
PURGE AMOUNT	3.5									
DTW (FEET)	14.70									
				SA	AMPLING D	ATA				
04440150455		WEATHI	R CONDIT	TONS:						•
SAMPLE DATE	5.2.18	OVE	R CAST	RAIL	V, 40°					
		WATER	R CAST APPEARAN	CE / ODC	R:					
OTW (FEET)	12.45					,				
		СОММЕ	NTS:	 	SHEEN			-	····	
SAMPLE TIME	12140	100		<u>-</u> > 8	TILDER	141	ונפדימש	ANIO	×572	
	1210	LDL	42011		SAMPLE LO	7	NIKA	AMO	=/	
SAMPLE ID	TIME	-	CONTAINE			UMBER OF	CONTAINE	RS	PRESERVAT	VF
		_	40 ML VO		11	5	0011711112	.110	HCL	
MKTF-15	12.	10	1 LITER A			<u> </u>	,		NEAT	
						1	-		NEAT	
			250 ML A							
			250 ML P			1			HNO ₃	
	,		125 ML P			1			HNO ₃	-
			125 ML P		· · · · · · · · · · · · · · · · · · ·	1			H ₂ SO ₄	
V	V		125 ML P	LASTIC		1			NEAT	
NSTRUMEN	TS USED	OIL / W	ATER INTER	RFACE PRO	OBE					
			QUALITY M					· · · · · · · · · · · · · · · · · · ·		
		*****	- C - 1 IVI							

WE	LL ID					TEST PA	RAMETERS	3		· · · · · · · · · · · · · · · · · · ·
MKT	F-04	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.2.18	Initial		SHE	EN O	V PUR	SED N	ATER		
GAUGE TIME	0828	1			DID	OT COL	LECT	READI	V6 S	
DHC (FEET)	ND	2						·		1.1.1.1 .1
DTW (FEET)	9.75	3								
DTB (FEET)	22.29	4								
DTB - DTW	12.54	5								,
CAPACITY PER FOOT	0.74 - 4"	6								
9.28				P	URGING D	ATA		_		
3 WELL	<u> </u>	WEATHE	R CONDIT	IONS:						
VOLUMES	27.84	OVE	RCAST	LIG	HT RA	1N, 41°				
PURGE DATE							_		_	
	5.2.18			ODOR	,545	EN >	GREY	TOR	BLACK	
END OF PURGE TIME	0850	СОММЕ	N15:							
PURGE AMOUNT	17									
DTW (FEET)	21.90			-						
				SA	MPLING D	ATA				i.
SAMPLE DATE		1	R CONDIT					•		
SAMPLE DATE	5.2.18	OVE	RLAST	, 116	47 R	1/N,41	<i>0</i> 			f
DTW (FEET)	9.80									
	1.80	COMME	R, HC NTS:	ODOR	۷	,	-			
SAMPLE TIME	1315									
					SAMPLE LO)G				
SAMPLE ID	TIME		CONTAINE		. N	UMBER OF		RS	PRESERVATI	VE
MKTF-04	1315		40 ML VO			5	·		HCL	
			1 LITER AN						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1	=.		HNO ₃	
			125 ML PL			1	·	******	HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
Ψ			125 ML PL	ASTIC		1		111	NEAT	
INSTRUMEN	TS USED	OIL / WA	TER INTER	RFACE PRO	DBE					
			QUALITY MI							
		···								
	COMPLE	TEN DV:	Ko	Danin		CI	GNATURE:	51		
	COMPLE	ובט פוו.	TRACY	TAY	VF.	- -	ANATURE:	<u> </u>		·

MKTF GAUGE DATE GAUGE TIME		Volumes			r								
F	· - · -		TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)			
F	3.2.18	Initial	0917	7.28	12.9	3945	2568	2.10	1.97	-583			
	0909	1	0924	7.37			2568	2.10	1.96	-100.9			
DHC (FEET)	ND	2	0932				3003	2.48	3.16	-84.6			
DTW (FEET)	7.50	3	0944		_	4619		2.48	4.15	-94.1			
DTB (FEET)	18.39	4	<i>5</i> ,	7, 5.5	7.7	1017							
DTB - DTW	10.89	5								,			
CAPACITY PER	0.74 - 4"												
FOOT .	0.163 - 2"	6			<u></u>								
8.05	<u> </u>			Pl	JRGING DA	ATA	· · · · · · · · · · · · · · · · · · ·						
3 WELL	011		ER CONDIT		- D.		9						
VOLUMES	24.15	DVE	RCAST APPEARAN	LIG	H (KA	10,42							
PURGE DATE	5.2.18	1		•		e HC	ODOR						
END OF PURGE TIME	0944		CLEAR -> GREY -> BLACK, HC ODOR OMMENTS:										
PURGE AMOUNT	25												
DTW (FEET)	17.00			·		,		***************************************					
				SA	MPLING D	ATA				,			
CANADI E DATE		WEATHI	ER CONDIT	IONS:		·			ŧ				
SAMPLE DATE	5.2.18	OVE	ZRCAST	T, RAI	N, 41	0							
DTW (FEET)	762	WATER	APPEARAN	ICE / ODO	R: '								
· -	7.52	COMME	MR. 140	2000	<u> </u>	•							
SAMPLE TIME	1345	OOMINIE											
					SAMPLE LO	G							
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	RS	PRESERVAT	IVE.			
MKTF-11	134	15	40 ML VO			5			HCL				
			1 LITER AN						NEAT				
			250 ML AI			1			NEAT				
\longrightarrow			250 ML PI			1			HNO ₃				
			125 ML PI			1			HNO ₃				
			125 ML Pl			1			H ₂ SO ₄				
<u> </u>	7		125 ML PI	_ASTIC		1			NEAT .				
INSTRUMENT	TS USED	OIL / W	ATER INTER	RFACE PRO	DBE								
			QUALITY M							:			
	<u>-</u>					· · · · · · · · · · · · · · · · · · ·				Se			

WEL	L ID		TEST PARAMETERS										
MKTI	F-09	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)			
GAUGE DATE	5.2.18	Initial		SHE	EN O	N PUR	GE W	ATER					
GAUGE TIME	@E0	1			D NOT				NGS				
DHC (FEET)	ND	2											
DTW (FEET)	13,42	3											
DTB (FEET)	22.69	4	:						:				
DTB - DTW	9.27	5				-							
CAPACITY PER	0.74 - 4"	6											
FOOT	0.163 - 2"												
6.8	36			_	URGING DA	TA			·				
3 WELL VOLUMES	Zo.58		ER CONDIT		- 04	0		~ .					
VOLUMES	20.50	WATER	RCAST ADDEADAN	CE / ODO	HT RAI	N, 44			_				
PURGE DATE	5.2.18	2LE	EAR. H	C OD	N. DR, SI	1FFN							
END OF		COMME	NTS:	,		/ Personal or and or an							
PURGE TIME	1100				1		<u></u>						
PURGE AMOUNT	21.0				,								
DTW (FEET)	19.70												
•				SA	MPLING D	ATA							
SAMPLE DATE	_		R CONDIT			-							
SAIVIPLE DATE	5.2.18	OVER	CAST,	LIGHT	RAIN,	40°							
DTW (FEET)	1245	WATER	APPEARAN	CE / ODO	R:								
<u> </u>	13.45	COMME	AK, HO	c 000									
SAMPLE TIME	1515	OOMMINE	11101										
					SAMPLE LO	G							
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE			
MKTF-09	1515		40 ML VOA			5		<u></u>	HCL				
			1 LITER AN			1	•	···-	NEAT	·			
			250 ML AN			1			NEAT				
			250 ML PL			1			HNO ₃				
			125 ML PL	ASTIC		1			HNO ₃				
			125 ML PL	ASTIC		1			H ₂ SO ₄				
V	V		125 ML PL	ASTIC		1			NEAT				
INSTRUMENT	IS LISED	OIL / M/A	TER INTER	FACE DDO	ORF								
HINO HIVIDIVI			QUALITY ME		<i></i>								
		VVAIER (SOUPLI INT	_1 _ [
						1014	,						

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-10	Volumes	TIME	pH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.2.18	Initial		SHE	EN O	N PUR	GED	WATER		
GAUGE TIME	1002	1		Z	ID NO	T COL	LECT	READ	INGS	
DHC (FEET)	ND	2								
DTW (FEET)	7.02	3								
DTB (FEET)	16.05	4								
DTB - DTW	9,03	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"	0								
6.68					URGING DA	TA				
3 WELL VOLUMES	20.04	Dog To San San San San San San San San San San	R CONDIT		T RAIN	v, 42°				
PURGE DATE	5.2.18	WATER A	PPEARAN	CE / ODO	R:	DOR,		v		•
END OF PURGE TIME	1017	COMMEN		,						
PURGE AMOUNT	7.5									
DTW (FEET)	15.89									
				SA	MPLING D	ATA				
SAMPLE DATE	5.2.18		CONDIT	IONS:	,					
DTW (FEET)	6.92	WATER A	PPEARAN	CE/ODO	R:					
SAMPLE TIME		COMMEN	ITS:			1420	2 FB	04@1	430	
				5	SAMPLE LO	G	1			
SAMPLE ID	TIME		ONTAINE		N	JMBER OF	CONTAINE		PRESERVATIV	VE
MKTF-10	144		O ML VOA			5			HCL NEAT	
-	1		LITER AN			1			NEAT	
			50 ML PL			1			HNO ₃	
-			25 ML PL			1			HNO ₃	
			.25 ML PL			1			H ₂ SO ₄	
1	1		.25 ML PL			1			NEAT	
NSTRUMENT		OIL / WAT		FACE PRO)BE					

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
MKT	TF-38	Volumes	TIME	рН	Temperature	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	5.3.18	Initial	0906	7.16	Degrees C		10.10	117	Oxygen (mg/L)	
GAUGE TIME	0930	1	0909	 	11.7	2170	1410	1.12	5.05	111.5
DHC (FEET)		2	0914		12.8	2238	2456	1.16		107.5
	ND	<u> </u>		7.20	13.1	2245		1.16	1.67	106.8
DTW (FEET)	7.96	3	0918	7.22	13.2	2264	1469	1.17	2.01	107.1
DTB (FEET)	20.28	4 .	- ' .				-			
DTB - DTW	12.32	5					•••••			
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6				•				
	0,163 - 2"	<u>i</u>		DI	JRGING DA	TΛ				
2.0 3 WELL		WEATH	R CONDIT		DIGING DA					
VOLUMES	6				WIND,	39°				
PURGE DATE		WATER.	APPEARAN	ICE / ODO	R:	// 				
FORGE DATE	5.3.18	CLE	$4R \rightarrow e$	SREY,	NO OW	OR				
END OF PURGE TIME	0918	СОММЕ	NTS:							
PURGE AMOUNT	6	_								
DTW (FEET)	9.00	1								
				SA	MPLING DA	ATA				
SAMPLE DATE	,	•	R CONDITI		*.					···.
OAWII LE DATE	5.3.18				VIND,	410				
DTW (FEET)	7.98	i .	APPEARAN	•						
		COMME	V, NO	ODOR	TED 1	DUPO5	2 1	EXTRA	AMBER	2
SAMPLE TIME	1010								@ 0930	
				S	AMPLE LO	G	0100			
SAMPLE ID	TIME		CONTAINE		NL	MBER OF	CONTAINE		PRESERVATI	VE
MKTF-38	1010		40 ML VOA			5			HCL	
			1 LITER AN				•		NEAT	
			250 ML AN			1			NEAT	
	<u> </u>		250 ML PL			1			HNO ₃	
			125 ML PL			1	 ·		HNO ₃	. <u>.</u> .
	-		125 ML PL			1			H ₂ SO ₄	
	Ψ		125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	'S USED	OIL / WA	TER INTER	FACE PRO	BF	<u> </u>				· · · · · · · · · · · · · · · · · · ·
10 11101111111	-		UALITY ME		<u></u>					
			, == 1=11 1 1715							÷ ;
			<i>37</i>	···						

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS	S		_
MKTF-	37	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
	5.3.18	Initial		SHE	EN ON	PLIRE	ED 4	PATER		
GAUGE TIME	1343	1		1	VOT CO			1		
DHC (FEET)	ND	2								
DTW (FEET)	8.68	3				***				
DTB (FEET)		4								
DTB - DTW	24.54	5					_ .			
CAPACITY PER	15.86 0.74 - 4"									
FOOT	0.163 - 2"	6								
2.56	ź			Pl	JRGING DA	TA	· \ - \ \ .			
3 WELL	710		R CONDIT			- 10.49		•	·	
VOLUMES	7.68				WEST	WIND	, 32			
PURGE DATE	5.3.18		APPEARAN E <i>ar</i>	•	R: V, HC	<i>നവരെ</i>				
END OF		COMME			, ,,	0000				•
PURGE TIME	1400									
PURGE AMOUNT	8 GALS						•			
DTW (FEET)	23,05									
		A		SA	MPLING D	ATA				
SAMPLE DATE	C 0 10	_	R CONDIT							
OAMI LE BATE	5.3.18		E AS A		_					
DTW (FEET)	19.80	_	APPEARAN	•	K:					
	71.00	COMME	<i>E AS A</i> NTS:	BOVE			¥/2-			
SAMPLE TIME	1430									
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		Nl	JMBER OF	CONTAINE	RS	PRESERVATI	VE
MKTF-3	7 143		40 ML VO			5			HCL	
	· ·		1 LITER AN 250 ML AI	_			<u> </u>		NEAT NEAT	
			250 ML PI			1.			HNO ₃	<u></u>
			125 ML PI		-	<u>1</u>		·	HNO ₃	·
					· · · ·			· · · · · ·		•
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI			1			NEAT	
V	TOLIOTO	OIL (MA	40ML		\D_	<u> </u>		Č	50B/	
INSTRUMEN			TER INTER		NRF					
	· ·	WAIER	QUALITY M	LIEK						

WEI	_L ID						TEST PA	RAMETERS	S		
MKT	F-36	Volumes	TIME	рН		erature ees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5-3.18	Initial		SHEE	N E	N F	PURGED	WATE	R		
GAUGE TIME	1500	1		Ð	D 1	70V	COLL	ECT R	EADING	s	<u> </u>
DHC (FEET)	ND	2									
DTW (FEET)	6.62	3									
DTB (FEET)	15.40	4									
DTB - DTW	8.78	5	· · · · · · · · · · · · · · · · · · ·								
CAPACITY PER	0.74 - 4"	6									
FOOT	0.163 - 2"	Ü			<u> </u>						
1.43					URGIN	NG DA	ATA				
3 WELL VOLUMES	4.29	OVE	ER CONDIT	NES	TW	INH	,54°				<u></u>
PURGE DATE	5.3.18	MAIATED	ADDEADAN		D.		or, s	THEEN	·		
END OF PURGE TIME	1514	COMME	INTS:								
PURGE AMOUNT	4.5	;									
DTW (FEET)	13.78										
				SA	MPLI	NG D	ATA				
SAMPLE DATE	5.3.18		ER CONDIT		5_			-			
DTW (FEET)	9.70	WATER	APPEARAN	ICE / ODO	R:	14.6	ODOR				
SAMPLE TIME		COMME		314		110					
	13.10				SAMP	LE LO)G				
SAMPLE ID	TIME		CONTAINE	R TYPE		N	UMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-36	154	0	40 ML VO				5			HCL	
			40 ML VO				3			NA ₂ S ₂ O ₃	
			1 LITER AN				1	-		NEAT	
			250 ML A				1		 	NEAT	
			250 ML PI				1			HNO ₃	
			125 ML PI				1			HNO ₃	
			125 ML PI				1		· -	H ₂ SO ₄	
¥	V		125 ML PI				1			NEAT	
INSTRUMEN	TS USED	OIL / W	ATER INTER	RFACE PRO	OBE					····	
		WATER	QUALITY M	ETER							
			-					•			

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X7-

WE	LL ID			TEST PARAMETERS										
MKT	F-35	Volumes	TIME	pH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)				
GAUGE DATE	5.3.18	Initial	1616	7.14	14.8	1667	1085	0.85	1,08	-84,8				
GAUGE TIME	1409	1	1620	7.13	14.6	1465	1079	6.85	1.82	-83,0				
DHC (FEET)	ND	2	1623	7.16	13.9	1661	1079	0.84	1.57	-82.1				
DTW (FEET)	8,50	3	1626	7.15	13.8	1660	1079	0.84	1.53	-BL3				
DTB (FEET)		4	1020	1.13	13.0	1000	1011	0,0,	1.20	Orr				
DTB - DTW	16.40	5												
CAPACITY PER	0.74 - 4"	3	w)=											
FOOT	0.163 - 2"	6												
1.27				PI	URGING DA	TA								
3 WELL		WEATHE	R CONDIT	IONS:										
VOLUMES	3.81	PART	TLY CLO	W YOU	EST W	IND . 5	5°							
PURGE DATE	5.3.18	WATER	APPEARAN	CE / ODO	R:									
END OF PURGE TIME	1626	COMME	NTS:											
PURGE AMOUNT	84													
DTW (FEET)	8.80													
				SA	MPLING DA	ATA								
SAMPLE DATE		WEATHE	R CONDIT	ONS:										
SAIVIPLE DATE	5.3.18		EAS											
OTW (FEET)	8.59		APPEARAN											
SAMPLE TIME	1645	COMME												
				S	AMPLE LO	G								
SAMPLE ID	TIME		CONTAINE		NL	MBER OF (CONTAINER		PRESERVATI	VE				
MKTF-35	164		40 ML VOA			5			HCL					
-			40 ML VOA			3			VA ₂ S ₂ O ₃					
			1 LITER AN						VEAT					
			250 ML AN			1			NEAT					
-			250 ML PL			1			HNO ₃					
			125 ML PL			1			HNO ₃					
,			125 ML PL			1			H ₂ SO ₄					
V	V		125 ML PL			1		1	NEAT					
NSTRUMENT	-		TER INTER		BE									
	1	NATER O	UALITY ME	TER										

WE	LL ID	<u> </u>				TEST PA	RAMETERS	3	-	
MK	ГF-34	Volumes	TIME	рН	Temperature	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	5.3.18	Initial	1115	700	Degrees C	2030	1320	1.04	Oxygen (mg/L)	1100
GAUGE TIME		1	1115	7.80	12.8				7.76	115.3
	1104	ļ	1118	7.69	12.9	2004	1300	1,03	6.67	115,2
DHC (FEET)	ND	2	1121	7.67	13.1	2010	1305	1.03	6.62	115.6
DTW (FEET)	18.70	3	1124	7.67	13.2	2015	1320	1.64	5.84	115.9
DTB (FEET)	27.60	4								
DTB - DTW	8.90	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"				,				<u> </u>	
1.45			·		URGING DA	TA				
3 WELL	4.35		ER CONDIT			VD 44	-0			
VOLUMES	7,35				ST WI	10, 48				
PURGE DATE	5.3.18		APPEARAN	•	າ ⊳' ທ ວ κ:	ADAR				
END OF		COMME		DRO	110	0,00	-			
PURGE TIME	1124									
PURGE										
AMOUNT	4.5									
DTW (FEET)	25.62	-								
,				SA	MPLING DA	\TA				
SAMPLE DATE	5.3.18	WEATHE	R CONDIT	IONS:						
SAIVIPLE DATE	3,3.18		AR, CA							
DTW (FEET)	2270		APPEARAN	•						
` '	22.78	CLE	PAR, NO	ODOR	<u>e</u>	201170			4 4 4 4 4 4 4	
SAMPLE TIME		COMME	NIS: 4		- 120	DUPC	06+1	EXTRA	A AMBE	ER
	0845	COLL	ECTEL	F 806	CAMPLE LO	<u>5 <i>CDL</i></u>	LECTE	D FRO	06 @ 08	10
SAMPLE ID	TIME		CONTAINE			IMBER OF	CONTAINE	RS	PRESERVATI	VE
MKTF-34	084	5	40 ML VO	A		5		•	HCL	
			1 LITER AN			2	~		NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1		,	HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			. 1			H ₂ SO ₄	
<u> </u>	<u> </u>		125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	TS USED	OIL / WA	TER INTER	FACE PRO	BE				<u></u> .	
	-		QUALITY MI							
							······································			
								- Marie Company	7	_

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3				
MKT	F-17	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)		
GAUGE DATE	5-3.18	Initial	1142	7.10	13.3	1805	1170	0.92	2.62	-603		
GAUGE TIME	1136	1	1146	7.14	13.8	1793	1164	0.91	2.19	-69		
DHC (FEET)	ND	2								•		
DTW (FEET)	11.45	3										
DTB (FEET)	24.55	4		-								
DTB - DTW	13.10	5	··									
CAPACITY PER	0.74 - 4"	6							·			
FOOT	0.163 - 2"											
2.14					JRGING DA	TA						
3 WELL VOLUMES	6.42		R CONDIT				100					
	₽. 12	WATER APPEARANCE / ODOR:										
PURGE DATE	5.3.18	5.3.18 CLEAR, HC ODOR COMMENTS:										
END OF												
PURGE TIME	1148	DAI	LED D	ry@2	1.25 G	ALS						
PURGE AMOUNT	2.25											
DTW (FEET)	24.39											
				SA	MPLING DA	NTA			· · · · · · · · · · · · · · · · · · ·			
SAMPLE DATE	P 11 (P 1		R CONDITI							· · · · · · · · · · · · · · · · · · ·		
}	J. 1. W	C LE	AR NE	OF CODO	VIND, L	15						
DTW (FEET)	14.95		EAR,				•					
CARADI E TIRAE		COMME	NTS:	14 C	DUR			****				
SAMPLE TIME	0930											
041404545					AMPLE LO							
SAMPLE ID MKTF-17	TIME		CONTAINEI 40 ML VOA		NU		CONTAINER		PRESERVATI	√E		
IVIK I F-17	0930		1 LITER AN			5			HCL			
			250 ML AN			<u>1</u>			NEAT NEAT			
			250 ML PL			1						
		_,	125 ML PL			1			HNO ₃			
			L25 ML PL						HNO ₃			
1			L25 ML PL			1			H ₂ SO ₄ NEAT			
Y			LEO IVIL I L			<u></u>			INLAT			
NSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE		**					
	_		UALITY ME			····						
	·					····						

COMPLETED BY: TRACY PAYNE

WEI	LID						TEST PA	RAMETERS	}				
MKT	F-19	Volumes	TIME	рН	Temper Degree		Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen ^(mg/L)	ORP (mv)		
GAUGE DATE	5.3.18	Initial		SHEEN	46 6	Pu	RGED	WATE	R				
GAUGE TIME	1201	1.		DID	NOT	ය	WECT	READIN	હઽ				
DĤC (FEET)	ND	2							<u> </u>				
DTW (FEET)	12.15	3											
DTB (FEET)	18.19	4											
DTB - DTW	6.04	5											
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6											
0.9	8			Р	URGIN	G D/	ATA						
3 WELL /OLUMES	2.94	OVE	ER CONDIT	T, WE	(57	W۱	VD.						
PURGE DATE	5.3.18	CL	ATER APPEARANCE / ODOR: CLEAR, SHEEN, HC ODOR -> BROWN										
END OF PURGE TIME	1210	СОММЕ	inis:	- <u> </u>									
PURGE AMOUNT	3.0												
DTW (FEET)	15.78					_		<u> </u>					
					AMPLIN	IG D	ATA		······································				
SAMPLE DATE	5.4.18	LLE	ER CONDIT	TH WI	ND,	43	50						
DTW (FEET)	12.23	WAIER	APPEARAI	NCE / OD()R:						-		
SAMPLE TIME	1000	СОММЕ	ENTS:										
			CONTAIN		SAMPL			CONTAINE	DC	PRESERVAT	11/5		
SAMPLE ID	TIME		CONTAINE 40 ML VO			IN	UIVIBER OF		NO	HCL	1 V L		
MKTF-19	100	<i></i>	1 LITER A							NEAT			
		-	250 ML A				1			NEAT			
		· · ·	250 ML P	LASTIC			1	-		HNO ₃			
			125 ML P	LASTIC			1			HNO ₃			
			125 ML P				1			H ₂ SO ₄			
V	✓		125 ML P	LASTIC			1	-		NEAT			
INSTRUMEN	ITS USED		ATER INTE QUALITY M		OBE								
	COMPLE	TED BY:	TRA	LY P	NYA	E	S	IGNATURE:	W	3-			

WEI	LL ID					TEST PA	RAMETERS	3		
MKT	F-18	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv
GAUGE DATE	5.3.18	Initial		SHEET	VON	PURGE	D WA	TER M	0	
GAUGE TIME	1312	1			MAS	COLE	TED			
OHC (FEET)	ND	2								
OTW (FEET)	7.35	3		<u> </u>						
OTB (FEET)	26.70	4								
OTB - DTW	19.35	5								
CAPACITY PER		6								
-OOT	0.163 - 2"				1					
3.15					PURGING DA	ATA				
3 WELL /OLUMES	9.45		ER CONDI ERCAS		ST WIN	VD, 52	. 0			
PURGE DATE	5.3.18	WATER .	APPEARA EAR	NCE / ODO SHEEN	57 Wil DR: 1, AC C	DOR.	7 BROW	w		
END OF PURGE TIME	1324	COMME	NTS:							
PURGE AMOUNT	3.5									
DTW (FEET)	26.50									
				S	AMPLING D	ATA				·
SAMPLE DATE	F .1 150	WEATH	R CONDI	TIONS:	0					
,	5.4.18	<u> </u>	AR CA	NCE / ODG	55					
OTW (FEET)	7.53	CLE	APPEARA	HC (JJJV 6 JJJV 6					
SAMPLE TIME	10 5ට	COMME			2010					
			·····		SAMPLE LO)G				
SAMPLE ID	TIME		CONTAIN			UMBER OF	CONTAINE	RS	PRESERVATI	VE
MKTF-18	05	O	40 ML VC)A		5			HCL	
			1 LITER A	MBER 🤄		1	and .		NEAT	
	-		250 ML A	MBER:		1			NEAT	
			250 ML F	LASTIC		1			HNO ₃	
			125.ML F	LASTIC		1		*****	HNO ₃	
			125 ML F	LASTIC		1			H ₂ SO ₄	
₩	V		125 ML F			1			NEAT	
NSTRUMEN	TS HSED	OII / \\/	TED INITE	RFACE PR	ORF					
NOTRUVIEN			QUALITY N		ODL					
	COMPLE	محدث شعر		Y PAY		01/	GNATURE:	<u> </u>		

WE	LL ID					TEST PA	RAMETERS	S		
MKT	F-25	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.6.18	Initial	0809	7.01	10.48	2975	1930	1.56	1.22	40.4
GAUGE TIME	0800	1	0812	7.06	10.6	3022	1963	1.58	2,04	72.6
DHC (FEET)	ND	2	0815	7.13	10,5	3066	1956	1.57	3,55	10.1
DTW (FEET)	11.20	3	0818	7.10	10.5	3023	1963	1.58	1.77	4.0
DTB (FEET)	19.50	4	-500			<u> </u>	,,,,			1.0
DTB - DTW	8.30	5								
CAPACITY PER		6								
FOOT	(0.163 - 2")									
1.35			<u> </u>		JRGING DA	TA				
3 WELL VOLUMES	4.05		ER CONDIT		~°					
VOLOIVILS	1, 0	WATER	APPEARAN	CE / ODO	R:					
PURGE DATE	5.6.18	I .	AR, 140	•						
END OF		СОММЕ			•					
PURGE TIME	0818									
PURGE AMOUNT	4.25									
DTW (FEET)	11.90				-					
1.048	-			SA	MPLING DA	ATA				
		WEATHE	R CONDIT	IONS:				 		
SAMPLE DATE	5.6.18	SAM	ie as	ABOVE						
DTW (FEET)	11.50	WATER A	APPEARAN	CE / ODO	R:					
(== . ,	11.50		E AS		E	1	אורד מז	POT 8	1EXTE	<u> </u>
SAMPLE TIME	0900	COMME	•	@ 0750	7 20	LECTO	D 45	2070	Ada	AMBER
	- 100	LOLLE	<u> </u>	<u> 250</u>	7: COL	<u>.LECTE</u> G		B016	0830	
SAMPLE ID	TIME		CONTAINE			JMBER OF	CONTAINE	RS	PRESERVAT	IVE
MKTF-25	090	00	40 ML VO	\		5			HCL	
			40 ML VOA	4		3			$NA_2S_2O_3$	
	-		1 LITER AN			2			NEAT	
	·		250 ML AN			1			NEAT	
			250 ML PL			1			HN03	
			125 ML PL			1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
V	V		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
		WATER (QUALITY MI	TER						

COMPLETED BY: TRACY PAYNE

WE	LL ID				·-	TEST PA	RAMETERS	<u> </u>		
MKT	F-31	Volumes	TIME	Hq	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE		Initial		'	Degrees C	1 1			Oxygen (mg/L)	<u> </u>
•	5.6.18	Initial	0954	7.17	12.9	3133	2034	1.65	1.54	97.9
GAUGE TIME	0945	1	0957	7.19	12.3	3292	2138	1.73	1.60	95.2
DHC (FEET)	ND	2	1000	7.20	12.1	3258	2119	1.72	1.85	95.4
DTW (FEET)	7.82	3	1003	7.21	12.4	3207	2086	1.69	2.16	95.8
DTB (FEET)	19.26	4								1,5,7,5
DTB - DTW	11.44	5								
CAPACITY PER										
FOOT	0.163 - 2"	6								
1.86				Pl	JRGING DA	TA				
3 WELL		WEATH	R CONDIT	IONS;						
VOLUMES	5.58	CLEA	<mark>R, CAL</mark> APPEARAN	4.63	6					
PURGE DATE										
I ONGE DATE	5.6.18		AR->F	BROWL	J, NO C	DOR			· · · · ·	
END OF		COMME	INTS:	•	•					
PURGE TIME	003					<u> </u>				
PURGE AMOUNT	6.0									
AMOUNT	9.0									
DTW (FEET)	10.11									
	······································			SA	MPLING DA	ATA		-		
		WEATHE	R CONDITI	IONS:	·.					· · · · · · · · · · · · · · · · · · ·
SAMPLE DATE	5.6.18	CLEA	KR. WE	ST WIL	4D 678					
		WATER	APPEARAN	CE / ODO	R:					
DTW (FEET)	9.86		R, NO							
SAMPLE TIME	1020	COMME								
	1-20		·		ALADIELO		·····			
SAMPLE ID	TIME		CONTAINE		AMPLE LO		CONTAINER	oe .	PRESERVATI	\/⊏
MKTF-31	1020		40 ML VOA		INC	5 JMBER	CONTAINE		PRESERVATI HCL	٧C
//////////////////////////////////////	1		40 ML VOA			3			NA ₂ S ₂ O ₃	
			1 LITER AM			1			NEAT	
			250 ML AN			1	· · · · · · · · · · · · · · · · · · ·		NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
	V		125 ML PL	ASTIC		1			NEAT	,
INSTRUMEN	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
		WATER (QUALITY ME	TER						

COMPLETED BY: TRACY PAYNE

OUTFALL ID TEST PARAMETERS STP-1 TO EP-2 Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (mv) ORP (mv)									
T0 EP-2	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)		ORP (mv)
	Initial								
_	1								
	2				•				
	3								<u> </u>
_	4								
	5								
0.74 - 4" 0.163 - 2"	6								
	<u> </u>		P	URGING DA	TA / N/	4		·	
	WEATHE	R CONDIT	IONS:		•	-			
	WATER /	APPEARAN	CE / ODO	DR:		-			
	COMME	NTS:							
			SA	AMPLING DA	\TA				
5.6.18	WEATHE LLE	R CONDITI	ONS:	IND					
NA	WATER A	APPEARAN	CE/ODC	PR:					
1200									.,
				SAMPLE LO	G				
				NL	MBER OF (CONTAINER			/E
1		250 ML AM	1BER		1			NEAT	
					1		······································		
					1				
V		500 ML PL	ASTIC		1			H ₂ SO ₄	
TO LIGED	OII / W/v.	TED INITED	EACE DD)DE		···			
- -	OIL/ WA	IEN IIVIEK	AUE PRI	JDE.					
	TO EP-2 0.74 - 4" 0.163 - 2" 5 · 6 · / 8 NA / 200 TIME 2 / 20	TO EP-2 Volumes Initial 1 2 3 4 5 0.74 - 4" 6 0.163 - 2" 6 WEATHE WATER COMME *** *** *** *** *** *** ***	TO EP-2 Volumes TIME	TO EP-2 Volumes TIME pH Initial	TO EP-2 Volumes TIME pH Temperature Degrees C Initial	TO EP-2 Volumes TIME pH Temperature Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) Initial Degrees C (µS/cm) PURGING DATA / NA WEATHER CONDITIONS: WATER APPEARANCE / ODOR: COMMENTS: SAMPLING DATA WATER APPEARANCE / ODOR: SAMPLING DATA WATER APPEARANCE / ODOR: COMMENTS: SAMPLE LOG TIME CONTAINER TYPE NUMBER OF OUT OF OUT OF OUT OF OUT OUT OUT OUT OUT OUT OUT OUT OUT OUT	TO EP-2 Volumes TIME pH Temperature Degrees C Conductivity (LS/cm) TDS (g/L) - Initial	TO EP-2 Volumes TIME pH Temperature Conductivity TOS (g/L) Salinity (ppt)	TO EP-2 Volumes TIME pH Temperature (Lab Conductivity Degrees C (Lab Cert) TOS (g/L) Salinity (ppt) Dissolved Coxygen img/L)

COMPLETED BY: TRACY PAYNE

SIGNATURE:

* -

WE	LL ID		* - -			TEST PA	RAMETERS	ŝ		
MK	F-40	Volumes	TIME	pH .	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.6.18	Initial	1058	7.30	13.4	6316	4101	3.46	7.27	122,0
GAUGE TIME	1050	1	1101	7.27	12.4	6976	4537	3,86	6,40	124.6
DHC (FEET)	ND	2	1104	7.15	12.4	9680	6292	5.47	6.05	131.0
DTW (FEET)	13.50	3	1107	7.08	12.7	12155	7858	6,94	5,61	134,6
DTB (FEET)	23.53	4	1112	7.10	12.9	13197	8580	7.63	3,43	1357
DTB - DTW	10.03	5							,	
CAPACITY PER	0.74 - 4"	6		-		-				
FOOT	0.163 - 2"			_	150110 - 1					
1.63					JRGING DA	TA				-1
3 WELL VOLUMES	4.89		R CONDIT		D, 67°					
DUDGE DATE			APPEARAN							. «.
PURGE DATE	5.6.18		IR, NE	ODO	<u>e</u>					
END OF PURGE TIME	1/12	COMME		DOLTAC	e 6.75	GAILS				
PURGE				7 0 - 0 . 7	<u>C 03.0</u>	0140				
AMOUNT	6.75									
DTW (FEET)	23.03									
				SA	MPLING DA	ATA			. <u> </u>	
SAMPLE DATE			R CONDITI			7			<u> </u>	
ONIVII LE BATTE	5.6.18	CLE	AR, CA	alm,	780					
DTW (FEET)	21.65									
	1245	COMME!	<i>R. MO</i> NTS:	0000	<u> </u>					
SAMPLE TIME	21:65									
-					AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NL	MBER OF	CONTAINER		PRESERVATI	VE
MKTF-40	1243	<u></u>	40 ML VOA			5			HCL	
			LITER AN			1			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	
<u> </u>	<u>\</u>		L25 ML PL	ASTIC		1			NEAT	
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE					
	_		UALITY ME							M's
	·							·····		
				П						

COMPLETED BY: TRACY PAYNE

SIGNATURE:

55-

WEI	LL ID	1				TEST PA	RAMETER	S	· · · · · · · · · · · · · · · · · · ·	
MKT	F-39	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxyger (mg/L)	ORP (mv)
GAUGE DATE	5.6.18	Initial	1355	7.18	17.9	4330	282 l	2.33	120	-37.0
GAUGE TIME	1352	1		SHEEN	ONP	URGED		R		
DHC (FEET)	ND	2	DI:	SCONTI	NUED C	OLLECT	ING R	ADING	\$	
DTW (FEET)	8.00	3								
DTB (FEET)	15.13	4								
DTB - DTW	7.13	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"			Di	IDOINO D	TA				
1.16	1	N/EATU	R CONDIT		JRGING DA	AIA				
3 WELL VOLUMES	3.48	CLEA	AR, CAC	LM, €	30°					÷
PURGE DATE	5.6.18	WATER.	APPEARAN	ICE / ODO	R:					
	2.6.70	COMME	AR, HC	ODOR	L, SHE	EN				
END OF PURGE TIME	1400	COMINE	IN 13.							
PURGE AMOUNT	3.50									
DTW (FEET)	10.21									
				SA	MPLING D	ATA				
SAMPLE DATE	5.6.18		R CONDIT							
	5.6.10		e as a Appearan		R•				· · · · · · · · · · · · · · · · · · ·	
DTW (FEET)	8.40		AS AR	•	14.					
SAMPLE TIME		СОММЕ								
OAMI EL MAL	1420				AMDIE LO	20				
SAMPLE ID	TIME		CONTAINE		SAMPLE LO	JMBER OF	CONTAINE	DS	PRESERVAT	i/E
MKTF-39	142		40 ML VOA		14	5	CONTAINE	11.0	HCL	
WITCH -SS	172		1 LITER AN		<u> </u>	1			NEAT	
			250 ML AN			<u>_</u> 1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			<u>+</u> 1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
	-		125 ML PL			1			NEAT	
INSTRUMEN [*]	TS USED	OIL / WA	TER INTER	RFACE PRO	BE					
	-	WATER (UALITY MI	ETER						
			A	17				ALL STREET, ST	_	

COMPLETED BY: TRACY PAYNE

	ELL ID						RAMETER	s		
0/	W-60	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.7.18	Initial	0820	7.87	13.0	7220	4693	4.00		128.0
GAUGE TIME	0811	1	0828	7.66	13.1	7249	4712	4.01	\$1.94	
DHC (FEET)	ND	2								12341
DTW (FEET)	16,60	3								
DTB (FEET)	46.15	4			-					
DTB - DTW	29.55	5				-				
CAPACITY PER FOOT	0.74 - 4"	6					-			
4.82				PI	JRGING DA	ΤΛ				
3 WELL	<u> </u>	WEATHE	R CONDITI		Maina DA	IA .				
VOLUMES	14.46		R, CALL							
PURGE DATE		WATER A	APPEARAN(CÉ / ODOF					- 	
	5.7.18	CL	EAR -	> BRO	WN, NO	DOOP	ع			
END OF PURGE TIME	0840	COMME	VIO.			8 646				
PURGE AMOUNT	8 GALS					2 5AC	<u> </u>			
OTW (FEET)	45.80									
				SAN	APLING DA	TA				
AMPLE DATE	5.8.18		R CONDITIO							
ŀ		CLEAR	S, CALM	440						
TW (FEET)	~~~		PPEARANC		:					
Γ		COMMEN	, NO C	DOR			-			
AMPLE TIME	0740									
AAAD! E 'S					MPLE LOG					
AMPLE ID OW-60	TIME 0746		ONTAINER O ML VOA	TYPE	NUM	MBER OF C	ONTAINER		RESERVATIV	Έ
1	1		LITER AME	BFR		5			CL	
			50 ML AME			<u>_</u>			EAT EAT	
			50 ML PLA			1			NO ₃	
			25 ML PLA			<u></u>	<u></u>		NO ₃	
		1:	25 ML PLA	STIC		1			2SO ₄	
	V	1:	25 ML PLA	STIC		1			EAT	
STRUMENTS	S USED C	IL / WAT	R INTERF	ACE PROP	F					
	_		ALITY MET		<u> </u>					
								<u> </u>		
	COMPLETE	D RV		_		A				
	COMPLETE	J 51	KACY	PAYNE		SIGN	ATURE:	H7		
								•		

	WELL ID				<u> </u>	TEST PA	RAMETERS			
	DW-59	Volumes	TIME	pH	Temperature	Conductivity		<u> </u>	Dissolved	1
GAUGE DAT		Initial	0858	7.48	Degrees C	(μS/cm)	TDS (g/L)	Salinity (ppt)	Oxygen (mg/L)	ORP (mv)
GAUGE TIM		1	0903		14.3	10995	7150	6.27	0.87	132.8
DHC (FEET)		2	0908	7.52 7.52	13.8	11183			1.28	131.9
DTW (FEET)	-	3			13.7	11179	7260		1.09	130.2
DTB (FEET)	24.15	4	0913	7.51	13.8	11138	72.67	6.39	1.33	129.7
DTB - DTW	38.48	5								
CAPACITY P	14.33 0.74 - 4"	3						-		
FOOT	0.163 - 2"	6			ŀ					
2.3	4	<u></u>		PL	JRGING DA	TA				
3 WELL		WEATHE	R CONDITI							
VOLUMES	7.02	CLEA	R, EAS	TWIN	'D, 53'	9				
PURGE DATE	5.7.18									
END OF	3.110	COMME	AR -> B	3/20W/	V, NO	ODOR				
END OF PURGE TIME	0913	COMINE	N15:							
PURGE AMOUNT	7.25									
DTW (FEET)	35.35									
			· · · · · · · · · · · · · · · · · · ·	SAN	/IPLING DA	TA				
SAMPLE DAT	5.8.18		R CONDITION							
		<u>CLE</u>	AR C	ALM,	440					
DTW (FEET)	25.25		PPEARANC	•						
SAMPLE TIME	. [COMMEN		ODOR			" " ,- ,			
	08/10									
SAMPLE ID	TIME		ONITALNIED		MPLE LOG					
0W-59	08/0		ONTAINER O ML VOA	TYPE	NUI	MBER OF CO	ONTAINERS		RESERVATIV	Æ
1			LITER AME	3FR	-	5		·	CL	
			50 ML AMI			<u></u>			EAT EAT	
			50 ML PLA			1			NO ₃	
		1	25 ML PLA	STIC	· <u>-</u>	1			NO ₃	
		1:	25 ML PLA	STIC		1			SO ₄	
V	V	1:	25 ML PLA	STIC		1	 		EAT	
NOTD! IN IER	TO LICED	W 73345								
NSTRUMEN			ER INTERF		<u>E</u>					
		VATER QU	IALITY MET	Ŀĸ						
)							

COMPLETED BY: TRACY PAYNE

W	ELL ID	T				TEST DA	RAMETERS			
<u> </u>	W-56	Volumes	TIME	Hq	Temperature	Conductivity			Dissolved	
GAUGE DATE		Initial		<u> </u>	Degrees C	(μS/cm)	TDS (g/L)	Salinity (ppt)	Oxygen (mg/L)	ORP (mv)
GAUGE TIME	5.7.18	1	0935		12.7	2892		1.51	5.44	117.8
DHC (FEET)	0929	 	0937		11.5	2794	1913	1.46	4.56	1189
	ND	2	0939	7.42	11.3	2783	1907	1.45	4.65	118.7
DTW (FEET)	12.78	3	0942	7.42	11.4	Z855	1859	1,49	2.76	415.6
DTB (FEET)	18.59	4	· · · · · · · · · · · · · · · · · · ·	, 						
DTB - DTW	5.8	15								
CAPACITY PER FOOT		6							-	
<u> </u>	0.163 - 2"									
0.9	5	14/E 4 E 1 E			IRGING DA	TA				
3 WELL VOLUMES	2.85	WEATHE CLB	R CONDITI	ons: Vest v	VIND,	610		-		,
PURGE DATE	5.7.18	WATER A	APPEARAN(CE / ODOF	₹:					
END OF PURGE TIME	0942	COMME	NTS:							
PURGE AMOUNT	3 GA45					-				
DTW (FEET)	17.70									
				SAN	PLING DA	TA	· · · · · · · · · · · · · · · · · · ·			
SAMPLE DATE	-0.0	WEATHE	R CONDITIO							
ON WIT ELE DATE	5.8.18		R, CAL			_				
DTW (FEET)	1632		PPEARANC			<u> </u>				
ŀ		COMMEN	IR, NO	ODOR						
SAMPLE TIME	0840	OUNIVIEW	10.							
				SA	MPLE LOG					
SAMPLE ID	TIME		ONTAINER	TYPE	NUN	BER OF C	ONTAINERS	S P	RESERVATIV	E
0W-56	084		O ML VOA		<u>-</u>	5			CL	
			LITER AME			1		N	EAT	
 			50 ML AME		 _	1		N	EAT	
			50 ML PLA			1		Н	NO ₃	
			25 ML PLAS			1		Н	NO ₃	
-1/-			25 ML PLAS			1		H	₂ SO ₄	
<u> </u>	V	12	25 ML PLAS	STIC		1		N	EAT	
NSTRUMENTS	SUSED O	/ \A/ATE	R INTERFA	CE DDOD						
			ALITY METI		<u> </u>	.			 -	
		ATEN QU	WELL INCL	_17		.			<u> </u>	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

7-

WE	LL ID			*		TEST PA	RAMETERS	<u> </u>		
OW	<i>l</i> -55	Volumes	TIME	рН	Temperature	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	5.7.18	Initial	1006	7.07	Degrees C	2350	1527	1.21	Oxygen (mg/L)	-50.7
GAUGE TIME	1002	1	1010	7.12	14.2	2343	1521	1-21	1.56	-65.6
DHC (FEET)	ND	2	1014	7.09	13.9	2369	1540	1.23	1,31	-71.3
DTW (FEET)	17.64	3	1020	7.10	13.8	<i>Z</i> 384	1547	1.23	1.54	-74.9
DTB (FEET)	30.92	4	-		15.5	200 .		7		
DTB - DTW	13,28	5								
CAPACITY PER	0.74 - 4"	6				_				
FOOT	0.163 - 2"				<u></u>					
2.16					URGING DA	ATA				
3 WELL	1 um	WEATH	ER CONDIT	IONS:		O				
VOLUMES	6.48	WATED	APPEARAN	VEST	WIND,	70	·			-
PURGE DATE	5.7.18	CLE	ALI PUMAN	ICL / ODG	or 🤛					
END OF PURGE TIME	1020	COMME				SKE (
PURGE AMOUNT	6 5 GAL	Þ	· · · · · · · · · · · · · · · · · · ·							
DTW (FEET)	17.83									
				C.4	MOUNCE			· · · · · · · · · · · · · · · · · · ·		
		VA/EATUE	R CONDIT		MPLING D	AIA				
SAMPLE DATE	~ ~ 10				.0					
		WATER /	APPEARAN	. <i>M</i> , <i>SE</i> CE / ODO	R:					
DTW (FEET)	17.65		R. 140							
SAMPLE TIME		COMME	NTŚ:							
	0910				SAMPLE LO	<u> </u>	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·
SAMPLE ID	TIME		CONTAINE			JMBER OF (CONTAINE	25	PRESERVATI	IVF
OW-55	0910		40 ML VOA			5			HCL	•
1	<u> </u>		1 LITER AM			1	4		NEAT	
			250 ML AN	/IBER		1			NEAT	
			250 ML PL	ASTIC		1	,		HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC:		1			H ₂ SO ₄	
V	V		125 ML PL	ASTIC		1			NEAT	
INSŢŔÚMENT	_		TER INTER		BE					
	•	WATER Ç	UALITY ME	TER						

COMPLETED BY: TRACY PAYNE

WEI	L ID					TEST PA	RAMETERS	3		
OW	'-54	Volumes	TIME	pH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.7.18	Initial	1045	7.21	14.3	2136	1391	1.10	1.22	9.0
GAUGE TIME	1040	1	1049	7.24	12.8	2172	1410	1.12	1.18	-4.9
DHC (FEET)	ND	2	1053	7.28	12.5	2182	1417	1.12	1.83	-18.9
DTW (FEET)	17.87	3	१०५८	7.29	12.4	2190	1423	1.13	1.89	-23.6
DTB (FEET)	29.70	4	·							
DTB - DTW	11.83	5	*							
CAPACITY PER FOOT	0.74 - 4"	6								
1.93	0.103-2		<u> </u>	Pl	URGING DA	TA.	L			
3 WELL		WEATH	R CONDIT	IONS:		<u>.</u>				
VOLUMES	5.79	PAR	TLY QU	LOUDY,	WEST	WIND	70			
PURGE DATE	5.7.18	WAIER	APPEARAN AR, 140	ICE / UDU	r.					
END OF PURGE TIME	1058	COMME								
PURGE AMOUNT	6 GALS									
DTW (FEET)	17.95									
				SA	MPLING D	ATA				
SAMPLE DATE	5.8.18		ER CONDIT		CINI	-3°				
DTW (FEET)		WATER	APPEARAN	ICE / ODO	IND, G			·		
DIW (I LLI)	17.81		AR, HC	. ODO	R	***	<u>-</u>			
SAMPLE TIME	0940	COMME	.N15:							
		· · ·			SAMPLE LO)G				
SAMPLE ID	TIME		CONTAINE		N		CONTAINE	RS	PRESERVAT	IVE
0W-54	094	<u>O</u>	40 ML VO			5 4			HCL NEAT	
			1 LITER AI 250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	
- -		· • •	125 ML P			1			H ₂ SO ₄	
	V		125 ML P			1			NEAT	
INSTRUMEN	TS USED		ATER INTE		OBE		······			
		WATER	QUALITY M	EIER			· · · · · · · · · · · · · · · · · · ·		· 	

COMPLETED BY: TRACY PAYNE

WEI	LL ID				**	TEST PA	RAMETER	S		
OW	<i>l</i> -57	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.7.18	Initial	1225	7.08	16.3	1859	1209	0.95	0.86	-84.1
GAUGE TIME	1222	1	1230	7.13	14.3	1832	1189	0,94	1.30	-89.4
DHC (FEET)	ND	2								
DTW (FEET)	20.04	3								
DTB (FEET)	28.06	4		,						
DTB - DTW	8.02	5								
CAPACITY PER FOOT	0.74 - 4"	6	·							
1.31	0.100 2			P!	URGING DA	TA	<u> </u>	I	<u></u>	L
3 WELL		WEATH	R CONDIT	IONS:					·	
VOLUMES	3.93	DAR	RTLY C	LOUD	Y, WE	57 W	IND		<u></u>	
PURGE DATE	5.7.18	WATER	APPEARAN	ICE / ODO	R:					
		COMME	AR ->	GREY,	HC E	DOR.	· ····			
END OF PURGE TIME	/235			DOWN	e 2	BALLO	NS			
PURGE AMOUNT	2									
DTW (FEET)	27.85									
				SA	MPLING D	ATA				
SAMPLE DATE	~~~ 10		R CONDIT		0					
	5.0.10	<u>LLEP</u>	APPEARAN	M 7/					•	
DTW (FEET)	20,00	MAIER	APPEARAIN	10E / 000	n. DOR					
0.4451.5.714.5		COMME		7002						
SAMPLE TIME	1110									
			001/2411/2		SAMPLE LO		CONTAINE	50	DDECED (AT	D /E
SAMPLE ID	TIME		CONTAINE		NU		CONTAINE	KS	PRESERVAT HCL	IVE
0W-57	1110	رر	40 ML VOA			5			NEAT	
			250 ML AN						NEAT	
			250 ML PL			1			HNO ₃	
	+		125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
1		/	125 ML PL			1			NEAT	<u> </u>
<u> </u>	<u> </u>			/ -						
INSTRUMEN'	TS USED	OIL / WA	TER INTER	FACE PRO)BE		··· ;			•
	•	WATER (QUALITY M	ETER						
										,

COMPLETED BY: TRACY PAYNE

GNATURE: _____



WEI	LL ID					TEST PA	RAMETERS	3		
RV	V-2	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.7.18	Initial	S	HEEN	1.0	URGED	WATE	R DID	NOT	
GAUGE TIME	1300	1				PEADI				
DHC (FEET)	QN	2								
DTW (FEET)	19.97	3								
DTB (FEET)	39.99	4								
DTB - DTW	20.02	5					-			
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"			D	URGING DA	<u> </u> ΔΤΔ				
14.81		WEATH	R CONDIT		ORGING D	11/1				
3 WELL VOLUMES	44.43				OR:	D	,			
PURGE DATE		WATER	APPEARAN	IĆE / ODO	R:			- P		
	5.7.18	COMME	NTC.	GREY	, HC C	DOR,	SHEE	N		
END OF PURGE TIME	1330	COMME	NIS. BAILE	ED D	OWN G	9 17 G	14			
PURGE AMOUNT	17 GAL									<u> </u>
DTW (FEET)	39.21					-				
				SA	MPLING D	ATA				
SAMPLE DATE	5.8.18	WEATH	R CONDIT	ions: St W	1ND, OR:	80°				
DTW (FEET)	19.98									
SAMPLE TIME	1775				ED D			_		
¥	120	COLLE	CTED		<u>8 @ //</u> SAMPLE LO		<u> 8080</u>	0 1200	<u> </u>	
SAMPLE ID	TIME		CONTAINE			UMBER OF	CONTAINE	:RS	PRESERVAT	IVE
RW-2	122		40 ML VO	4		5			HCL	
+	\downarrow		250 ML A	MBER		1			NEAT	
			<u></u>							
										104.
÷						 	· 	· · · · · · · · · · · · · · · · · · ·		
INSTRUMEN	TS USED	OIL / WA	TER INTER	RFACE PRO	OBE					4 2
		-				***************************************				diameter distance
										*10

COMPLETED BY: TRACY PAYNE

WEL	L ID					TEST PA	RAMETERS	3		
OW	-58	Volumes	TIME	pН	Temperature Degrees C	Conductivity (μS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.7.18	Initial	1426	7.10	17.2	1866	1209	0.86	0.87	-793
GAUGE TIME	1418	1	1434	7-11	15.2	1883	1222	6.96	2.01	-87.9
DHC (FEET)	ДN	2	1442	7.08	14.9	1884	1222	0.96	1.02	-80.3
DTW (FEET)	24.23	3	1452	7.10	14.6	1877	1222	0.96	1.64	-80.2
DTB (FEET)	47.50	4								
DTB - DTW	23.27	5								
CAPACITY PER FOOT	0.74 - 4"	6								
3.79	0.100 2			P	URGING DA	ATA				"
3 WELL	_	WEATH	ER CONDIT	IONS:	·					
VOLUMES	11.37	DV	ERCAS	T, WE	ESTW	ND,	<u>81 _</u>			
PURGE DATE	5.7.18	WATER	APPEARAN	ICE / ODO	R:				,	
END OF PURGE TIME	1452 24125	COMME			· .		<i>2</i> 9	<u> </u>		
PURGE AMOUNT	12 GALS									
DTW (FEET)	24.25						-			
		l			AMPLING D	ATA				
	5.8.18	WEATH	ER CONDIT	IONS:						<u> </u>
SAMPLE DATE	5.8.70	CL	EAR WARPEARAN	IEST	WIN	<u> 50°</u>	<u> </u>		 	
DTW (FEET)	24.18	WATER	APPEARAN EAR, H	NCE / ODO	DR: Dの <i>R</i>					
		COMM								
SAMPLE TIME	1300									
					SAMPLE L		CONTAINE	-00	DDECED//A	TI\ / C
SAMPLE ID	TIME		CONTAINE		N	UMBER OF		-RS	PRESERVA HCL	IIVE
0W-58	130	0	40 ML VO			5	· · · · · · · · · · · · · · · · · · ·		NEAT	
			1 LITER A						NEAT	
			250 ML A			1		_	HNO ₃	
			250 ML P			1			HNO ₃	
			125 ML P			1			_	
			125 ML P			1			H ₂ SO ₄	
			125 ML P	LASTIC		1	<u> </u>		NEAT	
INCTUINATA	TO LICED	OIL / M	ATER INTE	REACE PD	OBF					
INSTRUMEN	IIS USED		QUALITY M						<u> </u>	4:
		VVAILA	QUALITI IV	1-1-11	<u>.</u>					· · · · · · · · · · · · · · · · · · ·
										- 1

COMPLETED BY: TRACY PAYNE

WE	LLID					TEST PA	RAMETERS	9		MG/L
MK	TF-42	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (CHA)	Salinity (ppt)	Dissolved / Oxygen	ORP (mv)
GAUGE DATE	5.9.18	Initial	1042	7.94	14.1	3616	2353	1,92	1,40	96.4
GAUGE TIME	1037	1	1048	7.97	13.5	3730	2425	198	1.31	94.1
DHC (FEET)	ND	2	1053	7.98	12.9	3663	2379	1.94	1.89	93.4
DTW (FEET)	17.05	3	1059	7.98	13.1		2380	1.94	1.53	87.2
DTB (FEET)	33.08	4	,			0000				
DTB - DTW	16.03	5								
CAPACITY PER		6								
FOOT	0.163 - 2"	°								
2.6					URGING DA	TA				
3 WELL VOLUMES	7.823	CLEA	R CONDIT	ST WI	ND, 75	0				
PURGE DATE	5.9.18	AME	APPEARAN							
END OF PURGE TIME	1059	СОММЕ	NIS:							
PURGE AMOUNT	8.00				1					
DTW (FEET)	26.90									
				SA	MPLING DA	ATA				
SAMPLE DATE	5.9.18	CLE	R CONDIT	ST V	VIND, 8	370				
DTW (FEET)	25,35	AMB	ER, HO	CE/ODO	R:					
SAMPLE TIME	1235	COLL			SAMPLE LO		RA AME	BER		
SAMPLE ID	TIME		CONTAINE			MBER OF	CONTAINER	RS	PRESERVAT	IVE
MKTF-42	123		40 ML VOA			5			HCL	
	1		1 LITER AN	MBER		2			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO3	
			125 ML PL			1			H ₂ SO ₄	
V	1		125 ML PL	ASTIC		1			NEAT	
NSTRUMEN [*]			TER INTER		BE					

COMPLETED BY: TRACY PAYNE

WEL	L ID					TEST PA	RAMETERS	S	Dischard	-
MKT	-32	Volumes	TIME	þH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
AUGE DATE	5.9.18	Initial	1336	7.75	15.2	2725	1768	P1.42	0.84	128.1
AUGE TIME	1330	1	1340	7.79	13.6	2752	1787	1-44	1.81	128.6
HC (FEET)	ND	2	1345	7.83	13.5	2775	1807	1.45	1.83	127.9
TW (FEET)	13.40	3	1350	7.85	13.5	Z804	1820	1.46	1.25	126.4
TB (FEET)		4	1.550							
TB - DTW	27.66	5								
APACITY PER	0.74 - 4"									
OOT	0.163 - 2"	6								<u> </u>
2-32				Р	URGING D	ATA				
3 WELL		WEATH	ER CONDI	TIONS:				,		
OLUMES	6.96	LLE	EAR, S	TRONG	WES	7 WING	D, 87°			
PURGE DATE	F 0 10	WATER	APPEARA	NCE / ODO	OR:		 2			
PURGE DATE	5.9.18			COUDY,	PAINT	HC OF	DOR			
END OF PURGE TIME	1350	COMM	EN 15:							
PURGE AMOUNT	7 GALS									
DTW (FEET)	24.01									
				S	AMPLING I	DATA				
		WEATH	IER COND	ITIONS:						
SAMPLE DATE	5.9.18			ABOVE						
DTW (FEET)		1		NCE / OD						
Diw (LECI)	20.20			ABOVE						
SAMPLE TIME	1425	СОММ	ENIS:		0 0 13	<i>i</i>	115175	n EBO	9@1400	•
	144	COL	LECTEL) E80	SAMPLE L	<u>.0G</u>	<u>LLECIE</u>	<u> </u>		
5 4 4 DI E ID	TIV	\$ 25	CONTAIN	NER TYPE			F CONTAIN	ERS	PRESERVA	TIVE
SAMPLE ID		2 5 _	40 ML V				5		HCL	
MKTF-32	1	= -	40 ML V				3		NA ₂ S ₂ O ₃	
			1 LITER				1		NEAT	
 				AMBER			1		NEAT	
		<u> </u>		PLASTIC			1		HNO ₃	
				PLASTIC			1		HNO ₃	
 				PLASTIC			1		H ₂ SO ₄	
<u> </u>				PLASTIC			1		NEAT	
I V	V V	OII (ERFACE P	ROBE					
	NITS LISED	OIL / \	WAIERIN		NODE					
INSTRUME	NIO OSED		R QUALITY				_			

COMPLETED BY: TRACY PAYNE

IATURE:

WEL	L ID						RAMETERS	<u> </u>	Diagelizad	
MKTI		Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
AUGE DATE	5.9.18	Initial	1500	8,30	18.4	3127	2034	1.64	3.16	12316
AUGE TIME	1453	1	1505	8,18	15.0	3267	3268	1,72	3, 55	125.7
HC (FEET)	ND	2	1511	6.26	14.2	3241	2106	1.71	4.01	124.7
TW (FEET)	19.95	3	1519	8.27	14.0	3231	2099	1.70	2,66	121.6
TB (FEET)	39.91	4	1311	8.21	1,100					
гв - DTW	19.96	5								
APACITY PER		6								
ООТ	0.163 - 2"			<u> </u>				<u> </u>		
3.25					URGING DA	AIA				
WELL		WEATH	ER CONDIT	TIONS:						
DLUMES	9.75	CLE	AR, 57	FRONG	WEST	WINE	, 87			
URGE DATE	5.9.18	IWAIER	APPEARAN	MOE / ODC)K.					
ND OF URGE TIME	1519	сомм	ENTS:							
URGE MOUNT	9.75									
TW (FEET)	34.50		_							
				S	AMPLING I	DATA				
			IER CONDI	TIONS:						
SAMPLE DATE	5.9.18	1 2/~	me as							
OTW (FEET)		1	R APPEARA		OR:					
)100 (FLL1)	33.70	SAN	le as 1	<u>rbone</u>						
SAMPLE TIME	1540	COMM	ENIS:							
					SAMPLE L					T1) /F
SAMPLE ID	TIM	E	CONTAIN	ER TYPE		NUMBER 0		ERS	PRESERVA	IIVE
MKTF-41	154	0	40 ML V				5		HCL NA ₂ S ₂ O ₃	
			40 ML V				3		NEAT	
			1 LITER				<u>1</u>		NEAT	
			250 ML				1		HNO ₃	
			125 ML				1	·	HNO ₃	
				PLASTIC .			1		H ₂ SO ₄	
				PLASTIC	·		1		NEAT	
V	NTS LISED		WATER INT		ROBE		<u> </u>			
INCTOLINE	1113 USED				<u> </u>					
INSTRUME		WATE	R QUALITY	MEIER						

WEL	L ID					TEST PA	RAMETERS	3		
	F-43	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.9.18	Initial	09//	6.97		21740	14131	13.10	3.81	102.8
GAUGE TIME	0850	1	6913		207	21895	14235	13.20	3.81	102.0
DHC (FEET)	D/A	2	0916	7,15	12.	21597	14040	12.99	3.81	101.6
DTW (FEET)	4.75	3	0919	7.05	11.5	22021	14319	13.28	4.14	102.34
DTB (FEET)	15.30	4	0926	7.00	11.0	25224	16393	<i> 5.</i> 37	2.87	105.8
DTB - DTW	10.55	5				*				
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"				LIBOING B	TA				<u> </u>
1.72		I	ED CONDIT		URGING DA	————				
3 WELL VOLUMES	5.16		ER CONDIT		<i>ەر</i> ،					
VOLUNILS	3.16	WATER	AR CA APPÉARAN	NCE / ODC)R:					
PURGE DATE	5.9.18	CLE	AR, NE	000	R>	LIGHT	TAN			
END OF		сомм	ENTS:							
PURGE TIME	0930	BI	AILED	DOWN	<u>@ 7 @</u>	gals_				
PURGE AMOUNT	7.0									
DTW (FEET)	14.80								···	
					AMPLING D	ATA				
SAMPLE DATE	F 4 10		ER CONDI		10/10/7	0115	•			
	5.9.18	OVE	APPEARAI	WES ADD	JB.	9,84°			<u> </u>	
DTW (FEET)	10.50	LLE	AR, NO	DDOR	2					
		сомм								
SAMPLE TIME	1755			·				·		
			CONITAINI		SAMPLE L	OG IUMBER OF	CONTAINE	RS	PRESERVA	TIVE
SAMPLE ID	TIME		CONTAIN 40 ML VC		יו	IOMBER OF			HCL	.
MKTF-43	175	<u>در</u>	1 LITER A			1			NEAT	
			250 ML A			1			NEAT	
			250 ML F			1	- 		HNO ₃	
 			125 ML F			1			HNO ₃	
			125 ML F			1			H ₂ SO ₄	
		,	125 ML F			1			NEAT	
INSTRUMEN	NTS USED		VATER INTE		ROBE					
		WATER	QUALITY N	/IETER						

COMPLETED BY: TRACY PAYNE

WEL	L ID					TEST PA	RAMETERS	3		
MKT	F- 44	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.9.18	Initial	0955	8.21	13.9	2715	1762	1.41	5.05	75.3
GAUGE TIME	0945	1	1001	8.25	13.5	2113	1372	1.09	5.16	71.0
DHC (FEET)	ND	2	1007	8.25	13.3	2143	1391	1.10	5,88	73.6
DTW (FEET)	34,98	3								
DTB (FEET)	51.08	4								
DTB - DTW	16.10	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
2.62				Pl	JRGING DA	ATA				
3 WELL VOLUMES	7.86	CLE	ER CONDIT AR, CA APPEARAN	LM, 6	9 ° R:					
PURGE DATE	5.9.18	COMME	BAR->	LT. B	ROWN,	NO OT	00R_			<u> </u>
END OF PURGE TIME	1025		MILED	Down	ر و ح	5 GAL	<u>s</u>			
PURGE AMOUNT	7.5			<u> </u>						
DTW (FEET)	50,82									
				SA	MPLING D	ATA				
SAMPLE DATE	5.10.18	CLE	ER CONDIT	1LM	650	·				
DTW (FEET)	48.75	AAWITI	APPÉARAN ZAR, N	IOL / ODG	/ I \ K					
SAMPLE TIME	0850	COMME COL	ENTS: ' <i>ECTED</i>	FIEL	D BLAI	UK FE	3100	0825	···	
					SAMPLE LO	OG			PRESERVAT	TIVE
SAMPLE ID	TIME		CONTAINE		IN	UMBER OF	CONTAINE	±K5 ,	HCL	IIVE
MKTF-43	02	50	40 ML VO		· · · · · · · · · · · · · · · · · · ·	1		<u> </u>	NEAT	
\vdash			250 ML A			1			NEAT	
			250 ML P			1	<u> </u>		HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML P	LASTIC		1			H ₂ SO ₄	
	↓		125 ML P	LASTIC		1			NEAT	
INSTRUMEN	ITS USED		ATER INTE		OBE					
	COMPLE	ETED BY:	TRAC	y Pa	YNE	S	IGNATURE:	- XV-	7	-

WEI	L ID					TEST PA	RAMETERS	3		
MKT	F-33	Volumes	TIME	pН	Temperature Degrees C	Conductivity (μS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.9.18	Initial	1604	7.32	15.1	1644	1066	5.84	1.36	148.2
GAUGE TIME	1558	1	1608	7.31	13.4	1422	923	0.72	1.93	1467
DHC (FEET)	ND	2	1612	7.35	13.2	1679	1092	0.85	1.76	143.7
DTW (FEET)	22.60	3	1616	7.37	13.0	696	1105	0.86	1.77	142.8
DTB (FEET)	33.11	4								
DTB - DTW	10.51	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"					-			<u></u>	
1.71					URGING DA	ATA				
3 WELL			ER CONDIT			-0				
VOLUMES	5./3	CLE	AR, WE	257 W	IND, 81					
PURGE DATE	C 0 110		APPEARAN			10 5 DN	D			
	5.9.18	COMME		-1, BK	lomp! F	46 000				
END OF PURGE TIME	1616	OOIVIIVIE					·-··			
PURGE AMOUNT	5,25									
DTW (FEET)	26.28						_			
-				SA	MPLING D	ATA	-			
SAMPLE DATE	5.10.18	WEATH	ER CONDIT	IONS:		_				
SAIVIPLE DATE	1	CLE	AR, WE	est Wi	ND, 69	<u> ද</u>			_	
DTW (FEET)	2215									
, ,	22.65	COMME	AR, H	c ode	DR.					
SAMPLE TIME	0940				DURIN) 1	VTOA	11 A	MOZA	
	0140	200	LLEUT		SAMPLE LO		X / / \\		IJSE R	
SAMPLE ID	TIME		CONTAINE	R TYPE	N	UMBER OF	CONTAINE	RS	PRESERVAT	TVE
MKTF-33	094		40 ML VO	A		5			HCL	
	1		1 LITER A	MBER		2	2		NEAT	
			250 ML A	MBER		1			NEAT	· · · · · · · · · · · · · · · · · · ·
			,250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML P			1			H ₂ SO ₄	<u>.</u>
V	V		125 ML P	LASTIC		1	. () .		NEAT	
INSTRUMEN	ITS LISED	OII / W	ATER INTE	REACE DD	ORF.					
INSTRUMEN	IIS USED		QUALITY M							
		YY/NILIN	20, (E11) IVI							
<u> </u>										

COMPLETED BY: TRACY PAYNE

MKTI GAUGE DATE						TEST PA				
CAUGE DATE	F- 第 22	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.9.18	Initial	1635	7,06	14.8	1823	1183	0.93	0,88	-657
GAUGE TIME	1629	1	639	7.14	14.4	1803	1176	0.92	L.91	-75.6
DHC (FEET)	ND	2	1644	7.15	13.9	1043	676	0.52	1.62	-80.6
DTW (FEET)	25.45	3	1649	7.19	13.8	1851	1202	0.95	W79	-833
DTB (FEET)	35.51	4								
DTB - DTW	10.06	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"				LIDCING DA	TA				l
1.64		NAME AT LI	R CONDIT		URGING DA	NIA .				
3 WELL VOLUMES	4.92	OVE	ERCAST	WES	ST WIN	D 86°) 			
PURGE DATE	59.18		APPEARAN	•	R: 4, HC	ODOR	ı			
END OF PURGE TIME	1649	COMME		DOWN Œ	35GAL	s				
PURGE AMOUNT	5 GALS									
DTW (FEET)	35.16							4		
				SA	MPLING D	ATA				
SAMPLE DATE	5.10.18		R CONDIT		D 74	2			·	
DTW (FEET)					<i>VD, 74</i> °OR:					
DIW (FEEI)	25.48			FAIN7	ODOR					
SAMPLE TIME	/030	COMME	NIS:							
	1000	<u> </u>			SAMPLE LC)G				
SAMPLE ID	TIME		CONTAINE	R TYPE	N	UMBER OF	CONTAINE	RS	PRESERVAT	TVE
MKTF-≇2	22 103	30	40 ML VO		·	5			HCL	
			1 LITER AN				_		NEAT	
			250 ML AI			1			NEAT	
			250 ML PI			1			HŃO₃	
			125 ML PI			1			HNO ₃	
			125 ML PI			1		·	H ₂ SO ₄	
V	$\overline{\psi}$	-	125 ML PI	LASTIC		1			NEAT	
INSTRUMEN	TS USED	OIL / W	TER INTER	RFACE PR	OBE					Wind 1
			QUALITY M					-		Ţ,
•			-							1

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		· · · · · · · · · · · · · · · · · · ·
MKT	F-13	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.9.18	Initial		SHER	N ON	PURG	ED WA	TER		
GAUGE TIME	1707	1			READ					
DHC (FEET)	ND	2			,					
DTW (FEET)	/3.78	3								
DTB (FEET)	21.66	4				<u> </u>				
DTB - DTW	7.88	5							-	
CAPACITY PER		6								
FOOT	0.163 - 2"	_ ŭ								•
ļ		h	-D 0011D:-		URGING DA	NΙΑ				
3 WELL VOLUMES	17.50		ER CONDIT		ST WII	ND ex	50			
	7 7,00		APPEARAN			,	-			
PURGE DATE	5.9.18			· ·	N, HC	ODOR -	-> BRO	WW		
END OF	1-7-0	СОММЕ	NTS:		•					
PURGE TIME	1720	3	AILED	DOWN	@ 15	GAL5				
PURGE AMOUNT	15									
DTW (FEET)	21.18	i				e.				
				SA	MPLING D	ATA				
SAMPLE DATE	519.18		R CONDIT		NO			-		
DTW (FEET)		l	APPEARAN							
	13.83	COMME	NTQ.		•					
SAMPLE TIME	1135	· ·		DER	100	1100				
			_ 0,		SAMPLE LO		and the second			· · · · · · · · · · · · · · · · · · ·
SAMPLE ID	TIME		CONTAINE	R TYPE	N		CONTAINE	RS	PRESERVATI	VE
MKTF-	13 //3	<u>5</u>	40 ML			<u> </u>			HCL	
				<u>amber</u>					NEAT	
			250 M			1_			NEAT	
-			250 M			1.			HNOZ	
			<u>125 ML</u>			<u>1</u>			HNQ3	
			25 ML						H2504	. =,, .
<u> </u>	<i>V</i>		25 ML	PLAS	5/C	1_			NEAT	
INSTRUMEN	TS USED	OIL / WA	ATER INTER	RFACE PRO	DBE			·		
		WATE	R QUI	ALITY	METE	R	· · · · · · · · · · · · · · · · · · ·			
									-	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X

WE	LL ID		<u></u>	····		TEST PA	RAMETER	<u> </u>	·	······································
MKT	F-20	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.10.18	Initial	1323	6.77	19.7	4839	3146	2.60	0.51	-101.7
GAUGE TIME	1319	1	1326	6.79	19.3	5452		2.95	0.47	-105.7
DHC (FEET)	ND	2				3734		23.70		100:0
DTW (FEET)	7.02	3								
DTB (FEET)	9.50	4							-	
DTB - DTW	2.48	5								
CAPACITY PER	(0.74 - 4")					·				-
FOOT	0.163 - 2"	6							j	
1.84				Pl	JRGING DA	TA	<u> </u>			
3 WELL VOLUMES	5.52		R CONDIT							
			APPEARAN						·····	
PURGE DATE	5.10.18				IC ODE	R SH	EEN			
END OF PURGE TIME	/330	COMME				4			-	
PURGE AMOUNT	3.25									
	9.42									
·			<u>-</u> -	SA	MPLING DA	ATA				
SAMPLE DATE			R CONDITI				····			
DAIVIPEL DATE	5.11.18	OVE	RCAS	T, 54	V W/N	D, 67	0			
OTW (FEET)	7.05	WATER A	PPEARAN	CE / ODOI	₹:	, , ,				
-		COMMEN	<u>ek, 1-</u>	1C 00	OR, St	EEN		<u>-</u> .		-
SAMPLE TIME	0930	OOMMINE	110.							
				S	AMPLE LO	G		· · · · · · · · · · · · · · · · · · ·		
SAMPLE ID	TIME		CONTAINER	RTYPE	NU	MBER OF (CONTAINER	RS I	PRESERVATIV	/E ·
MKTF-20	0930		O ML VOA		-	5		!	HCL	
			LITER AM			1			VEAT	
		2	250 ML AM	IBER		1			NEAT	
		2	250 ML PL	ASTIC		1			-INO ₃	
		1	.25 ML PL	ASTIC	· · · · · ·	1			HNO ₃	
		1	.25 ML PL/	ASTIC		1			H ₂ SO ₄	
\bigvee	V	1	.25 ML PL/	ASTIC		1			NEAT	
ISTRUMENTS			ER INTERI		3E					4
	V	VATER Q	JALITY ME	TER						· · · · · ·
								<u></u>		
	****					·				

COMPLETED BY: TRACY PAYNE

1 44 🗅	LL ID					TEST PA	RAMETER	S		
MKT	F-21	Volumes	TIME	рН	Temperature	Conductivity	1	1	Dissolved	ODE (
GAUGE DATE	<u> </u>	Initial			Degrees C	(μS/cm)	TDS (g/L)	Salinity (ppt)	Oxygen (mg/L)	ORP (mv)
GAUGE TIME	5.10.18	<u> </u>	1303	6.73	18.4	2164	1404	1.11	1,05	-9911
	1257	1	1305	6.76	16.1	2150	1397	HIL	1.30	98.1
DHC (FEET)	ND	2								
DTW (FEET)	6.45	3								
DTB (FEET)	8.75	4								
DTB - DTW	2.30	5								
CAPACITY PER	(0.74 - 4")	6							, , , , , , , , , , , , , , , , , , , 	
FOOT	0.163 - 2"									
1,70				Pl	JRGING DA	TA				1
3 WELL			R CONDIT							
VOLUMES	5.10	CLE	AR, WE	ST WI	ND_					
PURGE DATE	5.10.18	l .	PPEARAN	•	R:					
		COMME	ΣΥ , <u>Ο Έ</u>	DOR	_				·	
END OF PURGE TIME	1309			A 1.341 (A)	ZGALS			٠.		
PURGE	1301	EAIL	EU D	OWN C	2 GAL:	<u> </u>			· · · · · · · · · · · · · · · · · · ·	
AMOUNT	2					4				
DTW (FEET)	m c .			, .,						
	8.56		*							
					MPLING DA	ATA				
SAMPLE DATE	5.11.18		R CONDITI							
		PART	LY CLO	UDY, W	EST W	IND, 6	60			
DTW (FEET)	7.11		PPEARAN		₹:	•				
 		COMMEN	7, 000	OLLEC	TED T	1 EXTE	DA 1 1	AMBE	50	
SAMPLE TIME	0840									
		LULLE	CIED		AMPLE LO		LECTE	O EB1	10 08	∞
SAMPLE ID	TIME	0	ONTAINER			MBER OF C	CONTAINER	RS I	PRESERVATIV	/F
MKTF-21	084		O ML VOA			5	701117111121		HCL	/ _
		1	LITER AM	BER		2			NEAT	
		2	50 ML AM	IBER		1		<u> </u>	VEAT	
		2	50 ML PL	ASTIC		. 1	•	ŀ	HNO ₃	
		1	25 ML PL/	ASTIC		1	7.	ŀ	HNO ₃	
		1	25 ML PL	ASTIC	7	1		ŀ	H ₂ SO ₄	
	V	1	25 ML PLA	ASTIC		1			VEAT	
MOTOLIZACA	2 HOEE									
NSTRUMENTS			ER INTERF		3E .	· · · · · · · · · · · · · · · · · · ·				
	V	VATER QL	JALITY ME	TER						
				•						

COMPLETED BY: TRACY PAYNE

WE	LL ID		· · · · · · · · · · · · · · · · · · ·			TEST PA	RAMETERS	3		
MKT	F-16	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.10.18	Initial	1346	6.94	20.3	3708	2412	1.96	<i>B</i> .85	-94
GAUGE TIME	1342	1	1349	6.94	18.6	3714	2411	1.97	1.04	-91,9
DHC (FEET)	ND	2	1352	7.00		3803	2470	2.00	1.03	-88.4
DTW (FEET)	8.40	3	1355	7.03		3876	2522	2,06	4.76	-85.3
DTB (FEET)	13.96	4							-	
DTB - DTW	5.56	5								
CAPACITY PER FOOT	0.74 - 4"	6				·				
0.9	1			P	URGING DA	TA.		L		
3 WELL		WEATHE	R CONDIT	IONS:						
VOLUMES	2.73		R, WE							
PURGE DATE	5.10.18	ı	APPEARAN (T BRO)	-	0R: C (2)	e				
END OF PURGE TIME	13.55	COMME		-						
PURGE AMOUNT	Z.75									
DTW (FEET)	13.50									
	 -			SA	MPLING DA	ATA			· · · · · · · · · · · · · · · · · · ·	
SAMPLE DATE	E # 11 10	WEATHE	R CONDIT	IONS:						
	J. 69 (110	OVER	REAST	, SW	WIND,	69°				
DTW (FEET)	12.20		APPEARAN (T. 1300	•	к: <u>ГС ОД</u> С	20				
	<u> </u>	COMME		w 10, p	ac ove	<u> </u>				=
SAMPLE TIME	1010			CIEN	IT WA	TER V	OLUME	= 70	DUPLICA	1725
				5	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		Νĺ	JMBER OF	CONTAINER	RS	PRESERVATI	VE
MKTF-16	101		40 ML VOA			5			HCL	
			1 LITER AN			1	/		NEAT	
			250 ML AN			1			NEAT	 .
			250 ML PL			1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL		<u> </u>	1			H ₂ SO ₄	
\downarrow	1		125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
	-		UALITY ME			N				
				4						
	COMPLET	TED BY:	TRACY	PAYNE		SIG	NATURE:	Ry		

WEI	L ID	l				TEST PA	RAMETERS	3		
BW	/-5C	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxyger (mg/L)	ORP (mv)
GAUGE DATE	5.14.18	Initial	1210	7.67	13.1	4813	3126	2.60	2.01	37.6
GAUGE TIME	11:56	1	12.20	7.60	13.2	4951	3218		89.0	-53,2
DHC (FEET)	ND	2	1228	7.61	13.1	4988		2.69	1.24	-77.9
DTW (FEET)	2,65	3	1238		12.9	5009	3256	2.70	1.30	76.7
DTB (FEET)	69.33	4	1670	1, 4)		<u> </u>	المحتود المحتود	2.10	1,30	P. 1
76.35) DTB - DTW	TOP OF PUMP	5		<u>. </u>						
CAPACITY PER	73.70	Ŭ		<u> </u>						
FOOT	0.163 - 2")	6								
12				P	URGING DA	TA				
3 WELL	36		R CONDIT							
VOLUMES	26	CLE	EAR, W	VEST	WIND , R:	, <u>80°</u>				· · · · · · · · · · · · · · · · · · ·
PURGE DATE	5.14.18		1							
END OF		COMME	EAR A INTS:	10 01	OR_					
PURGE TIME	1238									
PURGE AMOUNT	36									
DTW (FEET)	16.20									
				SA	MPLING D	ATA				•
SAMPLE DATE	5.14.18	WEATHE	R CONDIT	IONS:						
OAIVIT EE DATE	2.14.10	CLE	AR, U	IEST	WIND	750				
DTW (FEET)	2.85		APPEÁRAN	•						
-	-	COMME	AR, NO NTS: A	966EC	TED I	JUP 1	L			
SAMPLE TIME				•	1250 ← 1	XTRA 1	LDUP			
					SAMPLE LO					
SAMPLE ID	TIME		CONTAINE		NI	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
BW-5C	132		40 ML VOA 1 LITER AN			5	· · · · · · · · · · · · · · · · · · ·		HCL NEAT	
	}		250 ML AN	 			<u> </u>		NEAT	
			250 ML AN			<u>+</u> 1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL 125 ML PL			1			NEAT	
<u> </u>	v		TEO IVIL PL	- 10110					IAPUL	
INSTRUMENT	rs used	WATER L	EVEL MET	ER						
	-	WATED 6	21141172144		·					
		WAIER	QUALITY MI	=1ER						

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		· · · · · · · · · · · · · · · · · · ·
BW	/-5B	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.14.18	Initial	1131	8.75	14.1	1480	962	0.75	6.81	432
GAUGE TIME	1123	1	1145	8.54	14.7	1475	962	0.75	3.40	53.6
DHC (FEET)	ND	2								
DTW (FEET)	9.50	3								
DTB (FEET) (61.45)	46.70 TOP OF PUMP	4							. ,	
DTB - DTW	51.95	5								
CAPACITY PER FOOT	0.74 - 4"	6								/
8.47				Pl	JRGING DA	\TA				
3 WELL		WEATHE	R CONDIT	IONS:			·			
VOLUMES	25.41	CLEA	R, WES	T WINT	730					·
PURGE DATE	5.14.18	WATER A	appearan AR, NC	CE / ODO	R:					
END OF PURGE TIME	1147	СОММЕ	NTS:			5 GAL	5			
PURGE AMOUNT	9.25									
DTW (FEET)	53,05					version de la constante de la				
				SA	MPLING D	ATA				******
SAMPLE DATE		WEATHE	R CONDIT	ONS:	·					
SAIVIFLE DATE	5.14.18		e as a							
DTW (FEET)	46.80		APPEARAN							
		<i>SAM</i> COMME	Z AS A NTS:	BOVE	-					
SAMPLE TIME	1350									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF (CONTAINE		PRESERVATI	VE
BW-5B	13,50		40 ML VOA			5			HCL	
			1 LITER AN						NEAT	
			250 ML AN			1			NEAT	· · ·
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
<u> </u>	$-\Psi$	•	125 ML PL	ASTIC		1			NEAT	
NSTRUMEN1	S USED \	WATER L	EVEL MET	ΞR			······································			
	_		UALITY ME						\\	
									, ,	
	COMPLET	ED BY:	TRACY	PAYNE		SIG	NATURE:	A.	7	

WEI	LL ID			· · · · · · · · · · · · · · · · · ·		TEST PA	RAMETER	S		
BW	/-4B	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.14.18	Initial	1052	837	13.1	1874	1215	0,96	6.72	750
GAUGE TIME	1030	1								
DHC (FEET)	ND	2.								
DTW (FEET)	40.50	3								
DTB (FEET)	50.70 Top of Plmp	4								
63.50) DTB - DTW	23.00	5								
CAPACITY PER FOOT	0.74 - 4"	6	~							-
3.75	0.103-2			P	URGING DA	TA				
3 WELL		WEATH	R CONDIT		- Canta Dr					2
VOLUMES	11.25				WEST I	WIND .	71°			
PURGE DATE	5.14.18	WATER .	APPEARAN	ICE / ODO	R:	<i>,</i>	<i>-</i>	·		
END OF PURGE TIME	/055	COMME	NTS:	Dow	w @ 3	.25 c	ALS			
PURGE AMOUNT	3.25					_				
DTW (FEET)	49.90									
				SA	MPLING D	ATA K//	A			· · ·
SAMPLE DATE		WEATHE	R CONDIT					<u> </u>		,
DTW (FEET)	48,50		APPEARAN	ICE / ODO	PR:					,
		COMME			,				711	NOT
SAMPLE TIME				FFIC	IENT	WA7	ER V	DLUMP	- JAN	PLE
					SAMPLE LO					
SAMPLEID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
BW-4B			40 ML VO			5			HCL	
			1 LITER AN			THE RESERVE OF THE PERSON NAMED IN			NEAT	
			250 ML AN	The state of the s		1			NEAT	
		- Aller Annual Control	250 ML PI			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	•
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	TS USED	WATER L	EVEL MET	ER						
	_		QUALITY MI							
					١					

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETERS	3 4		··· <u>·</u>
0/	N-1	Volumes	TIME	рH	Temperature	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	5.14.18	Initial	اجرا	0.0	Degrees C			0.70	Oxygen (mg/L)	00 11
GAUGE TIME		1	1511	8.69	14.0	1533	994	0.79	1.65	92.4
	1505		1541	8.61	14.1	1439	936	0.73	0.75	79.6
DHC (FEET)	ND	2								
DTW (FEET)	1.70	3								
DTB (FEET)	94.54	4								
DTB - DTW	92.84	5								
CAPACITY PER	0.74 - 4"	6	-						, <u> </u>	
F00T	0.163 - 2"	0								
68.70	>				URGING DA	TA				
3 WELL			ER CONDIT		,	<u>—</u>				
VOLUMES	206,10	CLEA	R, WE	ST W	IND, K	<u> </u>				
PURGE DATE		IVVAIER	AFFEARAN	にと / ひひひ	rr.					
	5.14.18	COMME	AR, NE	ODC	<u>r</u>					
END OF PURGE TIME	1554	DITI	MPKD	DOWN	@ 80	BNS				
PURGE	1001	701	11 122	WVVV	000	CALO				
AMOUNT	80 GALS									
DTW (FEET)	80GALS 95.60									
			-	SA	MPLING DA	TA			· · · · · · · · · · · · · · · · · · ·	
		WEATHE	R CONDIT				• .			
SAMPLE DATE	5.15.18	LIF	TAR <	W WI	ND 5	50				
D714 (EEET)		WATER	APPEARAN	CE / ODO	<u>ND,5</u> . R:	<u> </u>				
DTW (FEET)	43.40	CLE	AR, NO	ODO	æ					
SAMPLE TIME	4	COMME	NTS:	LOTE	OR COLL	ECTE	DU	P12		
(11 7 11-	0920	COLLE	CTED	FB130	0 084	<u> </u>				
OAMBUE IS					SAMPLE LO	3			DDE0==-::=	
SAMPLE ID OW-1	TIME		CONTAINE 40 ML VOA		NU	MBER OF (CONTAINE		PRESERVATI	IVE
OAA-T	09		40 ML VOA						HCL NA ₂ S ₂ O ₃	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			<u></u>			HNO ₃	
			125 ML PL	·		1			H ₂ SO ₄	
$\overline{}$	*		125 ML PL			1			VEAT	
INSTRUMENT	-		EVEL PRO							10
		WATER Q	UALITY ME	ETER						
						,				<i>(</i> , , , , , , , , , , , , , , , , , , ,

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
OV	V-10	Volumes	TIME	pH	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.15.18	Initial	1022	7.37	14.3	2235	1456	115	1.6Z	179 2
GAUGE TIME	0955	1	1039	7.38		4328	Z808	1.15		139.2
DHC (FEET)	ND	2						2.32	1.73	136.3
DTW (FEET)		3	1056	7.36	13.6	3868	2515	2,06	1.50	124.5
, ,	Z.05		1113	7.37	13.5	3763	2444	2,00	1.44	123.3
DTB (FEET)	69	4	•							
DTB - DTW	66.95	5				•···				
CAPACITY PER FOOT		6								
	0.163 - 2"									
50		T			JRGING DA	TA				
3 WELL VOLUMES	150		R CONDIT				.0			
VOLONIES	750	WATER	APPEARAN	CE / ODO	SW W4	4D, 65				
PURGE DATE	5.15.18		EAR, N	-						
END OF		СОММЕ	NTS:		<u> </u>					
PURGE TIME	1113									
PURGE AMOUNT	150						20 To 100		Section of the sectio	
DTW (FEET)	2.60		_							
	•			SA	MPLING DA	ATA		· · · · · · · · · · · · · · · · · · ·		
041451 5 5 4 7 5		WEATHE	R CONDITI	ONS:	···		·			
SAMPLE DATE	5.15.18	SAI	ME AS	ABOV	IE					
DTW (FEET)	210	WATER A	PPEARAN	CE / ODO	₹:					· · · · · · · · · · · · · · · · · · ·
DIW (I EEI)	2,60		AR N	OOD	oR				·	
SAMPLE TIME	1125	COMME	NTS: '		,					
				S	AMPLE LO	G				This.
SAMPLE ID	TIME		CONTAINE		NL	MBER OF	CONTAINER		PRESERVATI	VE
0W-10	112.		40 ML VOA			5			HCL	
			40 ML VOA			3			NA ₂ S ₂ O ₃	
			250 ML AN			1			NEAT	·
		-	250 ML PL		- N	1			HNO ₃	· -
			L25 ML PL L25 ML PL			1			HNO ³	
	1		L25 ML PL			1			H ₂ SO ₄ NEAT	
V			LEU IVIL I L						NEA!	
NSTRUMENT	S USED	WATER L	EVEL PROE	3E						
	-		UALITY ME							

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
	V-13	Volumes	TIME	На	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv
GAUGE DATE	5.15.18	Initial	1230	8.02	14.7	1342	87/	0.68	1.07	130.
GAUGE TIME	1215	1	1300	7.91	13.9	1278	832	0.54	0.88	131.9
DHC (FEET)	ND	2	1330	7.92	14.0	1279	832	0.64	0.38	127.8
DTW (FEET)	20.50	3	1400	7.90	14.1	1282	832	0.64	0.99	128.0
DTB (FEET)	99.00	4					1		0.11	, c
DTB - DTW	78.5	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
58.0	ウ			PI	URGING DA	TA				
WELL VOLUMES PURGE DATE END OF PURGE TIME	5.15.18	LLE	APPEARAN	w w		72°				
URGE MOUNT	175									
TW (FEET)	24.80									
				SA	MPLING DA	TA				
AMPLE DATE	5.15.18		R CONDITI		É					
TW (FEET)	24.95 V	VATER A	PPEARANG	CE / ODOF	₹:					
AMPLE TIME	1410	OMMEN								
					AMPLE LOC	ì				
OW-13	TIME 1410		ONTAINER O ML VOA		NU	MBER OF C	ONTAINER		PRESERVATIV	/E
			O ML VOA			3		1	NA ₂ S ₂ O ₃	
-			50 ML AM			1			IEAT	
1			50 ML PLA 25 ML PLA	4.00		1			INO ₃	
V	v	-	20 1112 1 27	10110		1			INO ₃	
STRUMENTS	S USED W	ATER LE	VEL PROB	E						
	W	ATER QU	JALITY MET	TER					in	
									1.5	

VVI	LL ID					TEST PA	RAMETERS	S		
01	V-14	Volumes	TIME	pН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	5.15.18	Initial	1450	6.98	15.7	1976	12.87	1:01	1146	-82 K
GAUGE TIME	1445	1	1500	6.96	14.5	1973	1280	1.01	0.96	-92.0
DHC (FEET)	ND	2	1510	7.01	14.6	1964	1274	1.01	1.3/	-92,5
DTW (FEET)	21.73	3	1520	7.02	14.6	1969	1280	401	1.28	-92.5
DTB (FEET)	46.75	4		1.02	11.0	1101	120	401	7,20	76.5
DTB - DTW	25.02	5								
CAPACITY PER FOOT		6								
18.51				Pl	JRGING DA	TA				
3 WELL VOLUMES	55.53	LLE	R CONDITI) WIN	D, 76	ø				
PURGE DATE	5.15.18	WATER A	R, HC	CE / ODO	R: ´					
END OF PURGE TIME	1520	COMME	NTŚ:							
PURGE AMOUNT	60 .									
OTW (FEET)	22.80									
				SAI	MPLING DA	TA				
AMPLE DATE	5.15.18	SAV	R CONDITION	ABOV	E					
TW (FEET)	22,80	WATER A	PPEARANC	E / ODOF	₹:					
AMPLE TIME	21525	COMMEN	ITS:							
10/05/ 10					AMPLE LOG					
OW-14	TIME 1525	3 4	ONTAINER O ML VOA	TYPE	NUI	MBER OF C	ONTAINER	· A	PRESERVATIV	/E
-			O ML VOA	250		3		7.4	VA ₂ S ₂ O ₃	
			50 ML AMI 50 ML PLA			1			NEAT	-
V	V		25 ML PLA	2.02.53		1			INO ₃	
								7-	11103	
ISTRUMENTS			VEL PROBE							

M44

WE	LL ID	}		· ·		TEST PA	RAMETERS	3	1	
OW	/-30	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved 2 Oxygen (🛎)	ORP (mv)
GAUGE DATE	5.16.18	Initial	0742	7.10	12.5	2006	1306	1.03	1,10	189
GAUGE TIME	0135	1	0754	7.12	12.8	2.001	1300	1,03	1.01	160.1
DHC (FEET)	ND	2	0806		12.6	1994	1293	1.02	1.27	148.1
DTW (FEET)	21,35	3	0818		12.7	2609	1306	1.03	1.17	122,5
DTB (FEET)	50.20	4		1.0	,,			1		14-2
DTB - DTW	28.85	5						 		
CAPACITY PER FOOT.		6 .								,
	0.103-2			PI	J URGING DA	L	<u> </u>	<u> </u>		
3 WELL		WEATH	ER CONDIT		- · · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·	
VOLUMES	63	MEA	R_ /A(_)	1. 47	P					
PURGE DATE		WATER .	appearan	CÉ/ODO	R:					
, orde by the	5.16218		EAR,	AC OT	XOR_					
END OF PURGE TIME	0818	СОММЕ	INTS:					_		
PURGE AMOUNT	70		·							
DTW (FEET)	25.60									
				SA	MPLING D	ATA		<u> </u>		
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
O/TIVII EE D/TIE	5.16.18		E AS					•		
DTW (FEET)	25.60		APPEARAN	-						
		COMME	EAR , 140 NTS:	<u> </u>	K					
SAMPLE TIME	0825	,								
					SAMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVAT	IVE
OW-30	082		40 ML VOA 40 ML VOA			5 3			HCL NA ₂ S ₂ O ₃	
			250 ML AN						NEAT	
			250 ML AN			1			HNO ₃	
1			125 ML PL			1			HNO ₃	
V	<u> </u>		LEV IVIL I'L	J.O.110					-11103	
INSTRUMEN	TS USED	WATER L	EVEL PRO	BE						
		WATER (QUALITY ME	ETER						

COMPLETED BY: TRACY PAYNE

MG/L

WEI	LL ID					TEST PA	RAMETERS	3) ·			
OW	<i>l</i> -29	Volumes	TIME	рН	Temperature Degrees C	Conductivity (µS/cm)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (24)	ORP (mv)			
GAUGE DATE	5.16.18	Initial	0756	7.28	14.7	1935	1261	1.00	2.25	593			
GAUGE TIME	0952	1	1009	7.27	13.5	1964	1274	1.01	2,24	-5.8			
DHC (FEET)	ND	2	1022	7.21	14.1	1981	1287	1.02	2.87 -	6.3			
DTW (FEET)	17.15	3	1035	7.22	14.2	1997	1300	1.02	2.30	-93			
DTB (FEET)	51.90	4											
DTB - DTW	34.75	5											
CAPACITY PER FOOT		6		<u>.</u>									
25.72	<u> </u>			P	URGING DA	TA		<u> </u>		· · · · · · · · · · · · · · · · · · ·			
3 WELL	-	WEATH	ER CONDIT			······································	· · · · · · · · · · · · · · · · · · ·						
VOLUMES	77.16	1		0			·						
PURGE DATE	5.16.18	1	<u>ar, cal</u> Appearan Ear, H						,				
END OF PURGE TIME	1035		OMMENTS:										
PURGE AMOUNT	BOGALS		-				-						
DTW (FEET)	37.90		-										
<u> </u>				SA	MPLING D	ATA							
SAMPLE DATE			ER CONDIT							. ,			
SAMPLE DATE	5.16.18		AR, CA	LM, 70	<u> </u>								
DTW (FEET)	37.90		APPEARAN					\					
SAMPLE TIME	1040	COMME							;				
OAMI EE IIIVIE	1040	COLL	ECTED		<u>2 1015</u> SAMPLE LO		COLLECT	ED DUF	13	<u> </u>			
SAMPLE ID	TIME		CONTAINE				CONTAINE	:RS	PRESERVAT	IVE			
0W-29	10.4		40 ML VO			5			HCL				
1			40 ML VO		"	3			NA ₂ S ₂ O ₃				
			250 ML A			1			NEAT	· · · · · · · · · · · · · · · · · ·			
			250 ML P	LASTIC		1			HNO ₃				
	1		125 ML P	LASTIC		1			HNO ₃				
<u> </u>													
			·=										
INSTRUMEN	ITS USED	WATER	LEVEL PRO	BE					<u>,</u>				
10 11 101111			QUALITY M										
				· <u> </u>									

COMPLETED BY: TRAY PAYNE

ANDEAVOR - GALLUP REFINERY THIRD QUARTER 2018

WE	LL ID			•••		TEST PA	RAMETERS	\$	•	
ВМ	V-1A	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/Ch	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial			,				MG/L	
GAUGE TIME	0941	1								
DHC (FEET)	иD	2		WELL	NOT	SAMPL	FD-T	RY		
DTW (FEET)	ДN	3								
DTB (FEET)	42.61	4				: :				
DTB - DTW	NA	5								
CAPACITY PER FOOT		6								
				Pl	URGING DA	NTA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	ICE / ODO	R:			· · · · · · · · · · · · · · · · · · ·		
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:					-	
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF (CONTAINE	RS	PRESERVATI\	/E
		 								
INSTRUMEN	TS USED -	WATER L	EVEL MET	ER						
-	:		. ,			<u></u>				

COMPLETED BY: TRACY PAYNE

SIGNATURE:

77-

ANDEAVOR - GALLUP REFINERY THIRD QUARTER 2018

WE	LL ID		. =			TEST PAI	RAMETER	S		
вм	/-1B	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)-	ORP (mv)
GAUGE DATE	8.15.18	Initial				'1			MG/L	•
GAUGE TIME	0945	1	:							
DHC (FEET)	ŊD	2		WELL	NOT	SAMP	ED-	DRY		
DTW (FEET)	D	3								
DTB (FEET)	73.55	4								
DTB - DTW	NA	5	·							
CAPACITY PER FOOT	0.163 - 2"	6								
				Pl	JRGING DA	ATA .				
3 WELL VOLUMES		WEATH	ER CONDIT	IONS:						
PURGE DATE		WATER .	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT		,								
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:			· · · · · · · · · · · · · · · · · ·				
.				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF (CONTAINE	RS	PRESERVATI	VΕ
										
	TO 11055									
INSTRUMENT	IS USED -	WATERL	EVEL MET	<u>EK</u>						

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETERS	3 .		
BW	/-1C	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CF) TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	9.12.18	Initial	0810	856	14.3	1.07	0178.0	0.68	1.06 NG	34,5
GAUGE TIME	0755	1	0820	8.72	14.0	1.05	0.8645	0.67	0.54	-3.8
DHC (FEET)	ND	2								
DTW (FEET)	13.05	3	:							
DTB (FEET)	126.15	4								
DTB - DTW	113.10	5								
CAPACITY PER FOOT	0.163 - 2"	6								
18.	44			Pl	JRGING DA	TA				
3 WELL		1	R CONDIT			,				
VOLUMES	55.32	CLEA	R, LT I	EAST W	IND 53	3°				
PURGE DATE	9.12.18		AR, N							
END OF		СОММЕ			J (-					
PURGE TIME	0835	P	UMPEI	Dou	N @ 3	32 GA	الله	>		
PURGE AMOUNT	32									
DTW (FEET)	116.90									
				. SA	MPLING DA	ATA				
SAMPLE DATE			R CONDITI							
	9.12.18)	PPEARAN		R:					
DTW (FEET)	101.50		AS A		14.					
SAMPLE TIME		COMME								
OAM EL HIVE	0855	COLLE	CTED I	DUPIG	COCO AMPLE LO	ECTEL	FB	15@0	925	
SAMPLE ID	TIME		CONTAINE			IMBER OF (CONTAINER	RS.	PRESERVATI	VF
BW-1C	085		40 ML VOA		110	5	001117 (1112)		HCI	•-
3 20			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
1			125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	IS USED	WATER	EVEL MET	-R						
IL TO LI TOMEN	_		UALITY ME							
			,							

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
ВМ	V-2A	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/C)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	9.12.18	Initial	1005	E.\3	14.4	1.10	0.8905	0.69	1.08	5.5
GAUGE TIME	0950	1	1012	7.81	14.0	80.1	0.8905	0.69	1.04	-85. (
DHC (FEET)	ND	2	IOZI	7.80	14.0	80.[o.8905	0.69	0.90	-103.9
DTW (FEET)	32.47	3	1028	ገ. ገኖ	14.0	1.09	0.8840	0.68	0.89	-96.4
DTB (FEET)	59.60	4				-				
DTB - DTW	27.13	5						<u>-</u> .		
CAPACITY PER FOOT	0.163 - 2"	6								
4.42					JRGING DA	TA .				
3 WELL VOLUMES	13.26	ł	R CONDIT L.SW W APPEARAN		ø					
PURGE DATE	9.12.18		APPEARAN LR, NO		R:					
END OF PURGE TIME	1028	СОММЕ								
PURGE AMOUNT	13.50									
DTW (FEET)	39.62									
					MPLING DA	ATA				
SAMPLE DATE	9.12.18	i	R CONDITI							
DTW (FEET)	39.62		APPEARAN EASAS	•	R:					
SAMPLE TIME	1040	COMME								
					AMPLE LO					
SAMPLE ID BW-2A	TIME 1040		CONTAINEI 40 ML VOA		NU	JMBER OF 5	CONTAINER		PRESERVATI HCI	٧Ŀ
DVV-ZA	1070		250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
4			125 ML PL	ASTIC	· · · · · · · · · · · · · · · · · · ·	1			HNO ₃	
*			125 ML PL	ASTIC		1			H ₂ SO ₄	
Ţ	Ţ.		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN	-		EVEL METI							
	COMPLET	TED BY: •	TRACY	PAYN	<u>E</u>	SIG	NATURE:	77-		

WE	LL ID					TEST PA	RAMETERS	3		· · · · · · · · · · · · · · · · · · ·
ВМ	V-2B	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	9.12.18	Initial	1110	7.77	14.9	1.81		1.16	1,89	52.1
GAUGE TIME	1055	1	1121	7.79	14.8	1.81	1.4625	1.16	0.68	-828
DHC (FEET)	ND	2	1132	7.79	14.6	1.80	1.4625	1.16	0.69	-90.6
DTW (FEET)	28.25	3	* 3HU	T Dow	N PURE	ING TO	D ATTE	nd saf	ETY ME	eting
DTB (FEET)	92.26 53.10	4	·		DTW-	39,38	- /22	3-7 DTG	u 3/.20	
DTB - DTW	64.01	5	1231	7.80	4.7	1.80	1.4625	1.15	0,60	-72.9
CAPACITY PER FOOT	0.163 - 2"	6								
10.4	 ጓ	·		PĮ	JRGING DA	TA				
3 WELL		WEATHE	R CONDIT	IONO			0			
VOLUMES	3129	CLE	EAR, S	TRONG	WEST	T WIND	, 770			:
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
TORKE DATE	9.12.18		AR, NO	ODOR	<u> </u>					
END OF PURGE TIME	1231	COMME RES		Pilegia	16 P 1	225 C	160	m.		
PURGE				LIKOIII	<u>, </u>					
AMOUNT	32	•								
DTW (FEET)	39.40		a:	Ŷ	1					
	.}			SA	MPLING DA	ATA				
SAMPLE DATE	a 12 10		R CONDITI		ı	_				
		CLE!	AR, ST APPEARAN	RONG CE / ODO	WEST	MIND	86			
DTW (FEET)	39.40		AR, NO	•						
CAMPLE TIME		COMME								
SAMPLE TIME	1242									
	———		00NENINE		AMPLE LO		OONTAINE		DDECEDVAT	VE
SAMPLE ID	TIME		CONTAINEI 40 ML VOA		NU	MBER OF (CONTAINER		PRESERVATI HCI	VE
BW-2B	1242		250 ML AN			5 1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1	<u></u>		H ₂ SO ₄	
	<u> </u>		125 ML PL			1			NEAT .	
INSTRUMEN	TS USED	WATFRI	EVEL MET	FR						1: <u></u>
THE PROPERTY	_		UALITY ME							
				<u> </u>			· · · · · · · · · · · · · · · · · · ·		i	
										

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST P	ARAMETERS	3		11
BV	#C2	Volumes	TIME	pH	Temperature Degrees C	Conductivit (mS/C		Salinity (ppt)	Dissolved M Oxygen (%)	ORP (m
GAUGE DATE	9.18.18	Initial	0815	8.90	12.9	1.10	0.9295	0.72	1.24	64.1
GAUGE TIME	0800	1	0833	8.83	13.1	1.09	0.9165		8F.0	37.4
HC (FEET)	ND	2		0.00						
TW (FEET)	20.85	3								
TB (FEET)	143.65	4								
DTB - DTW	122.20	5								
APACITY PER		6								
19.9	2			P	URGING DA	TA.				
WELL			R CONDIT							
/OLUMES	59.76	CLE	AR, CAL APPEARAN	M,54°	D:					··
PURGE DATE	9.18.18		APPEARAIN							
END OF PURGE TIME	0840	COMME								
PURGE MOUNT	256ACS									
OTW (FEET)	141.80									
				SA	MPLING D	ATA				
AMPLE DATE	240		R CONDIT							
	9.18.18		<u>JE AS</u> APPEARAN	A80V	<u>e</u>					· · · · · · · · · · · · · · · · · · ·
TW (FEET)	120.05	l		-						
AMPLE TIME		COMME	NTS:	1201						
AWIFEC THAT	0850	000	ET, VED		AMPLE LO					
AMPLE ID	TIME		CONTAINE				CONTAINER	RS.	PRESERVATI	VF
BW-2C	025		40 ML VO		140	511111111111111111111111111111111111111			HCI	· -
			250 ML AI	MBER		1			NEAT	
			250 ML PI	_ASTIC		1	_		HNO ₃	
			125 ML PI	_ASTIC		1	<u></u>		HNO ₃	
			125 ML Pl	_ASTIC	·	1			H ₂ SO ₄	
+	—		125 ML Pl	ASTIC		1	-		NEAT	
JOTEL IN ACAI	TO LIGED	WATER	EVEL MET	ED						
NSTRUMEN			UALITY MI							
		MAIEK	ZOWELLE IAII							

WE	LL ID			•		TEST PA	RAMETERS	3		
BW	V-3A	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/LM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8-15-18	Initial							MG/L	_
GAUGE TIME	0900	1								
DHC (FEET)	ND	2								
DTW (FEET)	ND	3		WELL	тои	BAMPL	ED - I	RY		
DTB (FEET)	52.38	4								
DTB - DTW	AN	5								
CAPACITY PER FOOT	0.163 - 2"	6				i				
				Pl	JRGING DA	ATA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:					-	
PURGE DATE		WATER /	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
			· .	SA	MPLING DA	ATA		•	1.01.1	
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:					
SAMPLE TIME		COMME	NTS:							
	4			S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	JMBER OF (CONTAINER	RS	PRESERVATI	VΕ
								· · · · · · · · · · · · · · · · · · ·		
NICTOLINATAL	C LICED '	A/ATED:	C\/C							
NSTRUMENT	2 02FD	WAIERL	EVEL METI	<u> </u>	· • · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
			·						····	
					* *					

COMPLETED BY: TRACY PAYNE

7.76	1 2 3 4 5 6 WEATHE	1335 1341 1347 1353 R CONDITI	IONS:	Temperature Degrees C 14.7 15.0 14.6 14.6		1.0725 1.0140 1.0075 1.0025	0.79	Dissolved M ⁴ Oxygen (M) D. 90 0.69 D. 73 D. 81	ORP (IIIV)
330 4D 3.40 3.75 6.35 163-2"	1 2 3 4 5 6 WEATHE LEE WATER A	1341 1347 1353 R CONDITI	9.00 7.99 7.97	15.0 14.6 14.6	1.26	1.0140 1.0075	0.79	0.69 0.73	-128.1
7.76 12.18	2 3 4 5 6 WEATHE & LE WATER A	1347 1353 R CONDITI	7.95 7.97 PL	14.6	1.24	1,0075	0.78	٥.73 -	-128.1
3.40 3.75 6.35 163 - 2" 7.76	3 4 5 6 WEATHE LEE WATER	1353 R CONDITI	7.97 PL	14.6			_	_	
7.75 6.35 163 - 2" 7.76 12 · 18	4 5 6 WEATHE LLE	R CONDITI	PL		1.23	1.0025	0.78	0.81	-122.4
7.76 12.18	5 6 WEATHE LLE WATER CLE	AR, 5.	IONS:	JRGING DA					
7.76 12.18	WEATHE LLE WATER CLE	AR, 5.	IONS:	JRGING DA					
163 - 2" 7.76 12 · 18	WEATHE LLE WATER A CLE	AR, 5.	IONS:	JRGING DA					
1.76 12·18	CLEA	AR, 5.	IONS:	JRGING DA					
1.76 12·18	CLEA	AR, 5.			TA				
12.18	CLEA		<u> 7RONG</u>	5W 1	UIND,	800			
53	COMME	er, no			SHT YE				
		NTS:			; 				
GALS									
4.00									
			SAI	MPLING DA	NTA				
		R CONDITI	ONS:						
12,18		E AS APPEARAN							
1.00		e as /	•	λ.					
	COMMEN								
00					•			·	
TIME		CONTAINE				CONTAINE	00	DDECEDVATI	VE
				INC		JONIAINER			VE
170									
					1	· · · · · · · · · · · · · · · · · · ·		HNO ₃	
					1				
		L25 ML PL	ASTIC		1			H ₂ SO ₄	
+	1	125 ML PL	ASTIC		1			NEAT	
	TIME I40	TIME (TIME CONTAINER 40 ML VOA 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	TIME CONTAINER TYPE 40 ML VOA 250 ML AMBER 250 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC	TIME CONTAINER TYPE NU 1400 40 ML VOA 250 ML AMBER 250 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC	SAMPLE LOG TIME CONTAINER TYPE NUMBER OF OR 40 ML VOA 5 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINER ↓ 40 ML VOA 5 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 WATER LEVEL METER	SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS ↓ 40 ML VOA 5 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 WATER LEVEL METER	SAMPLE LOG TIME CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATI ↓ 40 ML VOA 5 HCI ↓ 250 ML AMBER 1 NEAT ↓ 250 ML PLASTIC 1 HNO₃ ↓ 125 ML PLASTIC 1 H2SO₄ ↓ 125 ML PLASTIC 1 NEAT ED WATER LEVEL METER

COMPLETED BY: TRACY PAYNE

	27						· · · · · · · · · · · · · · · · · · ·			
WE	LL ID		·	 	Tomoroturo		RAMETERS	3	Dissolved Oxygen (%)	1
BW	<i>I-</i> ₽ C	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Oxygen (%)	ORP (mv)
GAUGE DATE	9.18.18	Initial	0953	8.52	14.5	1.29	1.0465	0.82	0.95	-51.6
GAUGE TIME	0940	1	1005	8.47	14.00	1.26	1.04∞	18.0	0.75	-86.9
DHC (FEET)	ND	2								
DTW (FEET)	8 .5(3								
DTB (FEET)	146.60	4								-
DTB - DTW	138.09	5								
CAPACITY PER FOOT	0.163 - 2"	6								
22.5	50			Pl	JRGING DA	TA				
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	<i>67.5</i>	CLER	AR, CAR APPEARAN	M, 60	0					
PURGE DATE	0 10 10			-						
END 05	9.18.18	COMME	AR, FAI	NT OF	OR_					
END OF PURGE TIME	1015			DOWN	@ 42	GALLO	KS			
PURGE	1015	,		<u> </u>						
AMOUNT	<i>7,1</i> 2	103	5-DTW	- //7.1	0					
DTW (FEET)	126.18									
				SA	MPLING DA	NTA		_		
SAMPLE DATE			R CONDIT		# WIMD	790				
DTM / (FC ET)		WATER	APPEARAN	CE / ODOI	R:					
DTW (FEET)	116.80	<u>CL0</u>	UDY, F	FAINT	ODOR					
SAMPLE TIME	1115	COMME	NIS:			- 0 T	2010			
	,,,,	COLL	ECTED		AMPLE LO		JUPIT			
SAMPLE ID	TIME		CONTAINE	R TYPE	NL	MBER OF	CONTAINER	RS	PRESERVATI	VE
BW-3C	1115		40 ML VO			5			HCI	
			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
+			125 ML PL	ASTIC		1			NEAT	
	<u> </u>	· · - · · · · · · · · · · · · · · · · ·		,						<u> </u>
INSTRUMENT	S USED	WATER L	EVEL MET	ER						-:
	-		UALITY ME							

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETER	S		
ви	V-4A	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/LM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial							MG/	–
GAUGE TIME	1013	1								:
DHC (FEET)	ND	2		WELL	NOT 9	AMPLEZ	DR -	4		
DTW (FEET)	ИD	3								
DTB (FEET)	38.80	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
<u></u>				PI	URGING DA	TA	-	· · · · · · · · · · · · · · · · · · ·		*****
3 WELL VOLUMES	-	WEATHE	R CONDIT	IONS:		M	** 4,**	<u> </u>		
PURGE DATE		WATER /	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)				,						
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
			100	S	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	√ E
										-
					<u> </u>					
INSTRUMEN ⁻	TS USED -	WATER L	EVEL MET	ER						

COMPLETED BY: TRACY PAYNE

WE	LL ID			······································		TEST PA	RAMETERS	3		<u> </u>
ви	V-4B	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen &	ORP (mv)
GAUGE DATE	9.10.18	Initial	1114	8.36	16.9	1.54	1.1830	0.93	0.65	-215.2
GAUGE TIME	021050	1	1117	8.26	14.5	1.45	1.1765	0.93	0.89	-209.1
DHC (FEET)	ND	2								•
DTW (FEET)	36.85	3								
DTB (FEET)	50.70	4	·							
DTB - DTW	13.85	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"				10011000	—			**	
	26	MEATIL	D CONDIT		JRGING DA	· A				
3 WELL VOLUMES	6.78	1	R CONDIT		•					
		WATER	APPEARAN	CE / ODO	R:					
PURGE DATE	9.10.18	:								
END OF PURGE TIME	1122	СОММЕ	NTS:							1
PURGE AMOUNT	4 GALS									
DTW (FEET)	49.20			"						
				SA	MPLING DA	ATA	· · · · · · · · · · · · · · · · · · ·			
SAMPLE DATE	NA	WEATHE	R CONDIT	ONS:	····					
DTW (FEET)		WATER /	APPEARAN	CE / ODOI	₹:					
	48.75	COMME	NTS:							
SAMPLE TIME	AN			ENT W	INTER	VOLU	ME TO	SAM	PLE	
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU		CONTAINER		PRESERVATI	VE
BW-4B			40 ML VOA			5			Hel	
			1 LITER AM						NEAT	
			250 ML AN	\rightarrow		1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
4	+		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN	TS USED	WATER	EVEL METI	FR		<u> </u>		(1000)		
1140 LYOMEN	_		UALITY ME						• • •	
				=						

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETER	S		
BW	V-5A	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/C	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial							MG	1_
GAUGE TIME	1020	1	:							
DHC (FEET)	ND	2		WELL	NOT	SAMP	ED-	DRY		
DTW (FEET)	ND	3								
DTB (FEET)	23.02	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA.				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:		- "	<u> </u>			
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
		•		SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
		,		S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	RTYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE
·					· · · · · · · · · · · · · · · · · · ·					
							<u>.</u>			
INSTRUMEN	TS USED	WATER L	EVEL MET	ER						

COMPLETED BY: TRACY PAYNE

SIGNATURE:

57-

WE	LL ID					TEST PA	RAMETERS	3		レ
BW	/-5B	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CP	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	9.10.18	Initial	1017	8,60		1.59	1.1180	6.87	2.27	54.1
GAUGE TIME	1005	1	1032	8.56	16.9	1.38	1.0595		1,05	523
DHC (FEET)	2	2							·	
DTW (FEET)	10.20	3								
DTB (FEET)	46.70	4								
DTB - DTW	36.50	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
5.9	\$ 5	L	- COMPIT		JRGING DA	TA				
3 WELL VOLUMES	17.85		R CONDIT)° 🕊					
	1	WATER	APPEARAN	CE / ODO	R:					
PURGE DATE	9.10.18	CLE	AR. NO							
END OF PURGE TIME	1040	COMME	NTS:							
PURGE AMOUNT	8 GALS									
DTW (FEET)	52.50									
1				SA	MPLING DA	\TA				
SAMPLE DATE	_		R CONDIT		· · · · · · · · ·					
SAMPLE DATE	9.10.18	PART	LY CLE	e Pau	10 010 R:	D, 82°	<u> </u>			
DTW (FEET)	36.98	WATER A	APPEARAN AR, N	CE / ODOI 2	R: OR					
SAMPLE TIME		COMME	····							
	1520	:	· ·		AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE				CONTAINER	RS	PRESERVATI	VE
BW-5B	152		40 ML VOA			5			HCL	
			1 LITER AN	1BER					NEAT	
			250 ML AN	/IBER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
↓	+		125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	rs used	WATER L	EVEL MET	ER						:
	-		UALITY ME							
					, 			·		
										

COMPLETED BY: TRACY PAYNE SIGNAT

TURE:

WE	LL ID					TEST PA	RAMETERS	3		14
BW	/-5C	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CT	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	19.10.18	Initial	1342	7.78	25.8	5.0Z	3.2110	2.64	0.89	13,2
GAUGE TIME	1335	1	1354	7.90	15.1	4.02	3.2110	2.67	0.40	-113.4
DHC (FEET)	DN	2	1403	7714	14.3	3.92	3,1980	2.65	1,22	-103.1
DTW (FEET)	3.55	3	1412	7.73	14.2.	3.92	3.2110	2.67	0.74	-99.5
DTB (FEET)	69,33	4	1422	7.72	14.2	3.90	3:1900	2.66	0.76	-97.3
DTB - DTW	65.78	5	•							
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	URGING DA	TA		<u>I</u>	L	L.,,,,,,,
10.7 3 WELL		WEATHE	R CONDIT							
VOLUMES	32.16				ခြယ က	IND E	31°			
PURGE DATE		WATER	APPEARAN	CE / ODO	R: N, NO					:
END OF PURGE TIME	1422	COMME		0.10		*				
PURGE AMOUNT	44						供			
DTW (FEET)	6.65									
				SA	MPLING D	ATA				
CAMPLE DATE			R CONDIT	ONS:		,				
SAMPLE DATE	9.10.18		NE AS							
DTW (FEET)	6.65	WATER A	APPEARAN	CE / ODO	R:					
044015 7145		COMME			 					
SAMPLE TIME	1435	COLLE	CTED ,	FB 13	<u>e 132</u>	0 8	DUP14	/		
				S	SAMPLE LO	G			205050115	
SAMPLE ID	TIME		CONTAINE		Νŧ		CONTAINE	RS	PRESERVAT	IVE
BW-5C	143		40 ML VOA			5		-	HCL	
			1 LITER AN				•		NEAT	
			250 ML AN		······································	1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
₩	+		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN ⁻	IS USED 1	WATER	EVEL MET	FR	. 		W		 	<u>:</u>
II 40 II (OIVILIA			DUALITY ME							
	·			.·	-					

COMPLETED BY: TRACY PAYNE

WE	LL ID	TEST PARAMETERS								
EAS	r LDU	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial			:					
GAUGE TIME		1								
DHC (FEET)		2		COUL	D NO	ACC	ESS			
DTW (FEET)		3		ł	1 .	s co		TRAT	ZONS -	CN
DTB (FEET)		4		ſ	_	ATE A		ļ		
DTB - DTW		5	- m=		,					
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
					JRGING DA	ATA				
3 WELL VOLUMES		WEATHE	ER CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME	:	СОММЕ	NTS:		, "					
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME	,	COMME	NTS:	-						
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE
EASTLDU			40 ML VO			5			HCL	
			250 ML AN 250 ML PL					<u> </u>	HNO ₃	
			125 ML PL			1			HNO3	
	<u> </u>									
		O	TED WITED	5105 550	25					
INSTRUMENT	S USED	UIL / WA	TER INTER	FACE PRO	IRF					-
·										
· · · · · · · · · · · · · · · · · · ·					- ***					· · · · · · · · · · · · · · · · · · ·
	COMPLE	TED BY:	TRACY	PAYN	<u> </u>	SIG	NATURE:) AY	5_	

POND ID	SAM	IPLE DATE	SAMPLE TIME	:	
EP-2	9.0	0.18	1250		
	•		SAMPLING	DATA	
WEATHER CONDIT					
PARTLY	CLOUDY	CALM	, 73°		
WATER APPEARAN					
PINICISH COMMENTS:	BROWN	ODOR			
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-2	1250	40 ML VC)A	X 3	HCL
		1 LITER A	MBER	2	NEAT
		250 ML F	PLASTIC	1	HNO ₃
		125 ML F	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
•	1	125 ML P	PLASTIC	1	NEAT
INSTRUMENTS USE	ED N/A				
CO	OMPLETED BY	TRALY	Payne	SIGNATURE:	3-

POND II		SAMPLE DATE	SAMPLE TIME	፤	
EP-3		9.6.18	1330		
			SAMPLING	DATA	
WEATHER COND					χ
CLO	YQU	DNIM HTUCK	760		
WATER APPEARA	-		•		
	ush E	BROWN, OD	OR		
COMMENTS:					
			SAMPLE	LOG	
SAMPLE ID TIME CONTAINER TYPE NUMBER OF CONTAINERS F				PRESERVATIVE	
EP-3	1330	0 40 ML VO)A	×3	HCL
		1 LITER A	MBER	2	NEAT
		250 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
1	1	125 ML P	LASTIC	1	NEAT
INSTRUMENTS US	SED N	I/A	, , , , , , , , , , , , , , , , , , , 		
HAS LIVOINIEN IS OF	<u> </u>	y r			
					

COMPLETED BY: TRACY PAYNE

SIGNATURE:

77-

POND I	ID	SAMPLE DATE	SAMPLE TIME		
EP-4		9.6-18	1450		
			SAMPLING	DATA	
WEATHER CON	DITIONS:				
CLOUDY,	SOUTH	WIND, 76°		· · · · · · · · · · · · · · · · · · ·	
WATER APPEAR					
PINKIST	H BKO	WN, ODOR			
COMMENTS:					
,					
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-4	145	O 40 ML VC)A	X 3	HCL
		1 LITER A	MBER	1	NEAT
		250 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
		125 ML P	PLASTIC	1	NEAT
INSTRUMENTS U	ISED I	N/A		· · · · · · · · · · · · · · · · · · ·	
IIIOINOMENIO C	_	11//			

SIGNATURE:

COMPLETED BY: TRACY PAYNE

POND ID	SAMPLE DATE	SAMPLE TIME	·						
EP-5	9.6.18	1515							
	SAMPLING DATA								
WEATHER CONDITIONS:	- NORTH W	(ND,70°							
WATER APPEARANCE /	ODOR:								
GREEN, A	10 ODOR								
COMMENTS:									
		SAMPLE	LOG						
SAMPLE ID TIME CONTAINER TYPE		R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE					
EP-5 151	5 40 ML VO	Α	* 3	HCL					
	1 LITER A	MBER	1	NEAT					
	250 ML P	LASTIC	1	HNO ₃					
	125 ML P	LASTIC	1	HNO ₃					
	125 ML P	LASTIC	1	H ₂ SO ₄					
↓	125 ML P	LASTIC	1	NEAT					
INSTRUMENTS USED	N/A								
COMPLE	TRACY	PAYNE	SIGNATURE:	4 5-					

POND ID	SAMPLE DATE	SAMPLE TIME		
EP-6	9.7.18	ტ <u>8</u> 05		
		SAMPLING	DATA	
WEATHER CONDITIONS:				
CLEAR, CALM	,46°			
WATER APPEARANCE / C				
GREEN NO C	DOR			
COMMENTS:				
		SAMPLE	LOG	
SAMPLE ID TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-6 08	605 40 ML VC	Α	× 3	HCL
	1 LITER A	MBER	1	NEAT
	250 ML P	PLASTIC	1	HNO ₃
	125 ML P	PLASTIC	1	HNO ₃
	125 ML P	LASTIC	1	H ₂ SO ₄
↓ ↓	125 ML P	LASTIC	1	NEAT
INSTRUMENTS USED	N/A			
COMPLE	TED BY:	Y PAYNE	SIGNATURE:	X 7—

POND	ID	SAMPLE DATE	SAMPLE TIM	E	
EP-7	7	9.7.18	0840		
			SAMPLIN	G DATA	
EATHER CON		ALM, 52°			
ATER APPEA	RANCE / O	DOR:			
		no odor			
OMMENTS:		· · · · · ·			
· · · · · · · · · · · · · · · · · · ·			SAMPLE	LOG	
AMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-7	084	o 40 ML VO	PΑ	X 3	HCL
		1 LITER A	MBER	1	NEAT
		250 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
		125 ML P	PLASTIC	1	NEAT
	,				
STRUMENTS	USED I	N/A			
	_	· · · · · · · · · · · · · · · · · · ·			
	COMPLET	TED BY:		SIGNATURE:	7
	50mm EE	ED BY: TRACY	PAYNE		7

POND I)	SAMPLE DATE	SAMPLE TIMI	Ε	
EP-8		9.7.18	0900		
			SAMPLING	G DATA	
WEATHER COND					
CLE	AR, C	ALM, 57°	*****		
WATER APPEAR	ANCE / OD	OOR:			
GREE	EN, N	ODDR			
COMMENTS:				•	
	 				
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-8	090	40 ML VO)A	&3	HCL
		1 LITER A	MBER	1	NEAT
î		250 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
1	\downarrow	125 ML P	PLASTIC	1	NEAT
•					
INSTRUMENTS U	SED N				
MOTIONIZATIO C		y, .			

COMPLETED BY: TRACY PAYNE

POND	ID SA	MPLE DATE	SAMPLE TIMI	Ĭ	
EP-9	9.	7.18	0930		
		,	SAMPLING	G DATA	
WEATHER CON LEA WATER APPEAI COMMENTS:	IDITIONS: AR CALA RANCE/ODOR AR, NO C	1,59° : DOR			
OOMMENTO.					
	•		SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-9	0930	40 ML VC)A	X 3	HCL
		1 LITER A	MBER	1	NEAT
		250 ML F	PLASTIC	1	HNO ₃
		125 ML F	PLASTIC	1	HNO ₃
		125 ML F	PLASTIC	1	H ₂ SO ₄
Ţ.	.	125 ML P	PLASTIC	1	NEAT
INSTRUMENTS	USED N/A				
	COMPLETED	BY: TRAC	PAYNE	SIGNATURE:	2-

POND I	D	SAMPLE DATE	SAMPLE TIMI		
EP-11	-	9.7.18	1025		
			SAMPLING	DATA	
WEATHER CON	DITIONS:		*****	· · · · · · · · · · · · · · · · · · ·	
CLE	FAR. C	ALM 70° DOR:			
WATER APPEAR	RANCE'/ O	DOR:			
AMB	ER, D	DOR, THE			
COMMENTS:					
PON	18 CC	most Dr'	4		
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-11	loz.	5 40 ML VO	Α	×3	HCL
		1 LITER A	MBER	1	NEAT
		250 ML P	LASTIC	1	HNO ₃
		125 ML P	LASTIC	1	HNO ₃
		125 ML P	LASTIC	1	H ₂ SO ₄
T	1	125 ML P	LASTIC	. 1	NEAT
NSTRUMENTS L	ISED	N/A			
INO PROMICINIO C		11/ A			

COMPLETED BY: TRACY PAYNE

POND	ID	SAMPLE DATE	SAMPLE TIME		
EP-12	A	9.7.18	1100		
	· ·		SAMPLING	DATA	
VEATHER CON	DITIONS:		0		
<u> </u>	EAR,	NORTH WI	ND 72		
WATER APPEAR			50		
COMMENTS:	S A'M	BER, OD	O I C		
2011111EITI GI	PON	D ALMOS	ST DRY		
	_ : <u> </u>				
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12A	110	0 40 ML V0)A	x 3	HCL
		1 LITER A	MBER	2	NEAT
		250 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	HNO ₃
		125 ML P	PLASTIC	1	H ₂ SO ₄
		125 ML P	PLASTIC	1	NEAT
₩		125 ML P	PLASTIC	1	NEAT
NSTRUMENTS I	ISED	N/A			
12 I KUIVIEIN 12 (JOED -	IN/A			

SIGNATURE:

COMPLETED BY: TRACY PAYNE

POND ID	SAMPLE DATE	SAMPLE TIME		
EP-12B	9.7.18	1130		
		SAMPLING	DATA	1
WEATHER CONDITIONS:		0		
CLEAR, NORTH	H WIND B			· · · · · · · · · · · · · · · · · · ·
WATER APPEARANCE / C	DUK:			
PINKISH BRE	own, odor			
COMMENTS:				
		SAMPLE	LOG	
SAMPLE ID TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12B 113 C	40 ML VC)A	¥ 3	HCL
	1 LITER A	MBER	2	NEAT
	250 ML F	PLASTIC	1	HNO ₃
	125 ML F	PLASTIC	1	HNO ₃
	125 ML F	PLASTIC	1	H₂SO₄
.	125 ML F	PLASTIC	1	NEAT
INSTRUMENTS USED	N/A			
COMPLE	TED BY: TRAC	Y PAYNE	SIGNATURE:	7-
	, ,,,,,,			· /

POND ID	SAMPLE DATE	SAMPLE TIME							
EP-2	9.14.18	0709							
SAMPLING DATA									
WEATHER CONDITIONS:									
CLE	AR, CALM	,47°							
WATER APPEARANCE / O									
COMMENTS:	OWN, DOOR								
COMMENTS.									
		SAMPLE LO	OG						
SAMPLE ID TIME	CONTAINE	R TYPE N	UMBER OF CONTAINERS	PRESERVATIVE					
EP-2 070	9 500 ML P	LASTIC	1	NEAT					
	1 LITER P	LASTIC	1	NEAT					
	100 ML P	LASTIC	1	NEAT					
↓ ↓	500 ML P	LASTIC	1	H ₂ SO ₄					
				·					
INSTRUMENTS USED	N/A								
-									
COMPLE	TED BY: TRACY	PAYNE	SIGNATURE:	<u></u>					

POND ID	SAMPLE DATE	SAMPLE TIME		
EP-3	9.14.18	0723		
		SAMPLING	DATA	
WEATHER CONDITION		-		
	R, CALM, 470			
WATER APPEARANCE	•			
	H BROWN, ODO	<u> </u>		
COMMENTS:			_	
		SAMPLE	LOG	
SAMPLE ID TI	ME CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-3	723 500 ML F	PLASTIC	1	NEAT
	1 LITER P	LASTIC	1	NEAT
	100 ML F	PLASTIC	1	NEAT
	500 ML P	PLASTIC	1	H ₂ SO ₄
INSTRUMENTS USED	N/A			
COMF	PLETED BY: TRAC	Y PAYNE	SIGNATURE:	7-

POND	ID	SAMPLE DATE	SAMPLE TIM	E	
EP-4	,	9.14.18	0735		
			SAMPLING	G DATA	
WEATHER CON	CLEAR	R, CALM, 4	7 °		
WATER APPEA	RANCE / 0	DOR:			
	PINICIS	H BROWN, C	DOR		
COMMENTS:					
	1.0				
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-4			PLASTIC	1	NEAT
		1 LITER P	LASTIC	1	NEAT
		100 ML P	PLASTIC	1	NEAT
		500 ML P	PLASTIC	1	H ₂ SO ₄
NSTRUMENTS	USED	N/A			
	COMPLE	TED BY: TRACY	DAVALE	SIGNATURE:	7, -
		1117427	LUZINE		

POND	ID SA	MPLE DATE	SAMPLE TIME	E	
EP-5	9	.14.18	0747		
	······································		SAMPLING	DATA	
WEATHER CON					
	LEAR,		476		
WATER APPEAR	rance / udur: Reen , ne				
COMMENTS:	REEN, NO	, , , , , , , , , , , , , , , , , , , ,			
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-5	0747	500 ML F	PLASTIC	1	NEAT
		1 LITER P	PLASTIC	1	NEAT
		100 ML F	PLASTIC	1	NEAT
	•	500 ML F	PLASTIC	1	H ₂ SO ₄
INSTRUMENTS (JSED N/A				
HASTICOVIETO (14/K				
	COMPLETED E	2V•		SIGNATURE:	$\overline{\mathcal{O}}$
	COMPLETED	TRAC	Y PAYNE	SIGNATURE.	X7 -

POND ID		SAMPLE DATE	SAMPLE TIME		
EP-6		9.14.18	0800		·
			SAMPLING	DATA	
WEATHER CONDI		CALM, 50			
WATER APPEARA	NCE / OI	DOR:			•
	N, N	ODOR			
COMMENTS:	•				
			# (#) j		
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-6	0800	500 ML P	PLASTIC	1	NEAT
		1 LITER P	LASTIC	1	NEAT
		100 ML P	PLASTIC	1	NEAT
		500 ML P	PLASTIC	1	H ₂ SO ₄
-					
					•
INSTRUMENTS US	SED N	N/A			
	_				
C	OMPLET	ED BY: TRAC	Y PAYNE	SIGNATURE:	TRACY PAYNE

POND	ID SA	MPLE DATE	SAMPLE TIMI		
EP-7		.14.18	0816	_	
		1710	SAMPLING	L G DATA	· · · · · · · · · · · · · · · · · · ·
WEATHER CON	IDITIONS:		<u> </u>		
		alm 50	0		
WATER APPEAL	CLEAR, CA	: 			
	IGHT BR				
COMMENTS:		·			
		·			
		······································	SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-7	0816	500 ML F	PLASTIC	1	NEAT
		1 LITER P	PLASTIC	1	NEAT
		100 ML F	PLASTIC	1	NEAT
	Ţ	500 ML F	PLASTIC	1	H ₂ SO ₄
	<u> </u>				
		· .			
NOTOLINAENTO	LICED NI/A				
NSTRUMENTS	USED N/A				
<u> </u>					
	COMPLETED E	BY: TRACY	PAYNE	SIGNATURE:	A7-

POND ID	SAM	IPLE DATE	SAMPLE TIME	≣	
EP-8	9.	14.18	0828		
			SAMPLING	G DATA	
WEATHER COND	ZAR, CA	LM, 50) °		
WATER APPEARA	NCE / ODOR:				
COMMENTS:	SHT BRO	WW, NE	ODOR		
			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-8	0828	500 ML F	PLASTIC	1	NEAT
		1 LITER P	PLASTIC	1	NEAT
		100 ML F	PLASTIC		NEAT
	V	500 ML F	PLASTIC	1	H ₂ SO ₄
			·····		
INSTRUMENTS US	SED N/A			1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	
INO I KUINIEN IO US	SED <u>N/A</u>				
(COMPLETED BY	TRAC	Y PAYNE	SIGNATURE:	X7-

POND II	D SA	MPLE DATE	SAMPLE TIM	E	
EP-9	٩	.14.18	0842		222
			SAMPLING	G DATA	
WEATHER COND			_		
	LEAR, C.	ALM, 54			
WATER APPEAR	ANCE / ODOR:				
	, NO OD	OR, V.SI	MALL RED	ORGANISM IN W	ATER
COMMENTS:		·			·
	***		SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-9	0842	500 ML F	PLASTIC	1	NEAT
		1 LITER P	PLASTIC	1	NEAT
		100 ML F	PLASTIC	1	NEAT
		500 ML F	PLASTIC	1	H ₂ SO ₄
		<u></u>			
					
INICTOLINACNITO LI	SED N/A			W	
INSTRUMENTS U	SED N/A				
	COMPLETED E	BY: TRAC	Y PAYNE	SIGNATURE:	7-
			······		

POND I	D S	AMPLE DATE	SAMPLE TIME	<u> </u>	
EP-11	. 9	.14.18	0900		
	•		SAMPLING	DATA	
WEATHER CON					
	<u> LEAR</u>	CALM,	60		
WATER APPEAR	ANCE / UDUR Am Otto	(; 	500		
COMMENTS:	MIDER,	FAINT O	<u>u</u>		
	POND	ALMOS!	T DRY		
		·			
: 20.00					
<u></u>			SAMPLE	LOG	
SAMPLE ID	TIME	CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-11	0900	500 ML P	PLASTIC	1	NEAT
		1 LITER P	LASTIC	1	NEAT
		100 ML P	PLASTIC	1	NEAT
		500 ML P	LASTIC	1	H ₂ SO ₄
	·····				
NSTRUMENTS U	JSED N/A				
INDINOMIEM O	11/1				
	COMPLETED	DV.		CIONATUDE.	
	COMPLETED	TRAC	Y PAYNE	SIGNATURE:	W7 -

POND ID	SAMPLE DATE	SAMPLE TIN	1E	
EP-12A	9.14.18	NA		
		SAMPLIN	IG DATA	
EATHER CONDITION	NS:			
CLE	AR CALM, 60	,0		
ATER APPEARANC	E / ODOR:			
	-			
OMMENTS:		. ~		
PON	D HAS AL	MOST DR	PIED UP - CO	ULD
_	MOT ARTH	V OFAR		
	VUI SHEEL	Y <i>KERCE</i> SAMPL	FLOG	
AMPLE ID	TIME CONTAIN	IER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12A	500 ML	PLASTIC	1	NEAT
	ILHER	PLASTIC		NEAT
	100 ML	PLASTIC	1	NEAT
	500 ML	PLASTIE	1	H ₂ SO ₄
				7
OTDUMENTO LICED	NI /A			
STRUMENTS USED	N/A			
CON	IPLETED BY: TRA	CY PAYNE	- SIGNATURE: <	W-1~
		-1 1411	- -	/

POND ID	SAMPLE DATE	SAMPLE TIME		
EP-12B	9.14.18	0930		
	•	SAMPLING	DATA	
ATER APPEARANCE	, CALM. 60		0	
OMMENTS:	BROWN, PA			
TANDULE IN THE STATE OF THE STA	v. .			
		SAMPLE	LOG	
AMPLE ID TII	ME CONTAINE	R TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EP-12B	9 <i>30</i> 500 ML F	PLASTIC	1	NEAT
	1 LITER P	PLASTIC	1	NEAT
	100 ML F	PLASTIC	1	NEAT
	500 ML F	PLASTIC	1	H ₂ SO ₄
NSTRUMENTS USED	N/A			
COMP	LETED BY: TRI	acy Payn	SIGNATURE:	47

WE	LL ID	TEST PARAMETERS								
GW	/M-1	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/4M	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.15.18	Initial								
GAUGE TIME	1439	1								
DHC (FEET)	21.50	2		WELL	- NOT	SAME	LED			
DTW (FEET)	21.54	3				OF SPH		SENIT		
DTB (FEET)	26.42	4		•	 ,					
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6					!	- -		
				PU	JRGING DA	TA				
3 WELL VOLUMES	,	WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT								-		
DTW (FEET)										
				SAI	MPLING DA	TA				·
SAMPLE DATE	,	WEATHE	R CONDITI	ONS:						
DTW (FEET)	:	WATER A	PPEARAN	CE / ODOF	₹:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	à				
SAMPLE ID	TIME	•	CONTAINE	R TYPE	NU	MBER OF C	ONTAINEF	RS	PRESERVATIV	VΕ
	······································		·							
<u> </u>		···								
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
									·	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PAI	RAMETER	S		
GW	/M-2	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.15.18	Initial								
GAUGE TIME	1433	1								
DHC (FEET)	ND	2		WEL	_ NOT	SAMP	LED -	DRY		
DTW (FEET)	D	3								
DTB (FEET)	19.04	4								
DTB - DTW	NA	5	·							
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER /	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
·				SA	MPLING DA	ATA .				
SAMPLE DATE		WEATHE	R CONDITI	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	IMBER OF C	CONTAINE	RS	PRESERVATI	VE
:										
						-				
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
							 			
							<u></u>			

COMPLETED BY: TRACY PAYNE

SIGNATURE

X-1-

WE	LL ID					TEST PA	RAMETERS	3		
GW	/M-3	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.15.18	Initial								
GAUGE TIME	1443	1								
DHC (FEET)	ND	2		WELL	NOT	SAMP	LED-	DRY		
DTW (FEET)	D	3								
DTB (FEET)	18.04	4	7							
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA			<u> </u>	
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						· · ·
PURGE DATE		WATER	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:				,			
PURGE AMOUNT										
DTW (FEET)										
				SAI	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODOF	₹:					· · · · · ·
SAMPLE TIME		COMME	NTS:							
<u> </u>				S	AMPLE LO	G				
SAMPLE ID	TIME	,	CONTAINE	R TYPE	NU	IMBER OF C	CONTAINER	RS	PRESERVATIV	/E
					. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
										
	<u> </u>									
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE				·	
				-						

WE	LL ID					TEST	PA	RAMETERS	3		
K	4-3	Volumes	TIME	рН	Temperature Degrees C	Conducti (mS)		TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial				′		_			
GAUGE TIME		1							-		
DHC (FEET)		2		10111	D M	27	7	CEC	C		
DTW (FEET)	<u> </u>	3		ļ	H H2	i	- 1			TOME	IN
DTB (FEET)		4			HEDIA		- I		//८/	1010	270
DTB - DTW		5			(CUL	7 (5-	7	<u>, KEU</u>			
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6									
1001	0.163 - 2	I		PI	JRGING DA	TA					
0.14/51.1		WEATHE	R CONDIT								<u> </u>
3 WELL VOLUMES		W LATTIC	-11 OO11D11	10110.							
PURGE DATE		WATER	APPEARAN	CE / ODO	R:						
END OF PURGE TIME		COMME	NTS:					,		v	
PURGE AMOUNT											
DTW (FEET)											
				SA	MPLING DA	ATA					
SAMPLE DATE		WEATHE	R CONDIT	IONS:			•				
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:						
SAMPLE TIME		COMME	NTS:								
				S	AMPLE LO	G					
SAMPLE ID	TIME		CONTAINE		NL	MBER		CONTAINER		PRESERVATI	VE
KA-3			40 ML VOA				5			HCL	
			1 LITER AN				1			NEAT	
			250 ML AN				1			NEAT	
			250 ML PL				1			HNO ₃	
			125 ML PL				1			HNO ₃	
			125 ML PL				1			H ₂ SO ₄	
<u> </u>			125 ML PL	ASTIC			1			NEAT	
WIGTON STATES	EO LIOED	OII (14/4	TED INTER	EAOE BBO	DE				····		
INSTRUMEN ⁻			TER INTER		DE						
		VVAIER	OALIT WIL	LIER	,						

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-01	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/LM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (96)	ORP (mv)
GAUGE DATE	8.15.18	Initial							P'6	12
GAUGE TIME	1231	1								
DHC (FEET)	6.40	2		WELL	NOT .	BAMPL	ED			
DTW (FEET)	6.71	3				OF SP		SENT		
DTB (FEET)	17.27	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6							-	
7	0.163 - 2"			DI	JRGING DA	<u> </u> 				
3 WELL VOLUMES		WEATHE	R CONDIT		skulltu bi			· · · · · · · · · · · · · · · · · · ·		
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:		.,, ,			
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
	· · · · · · · · · · · · · · · · · · ·			SA	MPLING D	ATA				
SAMPLE DATE	ļ	WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
				s	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF (CONTAINER	RS	PRESERVATI	VE
			<u> </u>		·					
INICEDI IN ACTUA	TO LIGHT	NI / 114/4	TED 12:TES	EAGE 55.0						
INSTRUMENT	2 U2FD (JIL / WA	TER INTER	PACE PRO	RF					
								,		

COMPLETED BY: TRACY PAYNE

						IEST PA	RAMETERS	<u> </u>		
MKT	F-02	Volumes	TIME	рĦ	Temperature Degrees C	Conductivity (mS /CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.20.18	Initial	<i>-</i> 0856	7.39	16.9	2.67	2.0475	1.65	1.79	-124.5
GAUGE TIME	0840	1	0902	7.19	r4.8	2.59	2,0865	1.69	1.12	-107.9
DHC (FEET)	ND	2		BAIL		OWN AT	17 GA	S		
DTW (FEET)	8,40	3								
DTB (FEET)	20.43	4				_				
DTB-DTW >		5								
CAPACITY PER	0.74 - 4"	6				,				
FOOT	0.163 - 2"	0							·	
1996 8	2.9				JRGING DA	TA	- 5144	<u></u>		
3 WELL	7/7		R CONDIT							
VOLUMES	26.7	L'LEA WATED	I <i>r, eas</i> Appearan	7 W/WD	57°					
PURGE DATE	8.20.18		EAR ->	•		DOR				
END OF		COMME			/ /	<u> </u>	,			
PURGE TIME	0912									
PURGE AMOUNT	17 GALS									
DTW (FEET)	19.90			٠						
				SA	MPLING DA	ATA				
SAMPLE DATE			R CONDITI				_			
	8.20.18	LLEA.	R, STRE	NG WE	ST WIN	D, 86°				
DTW (FEET)	16.48		APPEARAN	•			1			
<u></u>		COMME	I <i>R, HC</i> NTS:	BOOK	•					
SAMPLE TIME	1510									
	****				AMPLE LO				***	
SAMPLE ID	TIME		CONTAINE		NU	IMBER OF (CONTAINER		PRESERVATI	VE
MKTF-02	1510		40 ML VOA			5			HCL	
			40 ML VOA			3			NA ₂ S ₂ O ₃	
			1 LITER AN			1			NEAT	
			250 ML AM			1			NEAT	
		:	250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
			UALITY ME					-		
			-/ (-/) (TIL				· u			

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-03	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/L)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%) - 2	ORP (mv)
GAUGE DATE	8.16.18	Initial							MG	1/4
GAUGE TIME	0746	1								
DHC (FEET)	7.30	2		WELL	NOT S	AMPLE	D			
DTW (FEET)	8.25	3		•	FEET			SENT		
DTB (FEET)	18.53	4						•		
DTB - DTW	AN	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:			···			
PURGE DATE		WATER .	APPEARAN	CE / ODO	R:	<u> </u>				
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:				-			
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NL	IMBER OF	CONTAINER	RS	PRESERVATI	VE
										· · · · · · · · · · · · · · · · · · ·
	- 12								<u>.</u>	
INICEDI IN ACRES	TO LICED	011 / 1174	TED INTER	FACE DDG	DE					
INSTRUMEN1	- 02FD	UIL / WA	TER INTER	FACE PRO	RE					
				_		_				

COMPLETED BY: TRACY PAYNE

WE	LL ID	T				TEST PA	RAMETER	S		
MKT	ΓF-04	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mSXCM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.4.18	Initial		SHE	EN ON	PURG	ED WA	TER		
GAUGE TIME	0810	1						ADINGS		
DHC (FEET)	ND	2								
DTW (FEET)	9.61	3								
DTB (FEET)	22.39	4								
DTB - DTW	12.78	5					,			
CAPACITY PER										
FOOT	0.163 - 2"	6		:						
9.4	46			Pl	JRGING DA	TA				
3 WELL	2220	1	R CONDITIO							
VOLUMES	28.38	PAR	727 CCC APPEARANCI	WDY,	CALM, :	570				
PURGE DATE	9.4.18			•		ua ans	no 61	IEEN/		
END OF		COMME	r <i>r -7 gre</i> nts:	772	KOWN,	AC ODE	in se	1 <u>6</u> 61		
PURGE TIME	0830	BAIL	ED DOU	ON @	17 GAL	<u>s</u>				
PURGE										
AMOUNT	17 GALS							· · · · · · · · · · · · · · · · · · ·		
DTW (FEET)	22.01									:
		1	· · · · · · · · · · · · · · · · · · ·	SA	MPLING DA	TA.				
CALADI E DATE		WEATHE	R CONDITIO	NS:						
SAMPLE DATE	9.54.18	PART	TLY <u>CLO</u>	אסע,	WEST	WIND	,73°			
DTW (FEET)	200	WATER A	APPEARANCE	E / ODOI	R:		(
,	9.62	COMME	MTS:							
SAMPLE TIME	1250	•	ECTED I	ER II	D 1155	FRII	@1215	DUPI		
		1 2000		S	AMPLE LO	<u> </u>	= 1510,			
SAMPLE ID	TIME		CONTAINER	TYPE	NU	MBER OF	CONTAINE	RS	PRESERVATIV	VE
MKTF-04	1250)	40 ML VOA			5			HCL	
			40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AMB	ER		*	2.		NEAT	
			250 ML AMB	ER		1			NEAT	
			250 ML PLAS	STIC		1			HNO ₃	
			125 ML PLAS	STIC		1			HNO ₃	
1			125 ML PLAS	STIC		1			H ₂ SO ₄	
	İ									
			125 ML PLAS	STIC		1			NEAT	
INSTRUMEN	TS USED				BE	1		".	NEAT	<u></u>
INSTRUMEN	TS USED	OIL / WA	125 ML PLAS TER INTERFA QUALITY MET	CE PRO	BE	1		-	NEAT	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-05	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/LN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.16.18	Initial				•			MG/4	_
GAUGE TIME	0801	1								
DHC (FEET)	14.61	2		WELL	NOT S	SAMPLI	ED			
DTW (FEET)	14.80	3		ł		of Sf		SENT		
DTB (FEET)	17.75	4								
DTB - DTW	AN	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA.				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT					,					
DTW (FEET)										
				SA	MPLING DA	NTA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:					
SAMPLE TIME		COMME	NTS:			***************************************				
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINER	R TYPE	NL	IMBER OF (CONTAINER	RS	PRESERVATIV	/E
		· · · · · · · · · · · · · · · · · · ·							*****	
					 					
						<u> </u>	<u> </u>			
,										
INSTRUMENT	S USED 0	OIL / WA	TER INTER	FACE PRO	BE					
					, ,			 	•	
	·									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-06	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.16.18	Initial				72.5			MS	_
GAUGE TIME	0831	1					,			
DHC (FEET)	16.83	2		WELL	NOT	SAMP	FD			
DTW (FEET)	18.00	3		1		F SPH		ENT		
DTB (FEET)	23.79	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				PU	JRGING DA	TA		<u> </u>		
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODOI	R:		•	• • • • • • • • • • • • • • • • • • • •		
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
		<u> </u>		SAM	MPLING DA	TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	₹:			.,,,		
SAMPLE TIME		COMMEN	ITS:							
****					AMPLE LOC	à				
SAMPLE ID	TIME	C	ONTAINER	RTYPE	NU	MBER OF C	ONTAINER	S F	PRESERVATIV	Æ
										· · · · · · · · · · · · · · · · · · ·
	W.									
			-		- · · · · · · · · · · · · · · · · · · ·					
NSTRUMENT:	S USED C	DIL / WAT	ER INTERF	ACE PROE	3E			_		
			·							
	· ·									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	ŝ		
MKT	F-07	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/ LN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.16.18	Initial	:						MGI	
GAUGE TIME	0827	1								
DHC (FEET)	11.42	2		WELL	NOT	SAMP	LED		:	
DTW (FEET)	12.50	3			i	DF SP		SENT		
DTB (FEET)	17.47	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
	. 11			Pl	JRGING DA	TA	· · · · · · · · · · · · · · · · · · ·	·		
3 WELL VOLUMES		WEATHE	R CONDIT	ions:	· · · · · · · <u>- · · · · · · · · · · · ·</u>					
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
			~	SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:			1 2 11 11				
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NL	IMBER OF (CONTAINER	RS I	PRESERVATI	VE
		 	·							
					·····					
		-								
<u> </u>			· · · · · · · · · · · · · · · · · · ·							
			<u> </u>			-				
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-08	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
GAUGE DATE	8.16.18	Initial							MG.	12
GAUGE TIME	0823	1								
DHC (FEET)	12.96	2		WELL	NOT SA	MPLE			· .	
DTW (FEET)	13.35	3]	FEET (ENT		
DTB (FEET)	21.98	4		•		0, 0, 1		EN)		l
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA	····			
3 WELL VOLUMES		WEATHE	R CONDIT	ONS:			•			
PURGE DATE		WATER A	PPEARAN	CE / ODOI	R:					
END OF PURGE TIME		COMMEN	NTS:							
PURGE AMOUNT								·		
OTW (FEET)										
				SAN	APLING DA	TA				
AMPLE DATE	V	VEATHER	R CONDITIO	ONS:						
TW (FEET)	V	VATER A	PPEARANC	E / ODOR	:					
AMPLE TIME	C	OMMEN	TS:	<u> </u>					,	·
				SA	MPLE LOG	ì			· · · · · ·	
AMPLE ID	TIME	С	ONTAINER	TYPE	NUI	MBER OF C	ONTAINER	S P	RESERVATIV	E
			<u> </u>			·				
							·			
										
ISTRUMENTS	SUSED O	Ι / \/ΔΤι	R INTERF	ACE DDOD						
		-/ VV ///		ACE PROB	· <u> </u>					
									·	

WE	LL ID					TEST PA	RAMETERS	S		-
MKT	F-09	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/LN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.4.18	Initial		SHE	EN ON		1	TER		
GAUGE TIME	1028	1			D NOT		· ·	Į.		
DHC (FEET)	ND	2								
DTW (FEET)	13.40	3								
DTB (FEET)	22.74	4								
DTB - DTW	9.34	5								
CAPACITY PER FOOT		6								
6.91				Pl	JRGING DA	TA		•		
3 WELL		WEATHE	R CONDIT	ONS:						
VOLUMES	20.73	CLEA	R, WE.	ST WI	ND, 69 R:	ال				
PURGE DATE	9.4.18									
END OF		COMME	MK, MZ NTS:	ODOR	, SHEE	<u> </u>				
PURGE TIME	1050	BA	ILED D	OWN A	T 17.	5 GALL	eno.			
PURGE AMOUNT	17.5GALS									
DTW (FEET)	zz.21									
				SAI	MPLING DA	TA	***********			
SAMPLE DATE	9.4.18	WEATHE	R CONDITI	ONS:					**	* , .
SAIVIT EL DATE	7.4.10	CLOC	IDY, NE	WINI	7,68° R:) 			,	
DTW (FEET)	13.40	WAIER	APPEARAN(CE / ODOI	₹;					
		COMME	NTS:							
SAMPLE TIME	1610									
			2011		AMPLE LO				5555	
SAMPLE ID	TIME		CONTAINEF 40 ML VOA		NL		CONTAINER		PRESERVATI\ HCL	/E
MKTF-09	1610		L LITER AM			5			NEAT	
			250 ML AM			1			NEAT	
			250 ML PL			1			HNO ₃	
			L25 ML PL			1			HNO ₃	
			L25 ML PL		 	1			H ₂ SO ₄	
			L25 ML PL			1			NEAT	
INSTRUMEN			FER INTERI		BE				······	
		WATER Q	UALITY ME	IEK						
				$\overline{}$						· · · · · · · · · · · · · · · · · · ·
	COMPLET	ED BY:	TRACY	TAYNE	_	SIG	NATURE:	X	7	
		-			",		-	2	•	

WE	LL ID					TEST PA	RAMETER	S		
MKT	ΓF-10	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.4.18	Initial		SHE		PURC		ATER	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
GAUGE TIME	0952	1		I		COLLE		1 .		
DHC (FEET)	ND	2								
DTW (FEET)	7.20	3						·		
DTB (FEET)	16.28	4								
DTB - DTW	9.08	5								
CAPACITY PER FOOT	0.74 - 4"	6								
6.7	72.			Pl	JRGING DA	TA				· , , , , , , , , , , , , , , , , , , ,
3 WELL		WEATHE	R CONDIT	IONS:					· · · · · · · · · · · · · · · · · · ·	
VOLUMES	20.16	PAR	TLY CO	LOUDY	NW	WIND.	62°			
PURGE DATE	9.4.18	WATER	APPEARAN	CE / ODO	Ŕ: 	WIND, DOR, S	7,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
END OF		COMME	AK /O√ NTS:	BROWN	, HC C	DOR, =	HEEN			· · · · · · · · · · · · · · · · · · ·
PURGE TIME	1005	BF	ILED	DOW	v @ 7	GALS				
PURGE AMOUNT	7 GALS									
DTW (FEET)	15.87									
				SA	MPLING D	ATA			'''	
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
SAIVIPLE DATE	9.4.18	LLO	APPEARAN	T. RA	IN, 6	40				
DTW (FEET)	6.90	WATER A	APPEARAN(CE / ODOI	₹: ′					
SAMPLE TIME		COMME	NTS:			· · · · · · · · · · · · · · · · · · ·			-	
	1530				AMPLE LO	<u> </u>				
SAMPLE ID	TIME		CONTAINER			JMBER OF (CONTAINER	RS.	PRESERVATI\	/F
MKTF-10	153		40 ML VOA		140	5 5			HCL	
			1 LITER AN			1			NEAT	
			250 ML AM	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
<u> </u>	¥		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
	-		UALITY ME				·			
									,	
	COMPLET	TED BY:	IRACY	PAYNE		SIG	NATURE:	W.	,	
		_					-		f	
							•			

WE	LL ID				·	TEST PA	RAMETERS	3		
MKT	F-11	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.4.18	Initial	0902	7.39	19.6	2.95	2.1385	1.73	0.74	-114.4
GAUGE TIME	0853	1	0907	7.18	17.7		2.7495		0.75	-111.8
DHC (FEET)	ND	2	0912	7.05	16.8	4.89	3.7700	3.16	0.63	-128.3
DTW (FEET)	7.48	3	0923	7.21	16.5	2.44	1.8915	1.52	2.46	-118.3
DTB (FEET)	18.48	4			BAILE	D Dow		5 GALS		
DTB - DTW	11.00	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
8.16				Pl	JRGING DA	TA			(
3 WELL	•	WEATHE	R CONDIT	IONS:				· · · · · · · · · · · · · · · · · · ·		
VOLUMES	24.42				CALM,	57°				
PURGE DATE	9.4.18	LLE	IR, HC				REY. 7	HEN	BLACK	
END OF PURGE TIME	0923	СОММЕ	NTS:	• •						
PURGE AMOUNT	25 GALS									
DTW (FEET)	17.90									
				SA	MPLING DA	NTA				
SAMPLE DATE			R CONDITI			•				
DTW (FEET)	7.47		APPEARAN R. HC		<u>vD, 70</u> R:			1		
SAMPLE TIME	1345	COMME								
				S	AMPLE LO			·		
SAMPLE ID	TIME		CONTAINER	RTYPE	NU	MBER OF	CONTAINER	RS	PRESERVATI	VE
MKTF-11	134		40 ML VOA			5			HCL	
			1 LITER AN			1			NEAT	
			250 ML AM		.	1.			NEAT	
			250 ML PL			1			HNO ₃	
			1.25 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
\	<u> </u>	-	125 ML PL	ASTIC		1.			NEAT	
INSTRUMENT	rs used	OIL / WA	TER INTER	FACE PRO	BE		· ····			
	_		UALITY ME		,,,,, ,, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,					
	COMPLET	ED RV	10	7.	.=	SIC	NATURE:	4		
	CONFLET	_D D1. "	TRACY	1 AYN		310	INTIUNE.	117		

WE	LL ID	Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved Oxygen (%) ORP (mv)								
MKT	F-12	Volumes	TIME	рН		1	TDS (g/L)	Salinity (ppt)	Oxygen (%)	/
GAUGE DATE	8.15.18	Initial							mq	<u></u>
GAUGE TIME	1605	1								
DHC (FEET)	19.01	2		WELL	NOT	SAMP	LED			
DTW (FEET)	19.20	3						ESENT		
DTB (FEET)	25.60	4								
DTB - DTW	NA	5		-						
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
	·· ··-			Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATH	R CONDIT	IONS:						, ,
PURGE DATE		WATER	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										-
DTW (FEET)										
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
					AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NL	JMBER OF (CONTAINEF	RS	PRESERVATI	√E
						-				
					<u> </u>					
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
				·····						

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-13	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/C+	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.29.18	Initial		SUEE		PURGET		R.	Oxygen (mg/ L)	
GAUGE TIME	1536	1				COLLE				
DHC (FEET)	ND	2				ALITY		DTAVE		
DTW (FEET)	13.32	3			<u> </u>	V Lambo ()	1767	21000		
DTB (FEET)	21.55	4								
DTB - DTW	8.23	5								
CAPACITY PER										
FOOT	0.163 - 2"	6								
6.09					IRGING DA	TA				
3 WELL			R CONDIT		_	. 0				
VOLUMES	18.27	CLE	AR, WI	EST W	IND, E	3				
PURGE DATE	8.29.18					EEN, I	4C 67	200		
END OF		COMME	NTS:	OKE	·,	CEIO,	14C C			
PURGE TIME	15:50	BA	VILED	DOW	TA U	14 6	ALS			
PURGE AMOUNT	146ALS									
DTW (FEET)	21,17									
				SAN	MPLING DA	\TA				
SAMPLE DATE	<u> </u>		R CONDITI		. 0	····				
	0 00 10	<i>LLEA</i> WATER A	<i>1R, CAL</i> Appearan	<u>_M, </u>	}: }:					
DTW (FEET)	10 10 1									
SAMPLE TIME	1230	COMME	<i>R, 1⊲C</i> NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NL	MBER OF C	ONTAINEF		PRESERVATIV	/E
MKTF-13	1230		40 ML VOA			5			HCL	···
			1 LITER AM 250 ML AM			<u>1</u>	 		NEAT NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
+			125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	SUSED (OII / WA	TER INTERI	FACE PROF	RF.			- 		
11401110IVIEIVI	_		UALITY ME		<u></u>					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-14	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial							MS	12
GAUGE TIME	1555	1								
DHC (FEET)	6.95	2		WEL	NOT	SAMP	LED			
DTW (FEET)	7.30	3			i			SENT		
DTB (FEET)	17.45	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA		<u> </u>		·
3 WELL VOLUMES		WEATHE	R CONDIT	ions:	·		* ***			7.1
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	NTA				
SAMPLE DATE		WEATHE	R CONDIT	ONS:					11111	
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	IMBER OF	CONTAINER	RS	PRESERVATI	VE
								,		
								· · · · · · · · · · · · · · · · · · ·		
								····	 	
							· · · · · · · · · · · · · · · · · · ·			
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-15	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	L TING (d/l)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.28.18	Initial	SHE	EN O	ON PL	RGE	WATER	k - N	O REA	DINGS
GAUGE TIME	1415	1			CECTE					
DHC (FEET)	ND	2								
DTW (FEET)	12.42	3								
DTB (FEET)	19.50	4								
DTB - DTW	7.08	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6					_			
1.15				F	PURGING DA	ATA	1			L
3 WELL		WEATHE	R CONDIT	IONS:		**************************************				
VOLUMES	3.45				VIND.	80°				
PURGE DATE	8.28.18	WATER A	APPEARAN	CE / ODG	OR:		SHEET	~		
END OF PURGE TIME	1427	COMME								
PURGE AMOUNT	3.5									
DTW (FEET)	14.65									
				S/	AMPLING D	ATA				
0.1.4D) 5 D.1T5		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	8.28.18	San	1E 45	ABOVE	E					
DTW (FEET)	12.56		PPEARAN	-						
· · · · ·				BROWN	v, HC	ODOR				
SAMPLE TIME	1450	COMME	NIS:							
				1	SAMPLE LO	G	·			
SAMPLE ID	TIME		CONTAINER		N	JMBER OF	CONTAINER		PRESERVAT	VE
MKTF-15	1450		40 ML VOA			5	. 1		HCL	
			1 LITER AM 250 ML AM				11		NEAT NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1				
			125 ML PL			1			HNO ₃ H ₂ SO ₄	
			125 ML PL							
	<u> </u>		LZO IVIL PL	40110		1			NEAT	
INSTRUMENT	S USED (OIL / WA	TER INTERI	FACE PRO	OBE					
			UALITY ME							
		•								

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-16	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.30.18	Initial	1510	6.83	25.9	3.09	1.9760	1.58	0, 51	-1103
GAUGE TIME	1505	1	1513	6.86	24.3	3.19	2.0995	` -	0.56	-101.4
DHC (FEET)	ND	2	1516	6.91	23.9	3.35	2.2295		0.70	-95.3
DTW (FEET)	8.51	3			BAILE					10.3
DTB (FEET)	14.08	4			BAILE	טפע ע.	20 @ E	GA	LCONS	
DTB - DTW		5								
CAPACITY PER	5.57 0.74 - 4"									
FOOT	(0.163 - 2")	6								
0.	91			PU	JRGING DA	TA				
3 WELL			R CONDIT							
VOLUMES	<i>2.</i> 73	CLEA	<i>APP</i> EARAN	EST W	IND, E	30				
PURGE DATE	8.30.18		R, HC							:
END OF	00010	COMME								
PURGE TIME	1520		***							
PURGE AMOUNT	2.5	:								
DTW (FEET)	13.79									
	10.7			SA	MPLING DA	TA				
T I		WEATHE	R CONDITI							
SAMPLE DATE	8.3118		R, WES		, 75°					
DTW (FEET)	12.18		PPEARAN							
J (. <u>J</u>)	•	COMME!	A 140	000K						
SAMPLE TIME	1145	COMME	N15;							
	<u>, , , , , , , , , , , , , , , , , , , </u>	·		S	AMPLE LO	G			•••	
SAMPLE ID	TIME		CONTAINE		NU	MBER OF	CONTAINER		PRESERVATI	VE
MKTF-16	1143		40 ML VOA		· · · · · · · · · · · · · · · · · · ·	5			HCL	
			LITER AN	·		1			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	
<u> </u>	<u> </u>		L25 ML PL	ASTIC		1			NEAT	
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
	_		UALITY ME					· · · · · · · · · · · · · · · · · · ·	······································	
					-			-	· · · · · · · · · · · · · · · · · · ·	
						•				

COMPLETED BY: TRACY PAYNE

SIGNATURE

**

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-17	Volumes	TIME	На	Temperature Degrees C	Conductivity (mS/Ch	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.23.18	Initial	0942	7.31	17.3	1.47	1.1180	0.87	0.86	-100.0
GAUGE TIME	0935	1				RY AT				
DHC (FEET)	ND	2								
DTW (FEET)	12.12	3								
DTB (FEET)	24.68	4								
DTB - DTW	12.56	5								!
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
2	.05	I			JRGING DA	TA				***************************************
3 WELL VOLUMES	6.15		ER CONDITI		20					
PURGE DATE	0 - 10		APPEARAN	-						
I ONGE DATE	8.23.18	CLE	AR ->	BLACK	, HC O	DOR				
END OF PURGE TIME	0950	COMME	NIS:			•				
PURGE AMOUNT	1.75									·
DTW (FEET)	24.50									
				SAI	MPLING DA	ATA				
SAMPLE DATE	8.24.18	WEATHE	R CONDITI	ONS:						
0,	0.54.10	CLE	APPEARAN	1,58°						
DTW (FEET)	14.62		APPEARANG							
		COMME	NTS:	0000						
SAMPLE TIME	0820									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU	IMBER OF (CONTAINE		PRESERVATI	VE
MKTF-17	0820		40 ML VOA			5			HCL	
			1 LITER AN	······					NEAT	
			250 ML AM			1	-		NEAT	
			250 ML PL	·		1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1	· · · · · · · · · · · · · · · · · · ·		H ₂ SO ₄	
+	<u> </u>		125 ML PL	ASTIC		1		*	NEAT	
INSTRUMENT	IS USED	OII / WA	TER INTER	FACE PRO	BF					
IIIO I I CIVILIN	-		UALITY ME		<u> </u>					
			O/ LETT IVIL							
	****					···				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	S		-
MKT	F-18	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.23.18	Initial		SHEE			WATE	(R	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
GAUGE TIME	1051	1					VATER			
DHC (FEET)	ND	2			_	EADIN				
DTW (FEET)	7.15	3					1	_		
DTB (FEET)		4		DAILE	ED DOW	763	.5 GAL	<u>s</u>		
DTB - DTW	27.45	5					,			
CAPACITY PER	20,30	- J								
FOOT	(0.163 - 2")	6]					
3.3				Pl	JRGING DA	TA				
3 WELL		WEATHE	R CONDIT	IONS:						
VOLUMES	9.93	PART	سر دره	V YEU	JEST W	IND, 6	90			
PURGE DATE		WATER A	APPEARAN	CE / ODO	₹:	,				
	8.23.18	CLEA	R -> BE	zown, -	TURBID	, HC 01	DOR, SI	HEEN		
END OF PURGE TIME	1110	COMME	NIS:							
PURGE	11/0									
AMOUNT	3.5									
DTW (FEET)	27.23									
	<u>-</u>		. 20	SAI	MPLING DA	\TA				
			R CONDITI							
SAMPLE DATE	8.24.18	68	CLE	AR C	LALM					
DTW (FEET)		WATER A	PEARAN	CE / ODOF	₹:					•
` '	7.30	00141451	ITC.							
SAMPLE TIME	1025	COMMEN		E0		004/00		0.00	<i>c</i>	
	1022	LOCK	ECTED		AMPLE LO		F306	<u> </u>	2 2	
SAMPLE ID	TIME	(CONTAINER				CONTAINER	RS	PRESERVATIV	√E
MKTF-18	1025	4	40 ML VOA			5			HCL	
			40 ML VOA			3			$NA_2S_2O_3$	
			L LITER AN		•••	1			NEAT	
			250 ML AN			1	-		NEAT	
			250 ML PL		· · · · · ·	1			HNO ₃	
	-		L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	rd
			L25 ML PL		····································				NEAT	<u> V</u>
INICEDI INACAT	C LICED (1		l	INEAI	
INSTRUMENT	-		TER INTER		3E					3 44
	<u> </u>	WATER Q	UALITY ME	IEK						يماؤ
" …						*			, ,	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3	57-000-00-0	
MKT	F-19	Volumes	TIME	рḤ	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.23.18	Initial		SHEE		PURGE		VED	CAYSON (IIIS/ L)	
GAUGE TIME	1010	1				COLLEC		i		
DHC (FEET)	ND	2				READI				
DTW (FEET)	12.11	3				12212	, 9			
DTB (FEET)	19.30	4								
DTB - DTW	7.19	5								
CAPACITY PER FOOT		6								
	17			Pl	JRGING DA	TA				
3 WELL		WEATHE	R CONDITI							
VOLUMES	3.51		R, CALM							
PURGE DATE	8.23.18	WATER A	APPEARAN	CE / ODO	R: TURBID	HCO	DOR S	SHEEN		
END OF PURGE TIME	1030	COMME	NTS:			,				
PURGE AMOUNT	3.75									
DTW (FEET)	16.60								,	
				SAI	MPLING DA	ATA		· · · · · · · · · · · · · · · · · · ·		
SAMPLE DATE	0 24 18	WEATHE	R CONDITI	ONS:						
SAMI LE DATE	8.24.18	CLEA	R, CAL	M, 58						
DTW (FEET)	12.10	WATER A	APPEARAN(CE / ODOF	₹:					
SAMPLE TIME	O855	COMMEN	NTS:							
	0000			S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINER	R TYPE	NL	IMBER OF (CONTAINER	RS	PRESERVATIV	/E
MKTF-19	<u> </u>		40 ML VOA			5			HCL	
			40 ML VOA		<u> </u>	3			$NA_2S_2O_3$	
			LITER AM			1			NEAT	
			250 ML AM			1	····	 	NEAT	
			250 ML PL			1			HNO ₃	
			L25 ML PLA			1			HNO ₃	
			L25 ML PLA			1		 	H ₂ SO ₄	
	₩		L25 ML PL			1			NEAT	
INSTRUMENT	-		TER INTERI		BE					
		WATER Q	UALITY ME	TER						-
			· · ·		·					
	OOMEDI ET					010	· · · · · · · · · · · · · · ·		سياسي مربي	

COMPLETED BY: TRACY PAYNE

WE	LL ID		=		· · · · · · · · · · · · · · · · · · ·	TEST PA	RAMETER	S		· · · · · · · · · · · · · · · · · · ·
MKT	F-20	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.30.18	Initial	1450	6.89	27.5		1.7290	1.37	0.28	147_8
GAUGE TIME	1444	1	1453	SHE	EN O	N PUR	SED W	ATER		
DHC (FEET)	ND	2			ITHO					
DTW (FEET)	7.20	3								
DTB (FEET)	9.56	4								
DTB - DTW	2.56	5								
CAPACITY PER	(0.74 - 4")	6								
FOOT	0.163 - 2"		***							
1.89	7		- AANAIT		JRGING DA	ATA				·
3 WELL VOLUMES	5.67		R CONDIT			030				
102011120	<u> </u>	WATER	APPEARAN	CE / ODO	0/ <i>ND</i> , R:	<i>83</i>				
PURGE DATE	8.30.18			•	HC OT	OOR. S	HEEN			
END OF		COMME	NTS:	•		•		,		
PURGE TIME	1456	BAI	LED T	DONN C	2.5	SALLON	72			
PURGE AMOUNT	32.5									
DTW (FEET)	9.13									
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
0, 11,11	831.18	CLE	R, WE	57 W/	<u> </u>	>				
DTW (FEET)	7.13		APPEARAN	•	R:					
		COMME	/ <u>, µc c</u> vts:	vor.					· · · · · · · · · · · · · · · · · · ·	
SAMPLE TIME	1115									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NL	IMBER OF	CONTAINER		PRESERVATI	VE
MKTF-20	1115		40 ML VOA			5			HCL	
			1 LITER AN			<u> </u>			NEAT	
			250 ML AM			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		·	1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	
<u> </u>	<u> </u>		L25 ML PL	ASTIC		1		<u> </u>	NEAT	is.
INSTRUMENT	-		TER INTER		BE					
		WATER Q	UALITY ME	.IER						
·			/22.4				NATUDE.			

COMPLETED BY: TRACY PAYNE

WE	LL ID		:			TEST PA	RAMETERS	3		·
MKT	F-21	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.30.18	Initial	1345	666	27.8	-	1.6510	1.30	8.20	-80.5
GAUGE TIME	1342	1	1350	6.63	27.5		1.6315	1.29	0.23	-80.5
DHC (FEET)	ND	2	1000	4.40			wu @		0,4	0.0
DTW (FEET)	4.95	3			DAL	<u> </u>	J. W. (C	٦.ω	b	
	•	4				·				
DTB (FEET)	8.80					.,				
DTB - DTW	3,85	5								
CAPACITY PER FOOT	0.74 - 4"	6								
2.8				Pl	JRGING DA	TA				1
3 WELL		WEATHE	R CONDITI							
VOLUMES	Ø.55				D, 80	0				
PURGE DATE	0 10	WATER	APPEARAN	CE / ODO	R:		· · · · · · · · · · · · · · · · · · ·	-		
PURGE DATE	8.30.18	270	OT NW	GREY	HC DD	DR.				
END OF	1354	COMME		•		_				
PURGE TIME	1204	B	aiced 1	DOWN C	<u> 4.85</u>	GALS				·
PURGE AMOUNT	4.85									
DTW (FEET)	&.55									
				SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
SAIVIPLE DATE	8.31.18	CLEA	R, WES	T WIN	D, 68 R:	<u> </u>				- A.
DTW (FEET)	4.75	WATER A	APPEARAN(CE / ODOI	R: Ť					
		COMME	NTS:	·						···
SAMPLE TIME	1020	COLLE	ECTED	FBB	10@0	925 B	EB10@	0945	& DU	PB
				S	AMPLE LO	G	**************************************			
SAMPLE ID	TIME		CONTAINER		NU		CONTAINEF		PRESERVATI	IVE
MKTF-21	1020		40 ML VOA 1 LITER AM			5 2			HCL NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			1.25 ML PL	ASTIC		1			H ₂ SO ₄	
+	Į.		125 ML PL	ASTIC		1			NEAT	·
INSTRUMENT			TER INTERI		BE					
		WATER Q	UALITY ME	IER						6-

COMPLETED BY: TRACY PAYNE

WELL ID TEST PARAMETERS										
MKT	F-23	Volumes	TIME	На	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial				, ,			764	<i>>1 ←)</i>
GAUGE TIME	1551	1				-				
DHC (FEET)	15.48	2	-	WELL	NOT	SAME	LED			
DTW (FEET)	15.58	3				İ		RESE	NT	
DTB (FEET)	2038	4				-		·		
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pι	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:		·				
PURGE DATE		WATER /	APPEARAN	CE / ODOI	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SAI	MPLING DA	ATA	,			
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOF	₹:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINER	RTYPE	NU	MBER OF (CONTAINER	RS	PRESERVATI	VE
		·								
	· · · · · · · · · · · · · · · · · · ·									
	 									
			·							
			-							
INSTRUMENT	S USED (OIL / WA	TER INTER	ACE PRO	BE					

WE	LL ID					TEST PA	RAMETERS	S		
MKT	F-24	Volumes	TIME	РH	Temperature Degrees C	Conductivity (mS/Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.20.18	Initial	0817	7.57	13.5	2.86	2.3790	1.94	7.41	-22.5
GAUGE TIME	0807	1	0821	7.16	12.9	2.86	2.4180		1.38	-30.4
DHC (FEET)	ND	2	0825	7.10	12.9	2.73	2.3140		3.83	-33.7
DTW (FEET)	22.73	3	BA	ILED		F 74	GALLO			
DTB (FEET)	30.85	4	<u> </u>			<u> </u>	UNCCO			
DTB - DTW	3=35	5								
CAPACITY PER		6								
FOOT	(0.163 - 2")				· i					
1.32	1				JRGING DA	TA				
3 WELL	3,96		R CONDIT		. •					
VOLUMES	2,10		AR, CA APPEARAN							
PURGE DATE	B. 20. 18			-		5 TO 1	ight Re	ennere G	200.00	
END OF		COMME		- own	TURN	5 10 1	<u>.70Hi Kt</u>	EDDISH E	SKOWN	
PURGE TIME	0828									_
PURGE									- ····	
AMOUNT	3 GALS								····	
DTW (FEET)	30.25									
				SAI	MPLING DA	ATA				
0.445 E 0.475			R CONDITI	ONS:					·····	
SAMPLE DATE	8.20.18		R, WEST	WIND	86°					
DTW (FEET)		WATER A	APPEARAN	CE / ODOF	₹:					
,			R, HC	ODOR_						
SAMPLE TIME	1430	COMME	N15:							
<u>.</u>				S	AMPLE LO	G			· · · · · · · · · · · · · · · · · · ·	
SAMPLE ID	TIME	(CONTAINER	R TYPE	NU	MBER OF	CONTAINER	RS	PRESERVATI	VE
MKTF-24	1430		40 ML VOA	.		5			HCL	
		-	40 ML VOA	.		3			NA ₂ S ₂ O ₃	
		:	1 LITER AN	IBER		1			NEAT	
	1		250 ML AM	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
	*		125 ML PL	ASTIC		1			H ₂ SO ₄	
	+	-	125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED		TER INTER		BE				· · · · · · · · · · · · · · · · · · ·	
	_	•	UALITY ME							
							.		- ···· · · · · · · · · · · · · · · · ·	

COMPLETED BY: TRACY PAYNE

WEI	LL ID					TEST PA	RAMETERS	3		
MKT	F-25	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.17.18	Initial	0842	7.16	15.0	2.56	2.0475	1.65	0.23	-48.7
GAUGE TIME	0834	1	0844	7.10	14,8		1.9305	1.56	6.25	-60.9
DHC (FEET)	Ğ	2					TA NW			
DTW (FEET)	12.49	3	S. 100 - 110 - 110 / 110 - 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 / 110 /		,					
DTB (FEET)	19.78	4								
DTB - DTW	7.29	5								
CAPACITY PER	0.74 - 4"									
FOOT	0.163 - 2"	6								
1.10	9			Pl	JRGING DA	TA				
3 WELL			R CONDIT							
VOLUMES	3.57	CLO	UDY, C	ALM,	62°					
PURGE DATE	8.17.18		APPEARAN							
-		COMME	NTS.	srown,	14C 0	DOR				
END OF PURGE TIME	0847	OOMINIE	1110.							
PURGE				36						
AMOUNT	1.75									
DTW (FEET)	19.47									
				SA	MPLING DA	TA.				
SAMPLE DATE			R CONDITI					*	· · · · · · · · · · · · · · · · · · ·	
SAMIFEE DATE	8.17.18									
DTW (FEET)	12.60		PPEARAN							
-		COMME	AR/HC VTS:	OPOR						
SAMPLE TIME	1000			ECTED	DUPO:	L 60LLE	ECTED	FB01@	0900	<u>s</u>
					AMPLE LO				0920	
SAMPLE ID	TIME	(CONTAINER	RTYPE	NU	MBER OF	CONTAINER	RS .	PRESERVATI	VE
MKTF-25	1000		40 ML VOA			5			HCL	
		4	40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AM	IBER		2	1		NEAT	
		2	250 ML AV	1BER		1			NEAT	
		. 2	250 ML PL	ASTIC	<u> </u>	1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL/			1			NEAT	
NSTRUMENT:	SUSED (TER INTERI		RF					
TAOT TO VILLA I		· · · · · · · · · · · · · · · · · · ·	UALITY ME		<u></u>					
	· · ··· · · · · · · · · · · · · ·	WAIER Q	OALITI WE	.ι μ Γ\		··				
					······································				,	

COMPLETED BY: TRACY PAYNE

SIGNATURE:

8-

WE	WELL ID TEST PARAMETERS									
MKT	F-26	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM) TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.15.18	Initial							ME	12
GAUGE TIME	1242	1								
DHC (FEET)	8.73	2		WELL	NOT	SAMPI	ED			
DTW (FEET)	9.57	3			1	of Sf		ESEN	r	
DTB (FEET)	17.17	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6					:		,	
	0.103 - 2			PL	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT			.,		- , 		
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:					. ,		
PURGE AMOUNT										
DTW (FEET)										
				SAI	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	₹:					
SAMPLE TIME		COMME	NTS:							
	· · · · · · · · · · · · · · · · · · ·				AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINER	RTYPE	NL	IMBER OF C	CONTAINER	RS	PRESERVATI	VE
			<u>"</u>							
	· · · · · · · · · · · · · · · · · · ·									
		···········								
									 -	
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE					
		•								

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-27	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/C+	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.20.18	Initial	1212	7.00	23.8		7.4425	6.52	0,80	-0.4
GAUGE TIME	1208	1	1215	6.97	22.3	11.01	7.5790		1.05	4.8
DHC (FEET)	ND	2	1218	6.98	19.7	10.65	7,6860	6.79	1.38	37.3
DTW (FEET)	6.22	3	1223	7.00	18,1	18.01	8,1085	719	2.92	<i>55/</i> 3
DTB (FEET)	14.72	4			BAIL	ED DO	52 A	1 4.5	sauon	S
DTB - DTW	8.50	5				i		,		
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6							,	
		<u> </u>		PI	JRGING DA	ΤΔ				L
1391	<u> </u>	WEATHE	R CONDIT		- Indirect DA		 			
3 WELL VOLUMES	4.17	B .			70					
		WATER	APPEARAN	CE / ODO	R:					
PURGE DATE	8.20.18		AR, NO							
END OF PURGE TIME	1223	COMME	NTS:							
PURGE AMOUNT	4.50									
DTW (FEET)	14.15									
	<u> </u>			SA	MPLING DA	TA			4.	
SAMPLE DATE		WEATHE	R CONDITI	ONS:	******					
SAMPLE DATE	8.20.18	CLEA	R, WES	T WIND,	860				e."	
DTW (FEET)	12.75	WATER A	APPEARAN	CE / ODO	R:					
SAMPLE TIME	•	COMME	NTS:							
				S	AMPLE LO	3				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	MBER OF	CONTAINER	s	PRESERVATI	VE
MKTF-27	1625		40 ML VOA	l		5			HCL	
		•	40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AM	1BER		1			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
 	<u> </u>		125 ML PL			1			NEAT	
INSTRUMEN	_		TER INTER		BE					
		WATER Q	UALITY ME	:IER						
										
	COMPLET	red by-	TRACY	PAYNE		SIG	NATURE:	W7		
			· ·					•		

GAUGE TIME DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE	8.20.18 1133 ND 4.40 16.15 11.75 0.74-4" 0.163-2"	Volumes Initial 1 2 3 4 5	1140 1143 1147 1151	9.13 7.40 7.39 7.38	Temperature Degrees C 25.8 23.7 22.2 21.3	conductivity (ms/cm 2.44 2.41 2.41	1.5665 1.6055	1.27	Dissolved Oxygen (mg/L) 4.15 2.30	ORP (mv) -5, 5 32.3		
GAUGE TIME DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE	1133 ND 4.40 16.15 11.75 0.74-4" 0.163-2"	1 2 3 4 5	1143	7.40 7.39	25.8 23.7 22.2	2.44	1.5665	1.27	4.15 2.30			
GAUGE TIME DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE	1133 ND 4.40 16.15 11.75 0.74-4" 0.163-2"	1 2 3 4 5	1143	7.40 7.39	23.7 22.2	2.41	1.6055	1.27	2,30			
DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE	ND 4.40 16.15 11.75 0.74-4" 0.163-2"	4 5	1147	7.39	22.2					13-3		
DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE	4.40 16.15 11.75 0.74-4" 0.163-2"	4 5				617	1,0110		N 7'2	4073		
DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	16.15 11.75 0.74 - 4" 0.163 - 2"	4 5	1107	7.30	Z1.3				0.73			
CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	0.74 - 4" 0.163 - 2"	5				2.87	7,0085	1.62	1,23	42.8		
CAPACITY PER FOOT 1.91 3 WELL VOLUMES PURGE DATE: 8 END OF PURGE TIME PURGE	0.74 - 4" 0.163 - 2"									J.		
FOOT 1.91 3 WELL VOLUMES PURGE DATE: 8 END OF PURGE TIME PURGE	0.163 - 2"	6										
3 WELL VOLUMES PURGE DATE: END OF PURGE TIME PURGE												
3 WELL VOLUMES PURGE DATE: SEND OF PURGE TIME PURGE				PU	JRGING DA	 TA	<u>ال</u>		<u> </u>			
PURGE DATE: SEND OF PURGE TIME PURGE	573	WEATHE	R CONDITI					24		·		
END OF PURGE TIME	5.73 CLEAR, CALM, 79° WATER APPEARANCE / ODOR:											
END OF PURGE TIME	3.20.18	WATER /	APPEARAN	CE / ODO	R:		•			:		
PURGE TIME				BROWN	, NO C	DOR						
	1151	COMME	NIS:			1				f		
	5.75							-				
DTW (FEET)	4.50											
			10.10.00	SA	MPLING DA	TA						
SAMPLE DATE	3.20.18		R CONDITI									
8					1D' 830							
OTW (FEET)	ვ.5∞	WATER A	\PPEARAN(CE / ODOF	R:							
SAMPLE TIME	1550	COMME	NTS:									
	1000			S	AMPLE LO							
SAMPLE ID	TIME	(CONTAINER	R TYPE	NU	MBER OF (CONTAINER	S	PRESERVATI	VE		
MKTF-28	155		40 ML VOA			5			HCL			
			1 LITER AM			1			NEAT			
			250 ML AN 250 ML PL			1 1			NEAT HNO ₃			
			250 ML PL 125 ML PL		, . ,	1	-		HNO ₃			
			125 ML PL			1			H ₂ SO ₄			
			125 ML PL			1			NEAT			
												
NSTRUMENTS U		OΠ / ///Ψ.										
	USED (~:-/ VVA	IER INTERI	FACE PRO	BE	3-E-10-10-10-10-10-10-10-10-10-10-10-10-10-						
	_		TER INTERI UALITY ME		BE							

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	6		
MKT	F-29	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.20.18	Initial	1254	8.08	24.0	2,48	1.6445	1:38	5.11	32.1
GAUGE TIME	1247	1	1258	7.38	19.2	2.23	1.6 315		1.91	29.2
DHC (FEET)	ND	2	1303	7.35	183	2.18	1.6315	1.30	2.05	26.1
DTW (FEET)	-	3	-						4.17	•
	3,98	4	1308	7.34	17.7	2.17	1.6185	1.29	7,1	30.2
DTB (FEET)	22.82									
DTB - DTW	18.84	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
3.0	1.71 - 17.77			PU	JRGING DA	.TA	<u> </u>			
3 WELL		WEATHE	R CONDIT	IONS:						
VOLUMES	9.21				UIND, 8	32°				
PURGE DATE			APPEARAN							
FORGE DATE	8.20.18			TO LI	GHT L	BROWN,	NO	DOOR		
END OF PURGE TIME	1308	СОММЕ	NTS:	-		•				
PURGE AMOUNT	9.25									
DTW (FEET)	13.95									
			•	SA	MPLING DA	ATA	•			
OAMEDI E DATE		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	8.20.18	SA	ME A	S AB	OVE					
DTW (FEET)			APPEARAN							•
	5,30	COMME	AR, N	10 00	OR					
SAMPLE TIME			ECTED	DIP	02					
	•	<u> </u>	LI LT		AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NL	MBER OF	CONTAINER	RS	PRESERVATI	VΕ
MKTF-29	133	5	40 ML VOA	١		5			HCL	
			1 LITER AM			2			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		•	1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
<u> </u>	<u> </u>		125 ML PL	ASTIC		1			NEAT	
INSTRUMEN [*]	IS LISED	OIL / \\/\	TER INTER	FACE PRO	RF	<u> </u>				
HAOTIVOINEIN	_		UALITY ME			<u>.</u> .			*** **********************************	
			(- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -							
										

COMPLETED BY: TRACY PAYNE

WE	LL ID						RAMETERS	3				
MKT	F-30	Volumes	TIME	pН	Temperature Degrees C	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)		
GAUGE DATE	8.20.18	Initial	0948	7.30	18.1		2.2620	1.84	2.49	11.6		
GAUGE TIME	0942	1	0951	7:26	17.2	***	2.3140		2.52	22.6		
DHC (FEET)	ND	2	0954		170		2.3270		3.81	32.5		
DTW (FEET)	14.85	3			LED D							
DTB (FEET)	23.20	4		2		<u> </u>	3.15	5 CAG				
DTB - DTW	8.35	5										
CAPACITY PER	0.74 - 4"	6						-				
FOOT	0.163 - 2")											
1.36			<u>.</u>		JRGING DA	TA						
3 WELL VOLUMES	4,08		R CONDIT		_ , ,							
VOLUMES	9,00	WATER	AR, EAS APPÉARAN	CF / ODO	<u>D, 64°</u> R:				**************************************			
PURGE DATE	8.20.18				TURN		าผม					
END OF		СОММЕ) · = · · · ·							
PURGE TIME	0958	-				**						
PURGE AMOUNT	3.75											
AWOON	<u> </u>											
DTW (FEET)	22.80											
				SA	MPLING DA	ATA .						
SAMPLE DATE			R CONDITI		. 0							
0/11/11/22/0/11/2			AR, CAL						· · · · · · · · · · · · · · · · · · ·			
DTW (FEET)	14.96	WAIER	APPEARAN	CE / ODOI	K:							
		COMME	NTS:									
SAMPLE TIME	1100	COLLE	CTED 1	FB02@	21010	COLLEL	TEDE	1302 E	2 /035			
				S	AMPLE LO	G						
SAMPLE ID	TIME		CONTAINE		NU	IMBER OF	CONTAINER		PRESERVATI	VE		
MKTF-30	1100		40 ML VOA			5			HCL			
			40 ML VOA	<u> </u>		3			$NA_2S_2O_3$			
			1 LITER AM	1BER		1			NEAT			
			250 ML AN	1BER		1			NEAT			
			250 ML PL	ASTIC		1			HNO ₃			
			125 ML PL	ASTIC		1		, , , ; , , , , , , , , , , , , , , , ,	HNO ₃			
			125 ML PL	ASTIC		1			H ₂ SO ₄			
			125 ML PL			1			NEAT			
INSTRUMENT	S USED €		TER INTER		BF				· · · · · · · · · · · · · · · · · · ·			
II CONCINE	-		UALITY ME	.,								
		*** * (Im l'	C (() 14 L	- 1 1 \		<u>.</u>						
									,			

COMPLETED BY: TRACY PAYNE

WE	LID					TEST PA	RAMETERS	3		
MKT	F-31	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.17.18	Initial	1041	7.24	20.5	2.70	1,4240	1,54	2,92	6.7
GAUGE TIME	1035	1	1046	7.10	14.3	Z.90	2.1190	1.71	1.44	23.5
DHC (FEET)	ИD	2	1049	7.09	19.3	2.87	2.0930	1.69	2.43	34.8
DTW (FEET)	8,29	3	1052	7.10	19.3	2.84	2.0735	1.67	4.24	37.9
DTB (FEET)	19.35	4								
DTB - DTW	11.00	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	(0.163 - 2")									
1.80)				JRGING DA	TA				
3 WELL VOLUMES	5.40		ER CONDIT		69°					
PURGE DATE	8.17.18		appearan <i>Llear</i> ,							
END OF PURGE TIME	1052	COMME								
PURGE AMOUNT	6 GALS									
DTW (FEET)	10.45									
			<u>"</u>	SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:			#4#****		·	
	8.17.18	Sal	ne As	ABOVE	<u> </u>					
DTW (FEET)	9.02		APPEARAN EAR	•						
		COMME		NO 000				· · · · · · · · · · · · · · · · · · ·		
SAMPLE TIME	1110									
					AMPLE LO				· ***	
SAMPLE ID	TIME		CONTAINE		NL	IMBER OF (CONTAINER		PRESERVATI HCL	VE
MKTF-31	1110		40 ML VOA 40 ML VOA			5 3			NA ₂ S ₂ O ₃	
			1 LITER AN			1			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			<u>+</u> 1			HNO ₃	····
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			NEAT	
INSTRUMENT	S USED		TER INTER		BE				·	
	-		UALITY ME		- -					
										

COMPLETED BY: TRACY PAYNE

WE	LL ID	<u> </u>	a			TEST PA	RAMETERS	3		 				
MKT	F-32	Volumes	TIME	pН	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)				
GAUGE DATE	8.28.18	Initial	10001	7.74	Degrees C	(ms/cr	ì	1 22	Oxygen (mg/L)	400				
GAUGE TIME	1548	1	1554			2.29	1:6705		0.95	40.9				
DHC (FEET)		2	1558	7.69	15.7	2.24	1.7680		0.98	43.7				
	ND		1604	7.70	14.9	2.21	1.7875	***	0.93	42.1				
DTW (FEET)	14.09	3	1609	7.71	14.8	217	1.7810	1,43	1,10	38.7				
DTB (FEET)	27.77	4												
DTB - DTW	13.68	5												
CAPACITY PER		6												
FOOT	0.163 - 2"							ı						
2.23)				JRGING DA	TA								
3 WELL	1-10		R CONDIT											
VOLUMES	6.69	CLEA	ir, wes	TWIN	<u>2, 80°</u>									
PURGE DATE	8.28.18		APPEARAN											
	0.2010	COMME	NTC:	<u> </u>	DOK,	TURNS	LT. 13	ROUN	·					
END OF PURGE TIME	1609	COMM	NIS.											
PURGE	,,,,													
AMOUNT	6.75													
DTW (FEET)	25.20													
	· · · · · · · · · · · · · · · · · · ·			SAI	MPLING DA	\TA								
		WEATHE	R CONDITI	ONS:										
SAMPLE DATE	8.28.18	SAI	ME AS	ABOV	E									
DTW (FEET)	l l		PPEARAN											
DIW (I LLI)	22.95		ne as	ABOV	Ξ									
SAMPLE TIME	1635	COMME	NTS:											
<u> </u>	ا ددها			9	AMPLE LO	3								
SAMPLE ID	TIME		CONTAINER				CONTAINER	RS.	PRESERVATI	VF				
MKTF-32	1635		40 ML VOA		,,,	5			HCL					
			40 ML VOA			3			$NA_2S_2O_3$					
			1 LITER AM	IBER		1	0.00		NEAT					
			250 ML AM	1BER		, 1			NEAT					
			250 ML PL	ASTIC		1			HNO ₃					
			L25 ML PL	ASTIC		1			HNO ₃					
		-	L25 ML PL	ASTIC		1			H ₂ SO ₄					
1	↓		L25 ML PL	ASTIC		1			NEAT					
INSTRUMENT	rs used	OIL / WA	TER INTERI	FACE PRO	BE									
	Ī	WATER Q	UALITY ME	TER				,,,						

				_										

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
MKT	F-33	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/c.►	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8-29.18	Initial	1416	7.50	15.9	2.16	1.6835	1.34	1.00	75.8
GAUGE TIME	1409	1	1420	7.35	14.0	1.34	1,0985		1.29	785
DHC (FEET)	ND	2	1425	7.28	13.7	1.30	1.0725	0.84	1.19	83.0
DTW (FEET)	22.91	3	1430	7.28	13.6	1.27	1,0660	6.83	1.29	84.5
DTB (FEET)	33.23	4								
DTB - DTW	10.32	5								
CAPACITY PER	0.74 - 4"	6		-						
FOOT	0.163 - 2"	-								-
1.68					JRGING DA	TA	44.57	,		
3 WELL VOLUMES	5.04		R CONDIT		ND, 80	Ð				
VOLOIVILO			APPEARAN							
PURGE DATE	8.29.18			-	TURK	IS BR	OUN			
END OF PURGE TIME	1430	COMME	NTS:	,	,					
PURGE	7730									
AMOUNT	5.25									
DTW (FEET)	27.30									
				SA	MPLING DA	NTA				:
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
OAMI LE BITTE	8.30.18	CLEA	APPEARAN	M, 6:	3°					
DTW (FEET)	22.94				R:					
		COMME	<i>r, HC</i> nts:	DDOK_						
SAMPLE TIME	1010		LECTEL	DU DU	P09					
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE			MBER OF (CONTAINER		PRESERVATI	VE _.
MKTF-33	1010		40 ML VOA			5			HCL	
			40 ML VOA	·		3			$NA_2S_2O_3$	
			1 LITER AM	IBER		2			NEAT	
			250 ML AN	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO₃	
		· · · · · · · · · · · · · · · · · ·	125 ML PL	ASTIC		1			H ₂ SO ₄	
		-	125 ML PL	ASTIC		1			NEAT	
INSTRUMEN	TS USED (OIL / WA	TER INTER	FACE PRO	BE		···· ·			
			UALITY ME							
										
 	-			-						

COMPLETED BY: TRACY PAYNE

WE	LL ID		· 			TEST PA	RAMETERS	3		
MKT	F-34	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.23.18	Initial	0900	7 57	15.4	1.64	1,3065	103	4,96	69.6
GAUGE TIME		1	0904	7.48		1.59				
DHC (FEET)	0847	2					1.2870		4:61	75.9
	ND		0908		14.4		1.2935		430	<i>80.</i> 8
DTW (FEET)	18.75	3	0912	7.50	14.1	1.58	1.3000	1.03	0.86	81.7
DTB (FEET)	27.70	4								
DTB - DTW	8.95	5		_						
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"		,							
1.46					JRGING DA	TA	·			
3 WELL		_	R CONDIT		- 6					
VOLUMES	4,38		EAR, CA APPEARAN							
PURGE DATE	8.23.18			•	•	. N. N. M.	A DAR			
END OF		COMME	ビAR -> NTS:	HOLL	1 PKO	ωO , κc	OWK			,
PURGE TIME	0912	-								
PURGE	_		•							
AMOUNT	4.5								_	
DTW (FEET)	25.95									
				SAI	MPLING DA	\TA		,		
CALUDI E DATE		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	8.24.18		iy wo	LOUDY	CALM	56°				
DTW (FEET)		WATER A	APPEARAN	CE / ODO	₹:					
	23.03		AR, NO	ODOR						
SAMPLE TIME	0740	COMME		D0 s						
	0 170	COLLE	CTED	DUPO	AMPLE LO	3				-
SAMPLE ID	TIME		CONTAINE			IMBER OF (CONTAINFF	RS	PRESERVATI	VE
MKTF-34	0740		40 ML VOA		, 10	5			HCL	
	<u> </u>		40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AN			2			NEAT	
			250 ML AN	/BER		1			NEAT	
			250 ML PL	ASTIC	· ·	1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC	1	1			H ₂ SO ₄	
—	↓		125 ML PL	ASTIC	1	1			NEAT	
INSTRUMENT	_		TER INTER		BE					
		WATER Q	UALITY ME	TER						

COMPLETED BY: TRACY PAYNE

SIGNATURE

55-

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
MKT	F-35	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/C.	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.23.18	Initial	1351	SHE	EN ON	PURGET		R		
GAUGE TIME	1343	1	•							
DHC (FEET)	GR.	2								
DTW (FEET)	8,86	3								
DTB (FEET)	16.48	4								
DTB - DTW	7.62	5								
CAPACITY PER	0.74 - 4"	6		:		:				
FOOT	0.163 - 2"	Ů		_						
1.2					JRGING DA	TA				
3 WELL VOLUMES			R CONDIT			.,0				
VOLUMES	3.72	<u>しん</u> WATER	<i>LIDY IV</i> APPEARAN	CE / ODO	<i>W/ND, T</i> R:	//				
PURGE DATE	8.23.18					rns Gre	EY. SH	HEEN		
END OF		COMME			, , , , ,		''''			
PURGE TIME	/358			····						
PURGE AMOUNT	3.75									
DTW (FEET)	9.30									
	*			SAI	MPLING DA	ATA				
SAMPLE DATE	0 22 12	WEATHE	R CONDITI	ONS:						
CANTILL DATE	8.23.18				ABOVE	<u> </u>				
DTW (FEET)	8.87		APPEARAN	•						
		COMME	<i>ar, hc</i> nts:	CODOR	<u> </u>					
SAMPLE TIME	1500			FB05 6	21410	COLLE	CTED E	B05@	1430	
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU	IMBER OF C	ONTAINER		PRESERVATIV	/E
MKTF-35	1500		40 ML VOA	\		5			HCL	
			40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AM	1BER		1			NEAT	
			250 ML AN	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			L25 ML PL	ASTIC		1			H ₂ S0 ₄	
-	V		L25 ML PL	ASTIC		1			NEAT	· · · · · · · · · · · · · · · · · · ·
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE					1.
	ī	WATER Q	UALITY ME	TER				 		
		_								
	· · · · · · · · · · · · · · · · · · ·									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	S		
MKT	F-36	Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial		SHEE	İ -	LIRGED		R	OAYSCII (IIIS/ E)	
GAUGE TIME	0945	1				GS WE			=D	
DHC (FEET)	DN	2		NO K	CHD TK	33 140	- 	1		
DTW (FEET)		3								
	6.52	4		i						
DTB (FEET)	15.43				<u> </u>					
DTB - DTW	8.91	5		!						
CAPACITY PER FOOT	0.74 - 4"	6								
1.45		L		l Pl	urging DA	\TA				
3 WELL		WEATHE	R CONDIT						<u> </u>	
VOLUMES	4.35		R, SE		640					
DUDOE DATE	_		APPEARAN							
PURGE DATE	9.5.13	CLEAR	R, HC.	ODOR,	SHEEN	, Beco	mes G	REY		·····
END OF	1000								,	
PURGE TIME	1000	WEL	L LOCA	TED	B'9"	FROM	EDGE	OF	CONCRE	TE
PURGE AMOUNT	4.5									
DTW (FEET)	13.79									
	1		>	SA	MPLING D	ATA				
CAMBLE DATE	A = .0	WEATHE	R CONDITI	IONS:						,
SAMPLE DATE			AS A				·-···			
DTW (FEET)	8.55	WATER A	PPEARAN	CE / ODO	R:					
-		COMME	NTS:							
SAMPLE TIME	1045		ECTEÎ	Du	D 17					
1	<u> </u>				AMPLE LO	G				· · · · · · · · - · ·
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	JMBER OF (CONTAINER	RS	PRESERVATI	VE
MKTF-36	1045		40 ML VOA	1		5			HCL	
		4	40 ML VOA	\		3			NA ₂ S ₂ O ₃	
			1 LITER AN	1BER		#4	2		NEAT	
			250 ML AN	/BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
		-	125 ML PL	ASTIC		1			HNO ₃	
		. :	125 ML PL	ASTIC		1			H ₂ SO ₄	
	- +	-	L25 ML PL	ASTIC		1			NEAT	
INSTRUMENT	S USED		TER INTER		BE					
	_		UALITY ME						- · · · · · · · · · · · · · · · · · · ·	pte
	<u> </u>									
		7.22								* ***

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-37	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/C)	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	8.23.18	Initial		QHI	EN ON			TER	Oxygen (mg/L)	
GAUGE TIME	1135	1								
DHC (FEET)	ND	2			1			ADINGS		
DTW (FEET)		3		•	BHILED	DOWN	A / /	5 GALS	>	
	8.70					:				
DTB (FEET)	24.59	4					`			
DTB - DTW	15.89	5								
CAPACITY PER		6								
FOOT	0.163 - 2"							,		
2.5	9	r:::::::::::::::::::::::::::::::::::::			JRGING DA	TA				
3 WELL VOLUMES	7.77	WEATHE	R CONDIT	IONS:	B441417	7,0				
VOLUMES	7, 1, 1	WATER	APPEARAN	CE / ODO	DWIND	, ()				
PURGE DATE	8.23.18	Ĭ		•		200	~//			
END OF	,	COMME	NTS:	GREY,	HC OL	JOR, S	HEEN			····
PURGE TIME	1155			משסכ	AT 7.5	GALS				
PURGE	,,,,									
AMOUNT	7.5									
DTW (FEET)	24.45									
				SAI	MPLING DA	TA				
CAMBLE DATE		WEATHE	R CONDITI	ONS:						**
SAMPLE DATE	8.23.19	SAM	EAS	ABOVE						
DTW (FEET)	. 1	WATER A	PPEARAN	CE / ODOF	₹:					
(== . ,	20.35	201414=								
SAMPLE TIME		COMME								
	1230	<u> COU</u>	ECTED	DLIFE	AMPLE LOG					
SAMPLE ID	TIME	-	CONTAINER			MBER OF (ONTAINE	96	PRESERVATIV	/ C
MKTF-37	(230		40 ML VOA		NO	5	ONTAINL		HCL	V C
I I	1230		40 ML VOA			3	 		$NA_2S_2O_3$	
			LLITER AM			4	7		NEAT	·
			250 ML AM			1	<u></u>		NEAT	
			250 ML PL			1		 	HNO ₃	
			L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	
			L25 ML PL			1			NEAT	
INSTRUMENT	S USED		TER INTERI		BE		-			
	_		UALITY ME						·	
				·		· · · · · · · · · · · · · · · · · · ·				
										

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MK	ΓF-38	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/LM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	821.18	Initial	1411	7.03	20.8	2.00	1.4105	1.11	1.03	140.6
GAUGE TIME	1400	1	1414	6.97	20.7	2.19	1.5535	1.23	1.07	141.6
DHC (FEET)	ND	2	1418	7.01	20.5	2.27	1.6185	1.28	1.19	136.6
DTW (FEET)	8.15	3	1422	7.02	20.5	2.31	1.6445	1.31	4.72	130.0
DTB (FEET)	20.27	4								
DTB - DTW	12.12	5								
CAPACITY PER		6								
FOOT	0.163 - 2"			- Di	IDOUNG DA	T 4				· · · · · · · · · · · · · · · · · · ·
198		NA/EATLIE	D OONET		JRGING DA	IA.				······································
3 WELL VOLUMES	5.44		R CONDIT		ND, 69	, 0				
	~. 11	WATER	APPÉARAN	CE / ODO	R:	<u></u>			-	-
PURGE DATE	8.21.18		AR, NO							
END OF		COMME	NTS:						4. ************************************	
PURGE TIME	1422								- 44	nya
PURGE AMOUNT	6.0 GALS					**************************************				1
DTW (FEET)	10.72									
	I			SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	8.21.18	CLOU	Y, WES	THIM TO),70°					
DTW (FEET)	8.10		APPEARAN	=						
		COMME		8 800						
SAMPLE TIME	1525			FB03	@ 143C	DAND	EBO3 (1450		:
				S	AMPLE LO		ECTED		03	
SAMPLE ID	TIME		CONTAINE		NL	MBER OF	CONTAINER		PRESERVATI	VΕ
MKTF-38	1525		40 ML VOA			5			HCL	
			1 LITER AM			2			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		·	1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
+	+		125 ML PL	ASTIC		1		***	NEAT	
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE		<u>.</u>			
	_		UALITY ME							
<u></u>		-Q	, _ , , , , , , , , , , , , , , , ,							

COMPLETED BY: TRACY PAYNE

GAUGE TIME DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	3.21·18 1614 ND 3.33 15.20 6.87 0.74-4" 0.163-2")	Volumes Initial 1 2 3 4 5	TIME 1618 1620	DISC	Temperature Degrees C ZZ.9 EEN OO DNTI NUE	TAW U	3.8415 ER	Salinity (ppt) 3.2/	Dissolved Oxygen (mg/L) 0.32	ORP (mv)
GAUGE TIME DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	1614 ND 8.33 15.20 6.87 0.74-4" 0.163-2")	1 2 3 4 5		SHI	ZZ.9 EEN O	5.68 U WAT D WAT	3.8415 ER	3.21		-/05,2
DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	ND 8.33 15.20 6.87 0.74-4" 0.163-2")	2 3 4 5		SHI	DULL HAR	TAW U	ER	<u> </u>	0.52	,,,,,,
DHC (FEET) DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	ND 8.33 15.20 6.87 0.74-4" 0.163-2")	3 4 5		DISC	DULU NATE	TAW Q				
DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	3.33 15.20 6.87 0.74 - 4" 0.163 - 2")	4 5					C1\			
DTB (FEET) DTB - DTW CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	(6.87 (0.74 - 4" (0.163 - 2")	5		G	MUTIC		L			
CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	6.87 0.74 - 4" 0.163 - 2")	5				READ:	1002			
CAPACITY PER FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	0.74 - 4" 0.163 - 2")									
FOOT 1.12 3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	0.163 - 2")	6				•				
3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE	3									
3 WELL VOLUMES PURGE DATE END OF PURGE TIME PURGE			:	Pl	JRGING DA	TA				
PURGE DATE END OF PURGE TIME PURGE		WEATHE	R CONDIT	IONS:		* 1				
END OF PURGE TIME PURGE	3.36	PART	LY CLE	DUDY,	WEST D	,0411	75°			
END OF PURGE TIME PURGE	8.21.18		APPEARAN	-			_			
PURGE TIME 1		CLE		REY	SHEEN	, HC O	DOR			
	625	COMME	NIO:							
	3.5									
DTW (FEET)	0.10				·			• .		
•				SAI	MPLING DA	TA				
SAMPLE DATE	3.21.18		R CONDITI							
10			PPEARAN							
OTW (FEET)	8.75	WAILK	u i Exivaiv	OL / ODOI	\ .					
SAMPLE TIME	635	COMME	NTS:							
	<u>-</u>			S	AMPLE LO	3	· 	F		M
SAMPLE ID	TIME		CONTAINER		NL	MBER OF	CONTAINER		PRESERVATI	VE
MKTF-39	Mag 16		40 ML VOA			5			HCL	
			L LITER AM						NEAT	
			250 ML AM 250 ML PL			1			NEAT	
			250 ML PL L25 ML PL			1	.		HNO ³	
			L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO₄ NEAT	
▼	▼			7.0110		<u> </u>		I	112/11	
NSTRUMENTS L		OIL / WA	TER INTERI							
	USED (FACE PRO	BE					
	_	WATER Q	UALITY ME		BE					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	5		
MKT	F-40	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.17.18	Initial	0807	7.24	16.9	4.66	3.5815	2.99	7.08	71.0
GAUGE TIME	0758	1	0810	7.20	16.0	5.64	4.330	3.76	3.93	88 .5
DHC (FEET)	ND	2	0813	7.11	15.1	8.35	080T.0	5.86	4.58	99.4
DTW (FEET)	12.83	3	0817	7.15	14.3	9.45	7.7155	6.81	4.90	1025
DTB (FEET)	23.54	4		BAI	LED T	A 4000	τ 5 .75	GALLO	NS	
DTB - DTW	10.71	5								
CAPACITY PER		6								
FOOT	0.163 - 2")		:		IDOING DA	-				
1.75		NATE AT LE	D CONDIT		JRGING DA	.IA				
3 WELL VOLUMES	5.25		ER CONDIT		, , 0					
	9.25	WATER	UDY CAPPEARAN	CE / ODÓ	<u>61</u> R:					
PURGE DATE	8.17.18				BROW	NO NO	ODOR	*		
END OF PURGE TIME	0821	COMME								:
PURGE	0021					<u> </u>	·			
AMOUNT	5.75				 	· · · · · · · · · · · · · · · · · · ·				
DTW (FEET)	23.15									
				SA	MPLING DA	\TA				
SAMPLE DATE	I		R CONDITI		_					
SAMI LE DATE	8.17.18	CLOU	IDY, CA	LM, 7	<u>ဗ်</u>					
DTW (FEET)	21.30		APPEÀRAN	-						
		COMME	NTS.)	ODOR	<u> </u>					
SAMPLE TIME	1145	COMMI	110.							
				S	AMPLE LO	G		,		
SAMPLE ID	TIME		CONTAINE		NL	_	CONTAINEF		PRESERVATI	VE
MKTF-40	1145		40 ML VOA 40 ML VOA			5 3			HCL NA ₂ S ₂ O ₃	
			1 LITER AM			1			NEAT	
			250 ML AN			<u>_</u>			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		·	1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			NEAT	
INSTRUMEN	rs used		TER INTER		BE	···		·-		
	-		UALITY ME							
								· · · · · · · · · · · · · · · · · · ·		

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MKT	F-41	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CH	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.29.18	Initial	1209	8.53	16.4	2.70	2,0995	1.70	3,66	32.8
GAUGE TIME	1115	1	1214	8.11	15.4	2.63	2.0930	1.70	1127	47.0
DHC (FEET)	ND	2	1221	8.10	14-1	2.53	2.0800	1-68	1.01	540
DTW (FEET)	20.32	3	1229	8./1	14.0	2.52	2,0865	1.69	1.04	55,0
DTB (FEET)	39.74	4	•							
DTB - DTW	19,42	5								
CAPACITY PER		6								
FOOT	0.163 - 2"			DI	IDCING DA	TA				
3.1		VA/EATUE	D CONDIT		JRGING DA	.IA				
3 WELL VOLUMES	9.51		R CONDITI		NIND,	ප ට ි				
PURGE DATE	8.29.18	WAIER	APPEARAN	CE / ODO	K:					
END OF	02.10	COMME	AR, MO NTS:	ODO A					·····	<u> </u>
PURGE TIME	1229									
PURGE AMOUNT	9.75									
DTW (FEET)	34.30									
				SA	MPLING DA	ATA .				
SAMPLE DATE	8.29.18		R CONDITI							,
			NE AS A							, , , , , , , , , , , , , , , , , , ,
DTW (FEET)	33.40		rfearain R AS A	-						
0.140 5 71145		COMME		100/2						
SAMPLE TIME	1250							<u></u>		
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NL		CONTAINER		PRESERVATI	VE
MKTF-41	1250		40 ML VOA			5			HCL	
			40 ML VOA			3			NA ₂ S ₂ O ₃	
			1 LITER AN						NEAT	···-
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ³	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
↓	♦		125 ML PL		DE .	1			NEAT	
INSTRUMENT	_		TER INTER		BE					
		VVAIER	UALITY ME	IEK						

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3	·	
MKT	F-42	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.29.18	Initial	0800	8.31	13.8		2.3855	1.95	0.44	23,5
GAUGE TIME	0745	1	0804	8.63	13.6		2.4050	1.96	57,0	22.1
DHC (FEET)	ND	2	0810	7.95	13.2	2.83	2.37 2.5	1.93	0.73	2 7.7
DTW (FEET)	16.75	3	0817	7.94	13.0	2.80	2.3595	1.92	0.74	24.5
DTB (FEET)	33.20	4								
DTB - DTW	16.45	5							=	
CAPACITY PER	0.74 - 4"	6								
FOOT	(0.163 - 2")									
2.60	9	1475 A TI 15			URGING DA	TA				
3 WELL VOLUMES	8.04		R CONDIT		. 0					
VOLUNIES	0.07	WATER	<i>AR, LA L</i> APPEARAN	CE / ODO	R:					
PURGE DATE	8.29.18		ER, H	•						
END OF		СОММЕ								
PURGE TIME	0817						· · · · · · · · · · · · · · · · · · ·			
PURGE AMOUNT	8.25									
DTW (FEET)	26.95									
		,		SA	MPLING DA	NTA				
SAMPLE DATE			R CONDIT			•				
	8.29.18		PE AS A		D.					
DTW (FEET)	_ ~ ~ _			-						
	0930	COMME	<u>PER, H</u> NTS:	C 0001						
SAMPLE TIME	25.50					30 & E	308 @ C	0850 L	DUPOS	3
					SAMPLE LO					
SAMPLE ID MKTF-42	TIME		CONTAINE 40 ML VOA		NL	IMBER OF 5	CONTAINEF		PRESERVAT HCL	IVE
WK1F-42	0930		40 ML VOA			3			$NA_2S_2O_3$	
			1 LITER AN			2			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
+	o		125 ML PL	ASTIC	, 	1			NEAT	
INSTRUMEN	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
	<u> </u>	WATER (UALITY ME	ETER						

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X7-

WE	LL ID					TEST PA	RAMETERS	3		
MK	TF-43	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)CH	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.29.18	Initial	1320	7.83	19.5	9.23	6.6950	5.84	4.32	н.7
GAUGE TIME	1315	1	1324	7.38	18.0	11.12	8.3395		0.98	-1.5
DHC (FEET)	Ди	2	1328	7.15	17.3	12.50	9.5225		0.98	19.8
DTW (FEET)	2,55	3	1332	7.01	16.9	9.62	7.3970		2.06	67.9
DTB (FEET)	15.41	4	1337	6.98	15.8	19.60	15.4310	14.43	1.42	84.6
DTB - DTW	12.86	5			13.0			11.10	*	
CAPACITY PER	0.74 - 4"	6	47							
FOOT	0.163 - 2*			_						·
2.1	0	lare a error			JRGING DA	TA				
3 WELL VOLUMES	6.30	l	R CONDIT		- 0-9	•				
	Ψ. Ο	WATER A	APPEARAN	ICE / ODO	<u>ට පිට[°]</u> R:					
PURGE DATE	829.18				NO OI	OR				
END OF		COMME	NTS:		•					
PURGE TIME	1344	BA	ILED D	<u> </u>	106	<u>445</u>				
PURGE AMOUNT	10									
DTW (FEET)	141.89									
	<u> </u>			SA	MPLING DA	\TA				
SAMPLE DATE			R CONDIT							
,	8.30.18		DY, CA						· · · · · · · · · · · · · · · · · · ·	
DTW (FEET)	1		APPEARAN	•						
	2.01	COMME	4 <i>R, NO</i> NTS:							
SÄMPLE TIME	0910									
					AMPLE LO					<u></u>
SAMPLE ID MKTF-43	TIME		CONTAINEI 40 ML VOA		NU	IMBER OF 5	CONTAINER		PRESERVATI HCL	VE
WK17-43	091	<u> </u>	1 LITER AM			1			NEAT	
			250 ML AN			<u></u> 1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL						H ₂ SO₄	
	<u> </u>		125 ML PL			1			NEAT	
INSTRUMENT	-		TER INTER		RE					
		WATER Q	UALITY ME	TER						
	**									t

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
MK	ΓF-44	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CA	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.29.18	Initial	1017	7.84	15.1	2.40	1.9240	h.55	2.47	60.5
GAUGE TIME	1010	1	1024	7.75	13.8	2.40	1.9760	159	0.85	59.1
DHC (FEET)	D	2	1033	7.79	13.7	2.43	1.9955	1.61	1.42	<i>5</i> 8.9
DTW (FEET)	33.40	3		BAIL	ED DO	32 @	7.5 GA	رح		•
DTB (FEET)	51.20	4								
DTB - DTW	17.80	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"					<u> </u>				
2.9	0	MEATILE	D CONDIT		JRGING DA	TA				
3 WELL VOLUMES	8.70		R CONDIT		ND, VC	,0				
DUDGE DATE		WATER /	APPEARAN	CE / ODO	R:					
PURGE DATE	8.29.18			LT B	ROWN,	NO OD	OR			
END OF PURGE TIME	1044	СОММЕ	NTS:		·					
PURGE AMOUNT	7.5									:
DTW (FEET)	50.72									
				SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
SAIVII EL DATE	8.30.18	CLOU	IDY, CA	LM, 5	86					
DTW (FEET)	48.51									
	-10.01	COMME	NTS:	COUR						
SAMPLE TIME	୦୫35									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NL		CONTAINER		PRESERVATI	VE
MKTF-44	093	<u> </u>	40 ML VOA 1 LITER AM			<u>5</u>			HCL NEAT	
			250 ML AM			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		 	1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
	<u> </u>		125 ML PL			1			NEAT	
							***		-	
INSTRUMENT	_		TER INTER		BE				· · · · · · · · · · · · · · · · · · ·	
	·	WATER Q	UALITY ME	TER	 					
						PW.				÷

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
MKT	F-45	Volumes	TIME	Нq	Temperature Degrees C	Conductivity (mS) CA	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.16.18	Initial							M6/	<u></u>
GAUGE TIME	1156	1		-						
DHC (FEET)	13.15	2		WELL	_ NOT	SAM	PLED			
DTW (FEET)	13.58	3		0.43	S FEE	TOF	SPH	PRESE	NT	
DTB (FEET)	30.33	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								l
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE	:	WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:	· · · ·						<u> </u>
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	ATA .				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	MBER OF	CONTAINE	RS	PRESERVATI	VE
							,			
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	ВЕ					
	COMPLET	ED BY:	TRAC	Y PAY	(NE	SIG	NATURE:	N.	<u> </u>	

WE	LL ID					TEST PA	RAMETERS	3		16/2	_
M'	W-1	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/CA	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	9.13,18	Initial	1115	9.61	15.2	0.93	0.7345	0.57	3,44	28.	1
GAUGE TIME	1110	1	1150	8.93	14.7	0,90	0,7215		2.22	58.	•
DHC (FEET)	ND	2									
DTW (FEET)	7.75	3	·								
DTB (FEET)	KRANGE S	4									
130.83 DTB - DTW	123,08	5									
CAPACITY PER FOOT		6									
125.5	, 4	-		P	URGING DA	TA				·	
3 WELL			R CONDIT				0			·	
VOLUMES	376.62					11ND, 7	17.				
PURGE DATE	9.13.18	ł	APPEARAN	-							
END OF	•	COMME	<u>ar, no</u> nts:	OVOK	-						
PURGE TIME	1246	PL	IMPED	Dow	N@Z	256	115				
PURGE AMOUNT	225 GAL	5 _			ERED			2			
DT W (FEET)	126.80									` .	
		<u> </u>		SA	MPLING DA	\TA					
0.4.4.B. E. D.4.T.E.		WEATHE	R CONDIT	IONS:	· · · · · · · · · · · · · · · · · · ·						
SAMPLE DATE	9.13.18	CLEA	R, WE	ST WIN	0 810						
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:						
	16.60	COMME	AR, NO	000	<u>r</u>						
SAMPLE TIME	1310	OOMINE	110.								
				S	SAMPLE LO	G		at a			
SAMPLE ID	TIME		CONTAINE		NU		CONTAINER		PRESERVATI	VE	
MW-1	1310		40 ML VOA			5			HCI		
			1 LITER AN						NEAT NEAT		
	_		250 ML AN 250 ML PL			1			HNO ₃		
			250 ML PL 125 ML PL								
						1			HNO ₃		
			125 ML PL		· · · · · · · · · · · · · · · · · · ·	1			H ₂ SO ₄		
			125 ML PL			1 1			NEAT NaOH		
NOTE IN A SEC	↓		500 ML PL			1			INAUFI		
NSTRUMEN	-		EVEL MET		····						
		WATER Q									

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3	······································	
M	W-2	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS) Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (#3)	RP (mv)
GAUGE DATE	9.13.18	Initial	1405	8.98	15.9	0.96	0.7540	0.58	1.86	76.9
GAUGE TIME	1400	1	1455	8.88	16.1		0.7475	0.57	1.00	75.6
DHC (FEET)	ND	2	1545	8.91	15.9	0.94	0.7410	0.57	0.81	70.4
DTW (FEET)	17.25	3	1640	8.93	15.6	0.93	0.7345	0.57	0.65	66.4
DTB (FEET)	XXXXXX	4					`			
137.48 DTB DTW	120.23	5								
CAPACITY PER FOOT	1.020-5"	6								
12:	2.63		1 - 1 - 1 - 1	Pl	URGING DA	TA				
3 WELL		WEATHE	R CONDIT	IONS:						
VOLUMES	367.89	CLEA	R, WE	57 W	(ND) <u>83</u> R:	30				····
PURGE DATE	9.13.18									
END 0E		COMME	AR, NO	ODE	or_				· · · · · · · · · · · · · · · · · · ·	
END OF PURGE TIME	1640	OOIVIIVIL								
PURGE AMOUNT	370									
DTW (FEET)	106.05									
	•			SA	MPLING DA	ATA				
SAMPLE DATE			R CONDIT			· . · . · . · . · . · . · . · . · . · .		··		
SAIVIPLE DATE	9.13.18	CLEAR	, WEST	WIND,	83°					
DTW (FEET)	106.05	WATER A	APPEARAN	CE / ODO	R:					
ŀ	·	COMME	4 <i>R, NO</i>	ODO	<u> </u>					
SAMPLE TIME	1645	0011111121								
				S	AMPLE LO	G				· · · · · · · · · · · · · · · · · · ·
SAMPLE ID	TIME		CONTAINE		NL		CONTAINER	RS	PRESERVAT	IVE
MW-2	1645		40 ML VOA			5			HCI	
			1 LITER AN				•		NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			NEAT	
<u></u>	↓		500 ML PL			1			NaOH	
NSTRUMENT	_		EVEL METE							
		NATER Q	UALITY ME	TER						

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		61
M۱	N-4	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/ Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen 🚧	ORP (mv)
GAUGE DATE	10.13.18	Initial	0800	8.76	12.9	0.92	0.7800	0.60	1.76	54.5
GAUGE TIME	0750	1	0830		13.3	0.92	0.7670		1.22	47.3
DHC (FEET)	ND	2	0920		13.7	0.96	0.7736		1,49	51.4
DTW (FEET)	7.70	3	0955		13.9	0.95	0,7705		1.51	5z.3
DTB (FEET)	121.72	4				•	<u> </u>			
DTB - DTW	114.02	5								
CAPACITY PER	1.020-5"	6				-		-		
FOOT	1.020 0	Ŭ							-:::::	
116		I			URGING DA	TA				
3 WELL VOLUMES	348	l	er condit Ear, cau		9					
VOLOMICO			APPEARAN							
PURGE DATE	10.13.10	ł	ar, No							
END OF PURGE TIME	0955	COMME								
PURGE AMOUNT	350									
DTW (FEET)	75.05									
				SA	MPLING DA	\TA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						-
SAMPLE DATE	/0.13.18	CLEA	IR, WE	ST WIN	10,72°					
DTW (FEET)	75.05	WATER	APPEARAN	CE / ODO	R:					
	, -	COMME	I <i>R, NO</i> NTS:	<u>odor</u>						
SAMPLE TIME	1010			FB14	00	745 8	DUP	B 17		
					AMPLE LO		-			
SAMPLE ID	TIME		CONTAINE		NL		CONTAINER		PRESERVATI	VE
MW-4	1010		40 ML VOA			5			HCI	
			1 LITER AN				•		NEAT	
			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC	<u>.</u>	1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
—	1	;	500 ML PL	ASTIC	· · · · · · · · · · · · · · · · · · ·	1			NaOH	
INSTRUMENT	S USED	WATER L	EVEL METI	ΞR			,			
	-		UALITY ME							
		<u>`</u>								
			•							

COMPLETED BY: TRACY PAYNE

SIGNATURE:

X

WE	LL ID					TEST PA	RAMETERS	3		6/4
M	W-5	Volumes	TIME	На	Temperature Degrees C	Conductivity (ms/c+	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen	ORP (mv)
GAUGE DATE	9.17.18	Initial	6950	e .99	14.7	0.98	0.7845	6.61	1.61	69.8
GAUGE TIME	0940	1	1025	8.96	14.6	0.97	6.7865		1.06	63.8
DHC (FEET)	ИD	2	1100	8.96	14.5	0.97	0.7890	0.61	1.07	71.6
DTW (FEET)	11.90	3	1135	8.96	14.4	0.97	0.7930	0.61	0.81	77.3
DTB (FEET)	130.83	4		-						
DTB - DTW	118.93	5								
CAPACITY PER FOOT	0.74-4"	6								
88				PL	RGING DA	TA				
3 WELL	24.1		R CONDIT							
VOLUMES	264	CLEI	AR, CAL APPEARAN	M, 68						
PURGE DATE	9.17.18	WAIER	EAR. 1	CE / ODOI	ત: ક્ <i>ર</i>					
END OF		COMME		70 00						
PURGE TIME	//35	Acto								
PURGE AMOUNT	270			· · · · · · · · · · · · · · · · · · ·	-					
AMOON	270									
DTW (FEET)	92.92									
				SAI	MPLING DA	\TA				
SAMPLE DATE			R CONDITI			·				
5,	9.17.18	LLEA	AR WE	ST WA	CNIM"	.80°				
DTW (FEET)	92.92	WAIERA	(PPEARAN)	CE / ODOF	₹:					
		COMMEN	NTS:							
SAMPLE TIME				D FE	317 @	1030	& DUF	18		
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINER		· NL	MBER OF (CONTAINER		PRESERVATI	VE
MW-5	1140		40 ML VOA			5			HCI	
			LITER AM			2			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HN0 ₃	
			L25 ML PL			1			HNO ₃	
			L25 ML PL			1			H ₂ SO ₄	
			L25 ML PL			1			NEAT	
₩	<u> </u>		500 ML PL			1			Na0H	
INSTRUMENT	_		EVEL METE							
	\	WATER Q	UALITY ME	TER						

COMPLETED BY: TRACY PAYNE

WE	LL ID			·	. · · · · · · · ·	TEST PA	RAMETER	S		
NAF	PIS-1	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial				•				
GAUGE TIME		1								
DHC (FEET)		2		COULI	D NOT	ACC	ESS			
DTW (FEET)		3						RAT 701	vs In	
DTB (FEET)	-	4		ì	EDI					
DTB - DTW		5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"			D	IDOING DA	TA		·		****
0.1451.1		WEATH	R CONDIT		JRGING DA	.IA	· · · · · · · · · · · · · · · · · · ·			
3 WELL VOLUMES		AA CATITIE	IN CONDIT	ions.						
PURGE DATE	:	WATER /	APPEARAN	ICE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
<u> </u>	<u> </u>			SA	MPLING DA	TA.			· · · · · · · · · · · · · · · · · · ·	
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODO	₹:			··		
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	MBER OF	CONTAINE	RS	PRESERVATIV	VΕ
								<u></u>		· · · · · · · · · · · · · · · · · · ·
						-				
INICEDIAL	C LICED (OH / 14/4:	TED INITES		DE					
INSTRUMENT	2 02ED (JIL / WA	TER INTER	FACE PRO	DC				·	
<u></u>										

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST	PARA	METERS	3		
NAF	PIS-2	Volumes	TIME	рН	Temperature Degrees C		vity	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial				•					
GAUGE TIME		1									
DHC (FEET)	·	2		COUL	DW	77	Arc	FCC	•		
DTW (FEET)		3		HIG			- 1			ZONS :	ZN
DTB (FEET)		4		1		ļ				LUNS.	
DTB - DTW		5		110(10	IEDI	AIE		AREA	-		
CAPACITY PER	0.74 - 4"										
FOOT	0.163 - 2"	6						ı			
				Pl	JRGING DA	TA					
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:							
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:	·					
END OF PURGE TIME		COMME	NTS:			· · · · · · · · · · · · · · · · · · ·					
PURGE AMOUNT											
DTW (FEET)											
				SA	MPLING D	ATA					
SAMPLE DATE		WEATHE	R CONDIT	IONS:		"			*****		
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:		,, · · · ·				
SAMPLE TIME		COMME	NTS:								
I.				S	AMPLE LO	G					
SAMPLE ID NAPIS-2	TIME		CONTAINE 40 ML VOA		NU	JMBER (OF CO 5	NTAINEF		PRESERVATI HCI	VE
-			1 LITER AN				1			NEAT	
			250 ML AN	ABER			1			NEAT	
			250 ML PL				4			HNO ₃	
			125 ML PL				1			HNO ₃	
			125 ML PL	ASTIC			1			H ₂ SO ₄	
	<u> </u>	•	125 ML PL	ASTIC			1			NEAT	
INIOTOL INACTOR	FO LICES	OH (14/4	TED INTER	EAGE DDG	DE						
INSTRUMENT	_		TER INTER		BE BE	## ** ## * # * # *					
				- , t= 1 \							

COMPLETED BY: TRACY PAYNE SIGNATURE:

W E	LL ID	1				TEST PA	RAMETERS	3		
NAF	PIS-3	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial								
GAUGE TIME		1								
DHC (FEET)		2		COU	DNO	7 AC	CESS		-	
DTW (FEET)		3		HIGH		1		RATIC	NS	
DTB (FEET)		4		l	IMM					
DTB - DTW		5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"								· · · · · · · · · · · · · · · · · · ·	
					JRGING DA	TA				
3 WELL VOLUMES		WEATHE	ER CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:			,				<u> </u>
PURGE AMOUNT	·									
DTW (FEET)										
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:							
<u> </u>				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	R TYPE	NU	JMBER OF	CONTAINE	RS	PRESERVATI	VE
NAPIS-3			40 ML VO	\		5			HCL	
			40 ML VO			3			$NA_2S_2O_3$	
			1 LITER AN						NEAT	
			250 ML AN	-	<u> </u>	1			NEAT	
			2 50 M L PL			4			HNO ₃	
			125 ML PL			1			HNO ₃	
<u> </u>			125 ML PL			1			H ₂ SQ ₄	
			125 ML PL			1			NEAT	
INSTRUMENT	-		TER INTER		BE					
		WATER C	UALITY ME	ETER						

WE	LL ID					TEST PA	RAMETER	S		
NAPI	INLET	Volumes	TIME	рН	Temperatu Degrees (TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial				•				
GAUGE TIME		1								
DHC (FEET)		2		COUL	D NO	TAC	CESS			
DTW (FEET)		3				5 COM	[ATION	SIN	
DTB (FEET)		4				ATE P	İ			
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING [ATA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TI M E		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)							,			
		79.		SA	MPLING I	DATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER /	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE L	OG				
SAMPLE ID	TIME		CONTAINE		,	IUMBER OF	CONTAINE		PRESERVATI	VE
NAPI INLET			40 ML VOA			5			HCL	
			250 ML AN			$\frac{1}{1}$			NEAT	
			250 ML PL		_	$\frac{1}{2}$			HNO ³	
			125 ML PL	ASHO		1			HNO ³	
										
										
INSTRUMENT	TS USED	WATER C	UALITY ME	TER						
		 			· · · · · ·					
	COMPLE	TED DV:		. D		SIC.	NATURE:	√ 7		
	COMPLE	- ICO DI.	TRACY	MAY	NE	-	AINATURE.	 X 7 -		

WE	LL ID	1				TEST PA	RAMETER	S		
OAI	PIS-1	Volumes	TIME	pН	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE	T	Initial	1-7/1		Degrees C	(mS/Cr	γ		Oxygen (mg/L)	
-	9.5.18		1534	7.01	21.8	6.08	4.2055		0.49	-99.1
GAUGE TIME	1528	1	1539	7.01	18.6	5.67	4.1990	3.64	0.74	795.4
DHC (FEET)	ND	2	1544	7.02	16.8	5.47	4.2185	3.56	0.78	-93.5
DTW (FEET)	11.65	3	1550	7,03	17.2	5.52	4.2185	3.56	0,99	-84,6
DTB (FEET)	27.86	4						:		
DTB - DTW	16.21	5	-							
CAPACITY PER		6								
FOOT	0.163 - 2"									
2.64	, 				JRGING DA	TA				
3 WELL	4	1	R CONDIT							
VOLUMES	7.92	PARTE	Y CLOU	DY, CA	m, 76	<u> </u>				
PURGE DATE	9.5.18		APPEARAN							
END OF	7,0,7,0	COMME	<i>AR, AM</i> NTS:	SER, O	UCK_			133		
PURGE TIME	1550		11.01							
PURGE	8 GALS									
AMOUNT	2516									
DTW (FEET)	25.15									
				SAI	MPLING DA	NTA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
	9.5.18		IR, SE							
DTW (FEET)	10 22	1	PPEARAN							
	19.33	COMME	AR, A/	MBER,	ODOR	<u> </u>				
SAMPLE TIME	1100		110.							
		· · · · · · · · · · · · · · · · · · ·	18.10	S	AMPLE LO	G				
SAMPLE ID	TIME	Ξ (CONTAINER	RTYPE	NL	MBER OF	CONTAINER	RS	PRESERVATI	VE
OAPIS-1	110	9 4	40 ML VOA			5			HCL	
		4	40 ML VOA			3			$NA_2S_2O_3$	
			LITER AM	IBER		2			NEAT	-
		2	250 ML AM	IBER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
		-	L25 ML PL	ASTIC		1			HNO ₃	
			L25 ML PL	ASTIC		1			H ₂ SO ₄	
			L25 ML PL						NEAT	
			00 ML PL			1			NAOH	
INSTRUMENT	S USED		TER INTERI		BF					
	0000		UALITY ME		<u> </u>					
		.,,,ı_ı, Q	○/\⊑							

COMPLETED BY: TRACY PAYNE

WE	LL ID						TEST PA	RAMETER	S		
OIL SU	MP LDU	Volumes	TIME	рН	Tempera Degree		Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial									
GAUGE TIME	·	1									
DHC (FEET)		2		COUL	DA	10	T ACC	ESS			
DTW (FEET)		3			1	ı			TR ATT	ons I	W
DTB (FEET)		4			l		TE A	ļ.			
DTB - DTW		5									
CAPACITY PER	0.74 - 4"	6									
1001	0.163 - 2"			Pi	URGING	DA	TA				
O WELL		WEATHE	R CONDIT		- Contract		<u> </u>		***************************************		
3 WELL VOLUMES		W = 7(11)	in condi	10110.							
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:						
END OF PURGE TIME		COMME	NTS:								
PURGE AMOUNT											
DTW (FEET)											
· · · · · · · · · · · · · · · · · · ·				SA	MPLING	a DA	·ΤΑ				
SAMPLE DATE		WEATHE	R CONDITI	ONS:							
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:						
SAMPLE TIME		COMME	NTS:								
				S	AMPLE	LO	3				
SAMPLE ID	TIME	(CONTAINE	R TYPE		NU	MBER OF	CONTAINE	RS	PRESERVATI	VE
		 . 								:	
NSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE			· · · · · · · · · · · · · · · · · · ·			
	-										
	COMPLET	ED BY:	IRALY	PAY	NE		SIG	NATURE:	SW.	7	

WE	LL ID					TEST PA	RAMETERS	3		
0'	W-1	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM		Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.10.18	Initial	1131	8,60	21.5	1.37	0.955	0.74	1.12	-158,0
GAUGE TIME	1125	1	1200	8.78	15.6	1-17	0.9230	0.72	0.95	-104.7
DHC (FEET)	DN	2								
DTW (FEET)	1.80	3								
DTB (FEET)	94.55	4								
DTB - DTW	92.75	5								
CAPACITY PER FOOT	0.74 - 4"	6								
68.				PL	JRGING DA	TA		<u> </u>	<u></u> i	
3 WELL			R CONDITI	ONS:		· · · · · · · · · · · · · · · · · · ·				
VOLUMES	205.92	CLE	AR CA	LM. 7:	50					
PURGE DATE	0 - 0	WATER A	APPEÁRAN	CE / ODOI	₹:	· · · · · · · · · · · · · · · · · · ·				
ORGE DATE	9.10.18		ar, no	ODOR						
END OF	1 4	COMME			_					
PURGE TIME	1216	Pur	1PED	DOWN	<u>e 80</u>	GALS				
PURGE AMOUNT	BOGALS									
DTW (FEET)	93.95									
				SAI	MPLING DA	TA				
CANADI E DATE		WEATHE	R CONDITI	ONS:	""	···				
SAMPLE DATE	9.11.18	CLEA	<mark>R, CALM</mark> PPEARAN(. 580)					
DTW (FEET)		WATER A	PPEARAN	注/ODOF	₹:					
D1 W (1 LL1)	36,90									
SAMPLE TIME		COMMEN								
SAMPLE TIME	1815	COLLE	CTED	DUP	581	FB140	@ 084	<u>5</u>		
04401510	TIME		ONTAINE		AMPLE LOC			_		
SAMPLE ID OW-1	0815		ONTAINER IO ML VOA		NU		CONTAINER		PRESERVATI'	vE
O V V - 1	100		O ML VOA			5 3			HCL NA ₂ S ₂ O ₃	
		 	250 ML AM			1			NEAT	
			250 ML PLA			1			HNO ₃	
			.25 ML PL			1			HNO ₃	
			.25 ML PL			1			H ₂ SO ₄	
			.25 ML PLA			1			NEAT	
▼	*				-			·	·	
INSTRUMENT	S USED \	WATER LE	VEL PROB	Ε			,			
	.*	WATER Q	JALITY ME	TER						
	COMPLET	=- FD BV: -	TRACY F	DASAST		Sic	NATURE:			
			TACY	AINE		oid	7	117		

WE	LL ID					TEST PA	RAMETERS	3		
OW	V-10	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.11.18	Initial	0930	7.64	15.2	1.85	1.4755	1.17	2.28	43.1
GAUGE TIME	0920	1	0952		14.3		2.9965		3.05	44.3
DHC (FEET)	ND	2		7.52	15.0		z.69/0		2.74	51.2
DTW (FEET)	2.61	3		7.53	14.9		2.5820	·	2.82	53,5
DTB (FEET)	60.13	4								
DTB - DTW	57.5Z	5								
CAPACITY PER		6								
FOOT	0.163 - 2"	. 0		!						
42.5					URGING DA	TA				
3 WELL VOLUMES	127.68	İ	R CONDIT		o					
VOLUMES			AR, CAL APPEARAN							
PURGE DATE	9.11.18		R. NO	•	-					
END OF PURGE TIME	1036	СОММЕ			:	1. [版] - 高麗	-			
PURGE AMOUNT	130 GALS									
DTW (FEET)	3.45									
				SA	MPLING DA	\TA				**
SAMPLE DATE			R CONDITI				***			
SAMI EL DATE	9.11.18	CLEA	R, WES	T WIN	D, 76° R:					
DTW (FEET)	3.45				R:		•			
ŀ		COMME	<i>R, NO</i> NTS:	ODOR						
SAMPLE TIME	1045									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NL		CONTAINEF		PRESERVATI	VE
0W-10	1045		40 ML VOA			5			HCL	
			40 ML VOA			3			NA ₂ S ₂ O ₃	
			250 ML AN		A'.	1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1 1			H ₂ SO ₄ NEAT	
*	<u> </u>		LZJ IVIL PL	NO 110					INLAI	
INSTRUMENT	S USED \	WATER L	EVEL PROF	3E						
	_		UALITY ME							
			-							

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETERS	· .		6/4
OW	V-11	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen	ORP (mv)
GAUGE DATE	9.18.18	Initial	1445	8.49	18.9	2.58	1.8980	1.52	1.53	27.9
GAUGE TIME	1434	1	1501	8.54	16.4	2,48	1.9305	1.55	1.90	32.0
DHC (FEET)	ND	2	1520	8.46	15.2	2.48	1.9825	1.60	1.25	49.5
DTW (FEET)	19.00	3	1540	8.42	15.1		1.9435		1.24	<i>5</i> 2.0
DTB (FEET)	67.90	4			, ,					<u> </u>
DTB - DTW	48.90	5								
CAPACITY PER FOOT	0.74-4"	6								
36.	19			Pl	JRGING DA	TA.				
3 WELL			R CONDITI	ONS:		_				
VOLUMES	188.57		UDY, W	IEST 1	NIND,	87°				
PURGE DATE	9.18.18		appeáran Ir, no c	•	к:					
END OF PURGE TIME	1540	COMME						· · · · · · · · · · · · · · · · · · ·		
PURGE	1540									
AMOUNT	110									
DTW (FEET)	24.75									
•				SAI	MPLING DA	NTA				
SAMPLE DATE			R CONDITION							
-	9.18.18	CLE. WATER A	APPÉARANC	EST W	ND, 80				·	
DTW (FEET)	24.75		AR, NO							
SAMPLE TIME		COMME							· · · · · · · · · · · · · · · · · · ·	
WALLES LIVE	1545				ANADIELO					
SAMPLE ID	TIME		CONTAINER		AMPLE LO		CONTAINER	c	PRESERVATI	VE
OW-11	154		40 ML VOA		NO	5	JONIAINEN		HCI	VC
			250 ML AM		···-··	1			VEAT	
			250 ML PL	ASTIC		1	•		HNO ₃	
			125 ML PLA	ASTIC		1			HNO ₃	
		-	125 ML PLA	ASTIC		1		l	H ₂ SO ₄	
<u></u>	+	-	L25 ML PLA	ASTIC		1			NEAT	
										
NSTRUMENT	S USED \	WATER L	EVEL METE	R						<u> </u>
	_		UALITY ME		······································					
					···					i

COMPLETED BY: TRACY PAYNE

	LL ID	<u>L</u>				TEST PA	RAMETERS	3		.11
OV	V-12	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen	ORP (mv)
GAUGE DATE	9.19.18	Initial	0933	10.09	15.3	1.12	Ø.8905	62.69	2.67	5 4.5
GAUGE TIME	0920	1	1030	9.45	17.3		0.7670		2.42	45.1
DHC (FEET)	ND	2		a.		•				
DTW (FEET)	46.50	3								
DTB (FEET)	132.55	4	,				· · · · · · · · · · · · · · · · · · ·			
DTB - DTW	82.35	5								
CAPACITY PER FOOT		6								
61				Pl	JRGING DA	TA				
3 WELL	100 -		R CONDIT						*= . ;	
VOLUMES	183	CLOC	IDY, C	ALM, G	66°					
PURGE DATE	9.19.18	i	APPEÁRAN AR, NO	-						
END OF		COMME		ULUR						
PURGE TIME	1048	PU	IMP E	DWN	@ 70	GALS				
PURGE AMOUNT	70									
DTW (FEET)	126.45									
				SA	MPLING DA	NTA				
SAMPLE DATE			R CONDITI		. 0					
	9.19.18	<i>CLOU</i> WATER A	<i>'DY, <u>CA</u></i> NPPEÁRANO	CF / ODOI	6		· ·····			
OTW (FEET)	1/3.84	***								
SAMPLE TIME		COMME		-						
	1225	LOLO	ELTE		8/9 @ C AMPLE LOC					
SAMPLE ID	TIME		CONTAINER				CONTAINER	90	PRESERVATIV	/E
0W-12	122		40 ML VOA		140	5	JONIAINEN		HCI	v L
1	122.		250 ML AM			1			NEAT	
	-		250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
									3	
NSTRUMENT	_		EVEL METE UALITY ME							
		MAILK Q	OALII IVIE	I LIX						

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID					TEST PA	RAMETERS	3		· · · · · · · · · · · · · · · · · · ·
OV	V-13	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CF	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.11.18	Initial	1150	8.35	14.5	1.04	0.8385	0,65	1.96	z.3
GAUGE TIME	1140	1	12.20	8.00	14.8	1.02	0.8255	0.64	2.12	6.0
DHC (FEET)	ND	2	1250	7,99	14.8	1.02	0.8255	130.6 4	2.38	29.6
DTW (FEET)	20.78	3	1320	7.98	14.8	1.04	0.8385	0.65	2.24	30.3
DTB (FEET)	102.00	4								
DTB - DTW	81.22	5		:						
CAPACITY PER FOOT		6						:		
	0.163 - 2"			DI DI	IDCINC DA	ΤΛ			· · · · · · · · · · · · · · · · · · ·	
BWELL	.10	WFATHE	R CONDITI		JRGING DA	IA				
VOLUMES	180.31	CLE	AR, MA	57 W	ND Q	90				
PURGE DATE	9.11.18	WATER A	APPEARAN	CE / ODOI	ND, 8 R: NO OD	OR				
END OF PURGE TIME	1320	COMME	NTŚ:							
PURGE AMOUNT	185									
DTW (FEET)	22.45		-							
				SAM	MPLING DA	TA				
SAMPLE DATE			R CONDITION		ND 82	0			****	
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	ND, 82 R:					
	22.45		AR, NO	o odor	<u>e</u>					
SAMPLE TIME	1330	COMMEN	115:							
			1	S/	AMPLE LOC	3				
SAMPLE ID	TIME		ONTAINER		NU	MBER OF (CONTAINER	S I	PRESERVATI	VE
0W-13	1330		O ML VOA			5	·		HCL	
			O ML VOA			3			$NA_2S_2O_3$	
			250 ML AM			1			NEAT	
			50 ML PL			1			HNO ₃	
		1	.25 ML PL/	ASTIC		1		•	HNO ₃	
INSTRUMENT	CHEED	MATER 15	VEL DOOD							
HAD I KONIENI	_		JALITY ME							¢:
· · · · · · · · · · · · · · · · · · ·			<u> </u>				· .			

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
OV	V-14	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.11.18	Initial	1405	7.26	1/ 9	4 / 1	1.2545	0.99		-125.9
GAUGE TIME	1400	1	1415	7.11	5.2	1.59	1.2480	0,98	1.00	-111.6
DHC (FEET)	ND	2	1425	7.12	14.6	1.54	1.2480	0.98	0.82	-1038
DTW (FEET)	21.96	3	1435	7.13	14.6	1.54	1.2480	0.98	0.75	-1049
DTB (FEET)	46.78	4								
DTB - DTW	24.82	5								
CAPACITY PER	0.74 - 4"	6 ,								
FOOT	0.163 - 2"									
	.37	MEATUE	D CONDITI		JRGING DA	TA	W			
3 WELL VOLUMES	55-11		R CONDITI		ID 826	p				
PURGE DATE	9-11-18	WATER	APPEARAN R, 110 C	CE/ODO DOR	ID 82°					
END OF PURGE TIME	1435	COMME								
PURGE AMOUNT	60									
DTW (FEET)	22.15									
	1			SA	MPLING DA	ιΤΑ		·		
SAMPLE DATE			R CONDITI							
	9.11.18		PPEARANG		D a					
DTW (FEET)	22.15		E AS A		٦.					
SAMPLE TIME	1440	COMME					**	,		
1				S	AMPLE LO	<u> </u>	<u></u>			
SAMPLE ID	TIME	(CONTAINER	RTYPE	NU	MBER OF (CONTAINER	RS	PRESERVATI	VE
OW-14	1440		40 ML VOA			5	<u> </u>		HCL	
			10 ML VOA			3			$NA_2S_2O_3$	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
<u> </u>	+		L25 ML PL	ASTIC		1	-		HNO ₃	
INSTRUMENT	_		EVEL PROE							
		WATER Q	UALITY ME	TER	 					
· · · · · ·										

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		
OV	V-29	Volumes	TIMÉ	рН	Temperature Degrees C	Conductivity (mS/Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.11.18	Initial	1536	7.49	16.0		1,2675	1.00	0.93	-23.2
GAUGE TIME	1530	1	1549	7.38	14.5	1.57	1.2740	1.01	0,89	-44.2
DHC (FEET)	ND	2	1602	7.37	14.8	1.58	1.2805	1.01	1.17	-356
DTW (FEET)	17.60	3	1615	7,35	14.8	1.60	1.2935	1.02	1.93	- 33.1
DTB (FEET)	52.40	4								
DTB - DTW	34.80	5			:					
CAPACITY PER FOOT	0.74 - 4"	6			:					
25.	<i>75</i>			Pl	JRGING DA	TA.				
3 WELL		WEATHE	R CONDIT	IONS:						
VOLUMES	77.25	LLEA	R, WE	ST WIN	ID, 82					
PURGE DATE	9.11.18	WATER /	APPEARAN	CE / ODO	R: ´					
END OF PURGE TIME	1615	COMME	NTS:					-		
PURGE AMOUNT	80 GALS									
DTW (FEET)	37.80									
				SA	MPLING DA	ATA .				
SAMPLE DATE	9.11.18	_	R CONDITI		·		·			
DTW (FEET)		WATER A	PPEARAN	CE / ODO	₹:					
	37.80	SAME COMMEN	AS A.	BOVE		<u> </u>			· · · · · · · · · · · · · · · · · · ·	
SAMPLE TIME	1620	COMME	113.							
					AMPLE LO	G				
SAMPLE ID	TIME		CONTAINER		NÜ		CONTAINER		PRESERVATI	√E
0W-29	1620		40 ML VOA			5			HCL NA S O	
`			40 ML VOA 250 ML AN			3 1	· · · · · ·		NA ₂ S ₂ O ₃ NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			<u> </u>	<u> </u>		HNO ₃	
▼	▼								- 3	
INSTRUMENT	rs used	WATER L	EVEL PROF	3E						
	_		UALITY ME							
	COMPLET	ED BY:	TRACY	PAYN	ıE	SIG	NATURE:	#3-		

WE	LL ID					TEST PA	RAMETERS	S		
OV	V-30	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.19.18	Initial	0725	7.36	13.8	1.66	1.3715	1.08	0.75	27.9
GAUGE TIME	0720	1	0133	7.15	13.1	1.60	1.3455	1.06	0.85	9.8
DHC (FEET)	ND	2	0745	7.23	13.0	1.59	1.3455	1.06	1.05	22.7
DTW (FEET)	21.69	3	0757	7.22	13.0	1.58	1.3250	1.06	1.72	29.1
DTB (FEET)	51.40	4				į				
DTB - DTW	29.71	5								
CAPACITY PER FOOT		6				:	:			
	0.163 - 2"			PI	JRGING DA	<u> </u> TΔ				
22		MEATHE	R CONDIT		JIMA DA					
3 WELL VOLUMES	66	i			20					
		WATER	APPEARAN	CE / ODO	R:					
PURGE DATE	9.19.18	l	AR FAI							
END OF PURGE TIME	0757	СОММЕ	NTŚ:							
PURGE					· · ·					
AMOUNT	66									
DTW (FEET)	25.40									
				SA	MPLING DA	ATA .				
SAMPLE DATE	9.19.18		R CONDITI		·					
			<u>e as a</u> Appearan							
DTW (FEET)	25.40		EAS A	•	\ •					
SAMPLE TIME		COMME								
SAIVIPLE IIIVIE	0810	COLL	ECTED							
			001171117		AMPLE LO	_			DD50=5: ::=	
SAMPLE ID	TIME		CONTAINER		NU	MBER OF O	CONTAINER		PRESERVATI' HCL	VE
OW-30	0810		40 ML VOA 40 ML VOA			5 3			NA ₂ S ₂ O ₃	
			250 ML AM			1	······································		NEAT	
			250 ML PL			1			HNO ₃	
—	 		125 ML PL	ASTIC		1			HNO ₃	
1	· · · · · · · · · · · · · · · · · · ·									
INSTRUMENT	rs used	WATER I	EVEL PROE	3F						
TO I TO WELL	_		UALITY ME							

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	LL ID				· · ·		RAMETERS			
OW	<i>l</i> -50	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9-17-18	Initial	1240	8.38	28.5	1.49	0.9035	0.69	4.37	1035
GAUGE TIME	1230	1	1247	8.23	16.5	1.05	0.8 190	6.63	8.45	10Z.5
DHC (FEET)	ND	2	1254	8.10	15.6	1.03	0.8/25		0.67	81.3
DTW (FEET)	15.30	3	1201	8.09	15.5	1.01	0.8125	0.63	0.63	68.0
DTB (FEET)	65.25	4								
DTB - DTW	49.95	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"		•	DI	IDCINC DA	TA			•	
8.14	- :				JRGING DA	IA				
3 WELL			R CONDIT			_				
VOLUMES	24.42	CLE	EAR, SO	W WIN.	0 80 R!					
DUDGE DATE		WATER A	APPEÁRAN	CE / ODO	R.					
PURGE DATE	9.17.18	BRC	WN, NO	0000	R					
END OF		COMME								
PURGE TIME	1301									
ŀ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
PURGE AMOUNT	25									
DTW (FEET)										
	15.92				MOUND D					· · · · · · · · · · · · · · · · · · ·
		14/2 47115	D CONDITI		MPLING DA	AIA				
SAMPLE DATE			R CONDITI							
	9.17.18		e as i							
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:					
D100 (1 221)	15.92	CLE	AR, NO	ODGR	,					
CANADI E TIME		COMME	NTŚ:							·
SAMPLE TIME	/305									
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINER	R TYPE	NL	MBER OF	CONTAINER	RS	PRESERVATI	VE
0W-50	1305		40 ML VOA	i.		5			HCL	
1			40 ML VOA			3			NA ₂ S ₂ O ₃	
			250 ML AM			1			NEAT	
-	<u> </u>		250 ML PL			1			HNO ₃	
					····					
+	+		125 ML PL	ASTIC	· · · · · · · · · · · · · · · · · · ·	1			HNO ₃	
								·		
INSTRUMENT	TO LIGED	M/ATED I	EVEL PROE	SE.					· .	
INJINUNIENI	_									 ,
		VVAIERQ	UALITY ME	··········						
						•				
	COMPLET	TED BY:	TRALY	Parne	<u> </u>	SIG	NATURE:	W7-		

WE	LL ID					TEST PA	RAMETERS	3		
OW	<i>l</i> -52	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.17.18	Initial	1427	8.36	17.9	0.98		0.57	1.87	4.2
GAUGE TIME	1415	1	1437	8.17	15.6	0.88	6.7020			-41.9
DHC (FEET)	ND	2	1449	8.16	15.4	0.86	6.6955		19.0	-58.6
DTW (FEET)	14.55	3	1502	8.15	15.4	0.86	0.6975			-34.4
DTB (FEET)	79.00	4	-				0.4.0			<u> </u>
DTB - DTW	64.45	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
10.50		MEATUE	D CONDITI		JRGING DA	TA			. ":	
3 WELL VOLUMES	315	1	R CONDITI		wan a	G*				
	31.5	WATER	APPEARAN	CE / ODO	IND 8 R:	9				
PURGE DATE	9.17.18				JO ON .					
END OF PURGE TIME	1502	СОММЕ			•					
PURGE AMOUNT	32									
DTW (FEET)	19.15									
				SAI	MPLING DA	ATA				
SAMPLE DATE			R CONDITI							
	9.17.18	AAG Wated A	NE AS A	ABOVE CE / ODOS	<u> </u>					
DTW (FEET)	19.15		AR. NO							
SAMPLE TIME		COMME		<u> </u>						
SAIVIFEE TIIVIE	1505				ANADI 5 1 0			511		
CANADI E ID	TINAC		CONITAINIE		AMPLE LO		CONTAINE	00	DDECEDVAT	VE
SAMPLE ID OW-52	TIME 1505		CONTAINEF 40 ML VOA		NU	MBER 0F (CONTAINER		PRESERVATI HCL	VE.
0vv-52	1303		40 ML VOA			3			NA ₂ S ₂ O ₃	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
	—		125 ML PL			1			HNO ₃	
T										
INSTRUMENT	_		EVEL PROE							
	1	WATER Q	UALITY ME	TER						
									•	

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETER	S		
OW	/-53	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.15.18	Initial								
GAUGE TIME	0725	1								
DHC (FEET)	ND	2		DRY	WE		NOT	SAMP	LED	
DTW (FEET)	ND	3								
DTB (FEET)	33.91	4	,							
DTB - DTW	NA	5					,			
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
	·			Pl	JRGING DA	TA		I		
3 WELL VOLUMES		WEATHE	R CONDIT	ions:					····•	
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:		,					
PURGE AMOUNT			· · · · · · · · · · · · · · · · · · ·							
DTW (FEET)										
				SAI	MPLING DA	ATA	· · · · · · · · · · · · · · · · · · ·			
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN(CE / ODOF	R:					
SAMPLE TIME		COMME	NTS:							
					AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	RTYPE	NL	IMBER OF (CONTAINE	RS	PRESERVATI	٧E
·			··· ··- ·· ·· ·· ·· ··· ···							
						······································				
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE					
										
										

COMPLETED BY: TRACY PAYNE

WE	LL ID	T			· '	TEST PA	RAMETER	S		
OV	V-54	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.27.18	Initial	0956	7.35	14.6	1.81	1.4690	1.16	2.53	-16.9
GAUGE TIME	0950	1	1000	7.22	13.2		2175.1	1.09	L. 68	-48.0
DHC (FEET)	ND	2	10035		12.8	1.64	1.3910	1.10	1.25	-61.6
DTW (FEET)	18.23	3	1009	7.18	12.9	1.64	1.3780	1.09	1.30	-68.1
DTB (FEET)	29.62	4	, ,	,2	/	7.4	12180	7.01	1.20	50.7
DTB - DTW	11.39	5								
CAPACITY PER	-	6	-				,			
FOOT	0.163 - 2"					أربوب				
1.8	34	I <u> </u>			JRGING DA	TA			· · · · · · · · · · · · · · · · · · ·	···
3 WELL VOLUMES	5.58		R CONDIT		<i></i>	. 0				
VOLUMILS	· · · · · · · · · · · · · · · · · · ·	WATER	<i>LY <u>CLO</u></i> APPEARAN	<u> </u>	<u>ацт. 6.</u> R:	<u> </u>				
PURGE DATE	8.27.18				TURI		ROLUN			
END OF PURGE TIME	1009	COMME	NTS:							
PURGE AMOUNT	6 GALS									
DTW (FEET)	/8.28					• 10				
•				SA	MPLING DA	ATA .				
CAMPLE DATE		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	8.28.18	CLEA	R, CALI	n, 58	•					
DTW (FEET)	18.25		APPEARANG	•						
	10.25	COMME		י טעטי						
SAMPLE TIME	0825									
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINER		NU	MBER OF	CONTAINER		PRESERVATI	VE
0W-54	0825		40 ML VOA			5			HCL	
			1 LITER AN			1_			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1			H ₂ SO ₄ NEAT	
<u> </u>	*		ı∠U IVIL PL	ASTIC		1			INEAT	
INSTRUMENT	S USED	OIL / WA	TER INTER	FACE PRO	BE				.	
- · · · - · · · ·	_		UALITY ME							
		`								

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		,
OV	V-55	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.27.18	Initial	1032	7.15		1.79	1,436	1.13	1.35	-97.6
GAUGE TIME	1025	1				ERVED			WATER	
DHC (FEET)	ИD	2							READ	WEY
DTW (FEET)	17,97	3								
DTB (FEET)	30.70	4			· · · · · · · · · · · · · · · · · · ·		-			
DTB - DTW	12.73	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
2.	07			PL	IRGING DA	TA	·			
3 WELL		WEATHE	R CONDIT	IONS:			` \			
VOLUMES	6.21	PART	TLY CL	SUDY, Y	VEST 1	MIND,	680			F .
PURGE DATE		WATER	APPEARAN	CE / ODOI	₹:			•		
PURGE DATE	8.27.18	CLEA	R-7 GA	REY, N	C ODO	R, SHE	EN			
END OF PURGE TIME	/055	СОММЕ	NTS:	·		•				
PURGE										
AMOUNT	6.50									
DTW (FEET)	[8.36									
				SAI	MPLING DA	\TA				
SAMPLE DATE	ه. ه. ه	WEATHE	R CONDITI	ONS:						
SAIVIFEL DATE	8.28.18		R, CALI							
DTW (FEET)	18.01	WATER A	APPEARAN(CE / ODOF	₹:					
SAMPLE TIME	0855	COMME	NTS:							:
	<u> </u>			S	AMPLE LO	G			· · · · · · · · · · · · · · · · · · ·	
SAMPLE ID	TIME	4	CONTAINER	RTYPE	NU	MBER OF C	ONTAINER	RS.	PRESERVATI	VE
0W-55	0855		40 ML VOA			5			HCL	
			1 LITER AM			<u>i</u>			NEAT	
			250 ML AM			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
+	+	-	125 ML PL	ASTIC		1			NEAT	
INSTRUMENT	TS USED (OIL / WA	TER INTERI	FACE PRO	BE					
	_		UALITY ME		·-·					
***	COMPLET	ED DV:	/_	12	;-	CIO	NIATUDE.	5/		
	COMPLET	EU BY:	IRACY	PAYN	<u></u>	SIG	NATURE: _	<u> </u>	,	

WE	LL ID					TEST PA	RAMETERS	3		
OW	<i>l</i> -56	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.27.18	Initial	1112	7.75	16.0	2.00	1.5665	1.25	2.98	19.9
GAUGE TIME	11:05	1	1115	7.32	15,2	2.13	1.7030		2.48	40.8
DHC (FEET)	ND	2	1119	7.29	14.5	2.30	1.8655		87.0	36.4
DTW (FEET)	·	3	17.1	1 - 2 - 1			11000	,,,,		26.1
DTB (FEET)	13.53 18.59	4	·							
DTB - DTW	•	5								
CAPACITY PER	5.06 0.74 - 4"									
FOOT	0.163 - 2"	6		:						
0.	82			Pl	JRGING DA	TA				
3 WELL			R CONDIT							
VOLUMES	2.46				NEST WI	IND, 71				
PURGE DATE	8.27.18		APPEARAN AR => Ro	•	к: <u>VO OD</u> (2 <i>0</i> .				
END OF		COMME		CON, I	<u> </u>					
PURGE TIME	1125	B	ILED	DOWA	1@2	GALS				
PURGE AMOUNT	2 GALS									
DTW (FEET)	17.90									
				SA	MPLING DA	TA.			1.00	***
CALABLE DATE	1-1	WEATHE	R CONDITI	ONS:				<u> </u>	· · · · · · · · · · · · · · · · · · ·	
SAMPLE DATE	8-28-18	CLEAR	R, CALM	, 63	· · · · · · · · · · · · · · · · · · ·					
DTW (FEET)			PEARAN	· ·						
ŀ	17.08	COMME	R, NO	ODO	₹					
SAMPLE TIME	0927	OOMME	110.							
				S	AMPLE LO	G .				
SAMPLE ID	TIME		CONTAINE		NU		CONTAINER		PRESERVATI	VE
0W-56	0927		40 ML VOA			5			HCL	
			LITER AN			<u>1</u>	-		NEAT	
			250 ML AN 250 ML PL			1			NEAT HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			L25 ML PL			1			NEAT	
V	<u> </u>									
NSTRUMENT			TER INTER UALITY ME		BE					
										
									1	

COMPLETED BY: TRACY PAYNE

LL ID					TEST PA	RAMETERS	3		
V-57	Volumes	TIME	Hq	Temperature Degrees C	Conductivity (mS/CF)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
8.27.18	Initial	1323	7.10			T .	0.95	0.61	-105.2
1307	1							0.88	-91.1
ND	2		•						
A SANTA	3								
	4								
	5								
0.163 - 2"	ь								
				IRGING DA	TA				
200									
3. /-	PAR WATED	ADDEADAN	CE (ODO)	WES	TW/NI	5,73°	<u> </u>		
	COMME	NTS:		<u> </u>		, are i	<u> </u>		
1330	BAI	LED Z	DWN @	1.75	BALS				
1.75									
27.73									
	· · ·	·	SAI	MPLING DA	\TA				· · · · · · · · · · · · · · · · · · ·
0.20 10	WEATHE	R CONDITI	ONS:						
· · · · · · · · · · · · · · · · · · ·					•				
20 19 1			•						
	COMME	K, HC NTS:	ODOR						
10:55									
				AMPLE LO	G				
				NL		CONTAINER			VE
<u> 1055</u>					5				
									
				*					
									 -
		125 ML PL	ASTIC		1			NEAT	
S USED (OIL / WA	TER INTERI	FACE PROI	BE	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		
				-					
•									
	1307 ND, H 28,07 7.96 0.74-4" (0.163-2") 30 3.90 8.27.18 1330 1.75 27.73 8.28.18 20.19 10:55	9.27.18 Initial 1307 1 1007 2 20.11 3 28.07 4 7.96 5 0.74-4" 6 3.90 WEATHE PAR WATER PAR WATER 2.18 COMME 1330 BAI 1.75 27.73 8.28.18 WEATHE 2.1EA 20.19 CLEA 10:55 TIME 10:55 TIME 10:55	1323 1307 1 1323 1307 1 1327	1323 7.10 1307 1 1323 7.10 1307 1 1327 6.99 MD	Solution Time ph Degrees C	10 1 1 1 1 1 1 1 1 1	10 10 10 10 10 10 10 10	## Degroes C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (ms/Cr) Total (ppt) ## Degroe C (m	10.5 10.5

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	}		
OW	/ -58	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/C.P	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.27.18	Initial	1526	7.53	16.9	1-20	0,9230	0.72	0.34	-85.0
GAUGE TIME	1517	1	1534	6.97	16.0	1,52	1.1895	0.94	1,71	-85.7
DHC (FEET)	ND	2	1543	6.97	15.3	L.51	1.2090	0.95	1.77	-90.5
DTW (FEET)	24.41	3	1553	6.98	<i>/5</i> .3		1,2095		2.10	-86.7
DTB (FEET)	47.49	4								
DTB - DTW	23.08	5	:							
CAPACITY PER		6								
FOOT	(0.163 - 2")									
3.76	3				JRGING DA	TA				
3 WELL VOLUMES	11.28	1	R CONDIT		<i>WEST</i> R:	WIND	740			
PURGE DATE	8.27.18				R: <i>HL OL</i>					
END OF PURGE TIME		COMME		<u> </u>	<u> </u>					
PURGE AMOUNT	11.50									
DTW (FEET)	24.50									
				SA	MPLING DA	ATA				
SAMPLE DATE			R CONDITI R, <i>WEST</i> APPEARAN		,77°					
DTW (FEET)	24.46		NÉPEARAN AR, 140							
SAMPLE TIME	1300	COMME		n 1 4	EXTRA	. Z	REP			
1	150-	- حال	<u> </u>		AMPLE LO		EIC			
SAMPLE ID	TIME	(CONTAINE	R TYPE	NL	MBER OF	CONTAINER	:S	PRESERVATI	VE
0W-58	1300	•	40 ML VOA	١		5			HCL	
			1 LITER AM	IBER		2			NEAT	
			250 ML AM	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HN0 ₃	
			125 ML PL	ASTIC		1			HNO ₃	
		-	125 ML PL	ASTIC		1			H ₂ SO ₄	
¥	Į.		125 ML PL	ASTIC	-	1			NEAT	
INSTRUMENT	S USED (ΟΙΙ / \MΔ	TER INTER	FACE PRO	RF					
II NO I NOIVILINI	_		UALITY ME							
						·				
<u> </u>				:						

COMPLETED BY: TRACY PAYNE SIG

WE	LL ID					TEST PA	RAMETERS	S				
OV	V-59	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)		
GAUGE DATE	8.27.18	Initial	09/0	7.60	14.9	8.88	7.1500	6.28	1.28	102.2		
GAUGE TIME	0903	1	09/5		13.9		7.2020		1.02	100.1		
DHC (FEET)	ND	2	0922	7.54	13.6		7.2215			96.5		
DTW (FEET)	24.15	3	0930		_		7.3710	-	1.42	94.3		
DTB (FEET)	38.52	4	07 350	7.20	1 3. 3	6.30	2.3	C. C		,,,)		
DTB - DTW	14.37	5										
CAPACITY PER		6										
FOOT	0.163 - 2"	0										
2.3	4				JRGING DA	TA						
3 WELL		*1	R CONDITI		_							
VOLUMES	7.02	CLEA	R , CAL APPEARAN	M, 60	, •		·					
PURGE DATE	A 27 10											
	8.27.18		AR TO	BROW	IN, NO	ODO!	<u>e</u>					
END OF PURGE TIME	TIME 0935 COMMENTS:											
PURGE AMOUNT	ا جم سنا											
DTW (FEET)	37.6/											
				SAI	MPLING DA	TA						
SAMPLE DATE	8.28.18		R CONDITI		^	•						
		CLEA	R, CAL	M, 50								
DTW (FEET)	1		PPEARAN	•	₹:							
1	25.53		R, NO	ODOR								
SAMPLE TIME	0755	COMMEN	NIS:									
	<u> </u>			S	AMPLE LO	3						
SAMPLE ID	TIME	(CONTAINER				CONTAINER	RS.	PRESERVATI	VE		
OW-59	0755	4	40 ML VOA			5			HCL			
			LITER AM	BER		1		 	NEAT			
		2	250 ML AM	IBER		1			NEAT			
		2	250 ML PL	ASTIC		1			HNO ₃			
			L25 ML PL	ASTIC		1			HNO ₃			
			L25 ML PL	ASTIC		1			H ₂ SO ₄			
+	1	1	L25 ML PL	ASTIC		1			NEAT			
NOTE: 114511	FO 1 10 F.D.	011 (11/11	FED IN 1					" .				
INSTRUMENT			TER INTERF		SE.							
		WATER Q	UALITY ME	IER								
				.					· · · · · · · · · · · · · · · · · · ·			
	COMPLET	ED BY:	TRACY	PAYNE	τ,	SIG	NATURE:	W	,			
		_					-					

WE	LL ID				· · · · · · · · · · · · · · · · · · ·	TEST PA	RAMETERS	3		
OW	V-60	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.27.18	Initial	0828	7.74	15.2	5.79	4.6280	3.94	2.05	103.3
GAUGE TIME	0820	1	0837	7.67	13.5	5.57	4.6345	3.94	1.66	93.3
DHC (FEET)	ND	2		T	ED DO					
DTW (FEET)	16.55	3				-				
DTB (FEET)	46.42	4				,				
DTB - DTW	29.87	5								
CAPACITY PER		6							·	
41.	87			i Pl	JRGING DA	TA				
3 WELL		WEATHE	R CONDIT							
VOLUMES	14.61	•	R CALM							
PURGE DATE	8.27.18	WATER A	APPEARAN	ICE / ODO		~~~				
END OF	0.277	COMME		BROWN	r, NO	DOR				
PURGE TIME	0855			Σοω	N @7	.5 GA	LS			
PURGE AMOUNT	7.5									
DTW (FEET)	45.65									
				SA	MPLING DA	NTA				
SAMPLE DATE			R CONDIT							
07 22 27	8.28.18	CLE	AR, CA	CE CODO	<u>າວິ</u>					- :
DTW (FEET)	35.85	WATER	APPEARAN مریم NTS:	CE / ODO	K:					
	33.03	COMME	NTS:	VO ODE	К					
SAMPLE TIME	0725									
					AMPLE LO					
SAMPLE ID	TIME		CONTAINE		NU		CONTAINER		PRESERVATI	VE
0W-60	072		40 ML VOA 1 LITER AN			5			HCL NEAT	
			250 ML AN			<u>1</u> 1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	·		1			HNO ₃	
			125 ML PL			<u></u>			H ₂ SO ₄	
1			125 ML PL			1			NEAT	
INSTRUMEN1	-	i	TER INTER		BE					
		WATER C	UALITY ME	FER						
	···········									

COMPLETED BY: TRACY PAYNE

WE	LL ID	Temperature Conductivity TDS (g (l) Selinity (ppt) Dissolved ODD (pp.)								
OW	V-61	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/CM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.16.18	Initial								
GAUGE TIME	0938	1								
DHC (FEET)	17.40	2	W	ELL 1	HOT S	BAMPL	ED			
DTW (FEET)	22.10	3			FEET			RESEN	7	-
DTB (FEET)	31.70	4								
DTB - DTW	NA	5						!		
CAPACITY PER FOOT		6								
				Pl	URGING DA	·ΤΑ				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:			, .				
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	R:					
SAMPLE TIME		COMME	NTS:							
· · · · · · · · · · · · · · · · · · ·				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	MBER OF (CONTAINEF	RS	PRESERVATIV	/E
INSTRUMENT	_		TER INTER		BE					
	1	WATER Q	UALITY ME	TER						

COMPLETED BY: TRACY PAYNE

WE	LL ID						TEST PA	RAMETERS	<u> </u>			
OW	V-62	Volumes	TIME	рН	1	perature grees C	Conductivity (mS/CN	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)	
GAUGE DATE	8.22.18	Initial	0800	7.04		******	0.83	0,6760	0,52	0.49	-63.Z	
GAUGE TIME	0750	1	0806	7.25		.3	6,78	0,6565			-129.4	
DHC (FEET)	ND	2 ·	0816	7.67		.2.	0.85	0.7150			-111.7	
DTW (FEET)	23.73	3		BAIL	ED	Do	17) @ #	2	2.5 gai	_S		
DTB (FEET)	31.59	4										
DTB - DTW	7.86	5										
CAPACITY PER	0.74 - 4"	6										
FOOT	0.163 - 2"											
5,82					JRGI	NG DA	TA					
3 WELL VOLUMES	17.46		R CONDIT			. 0						
VOLUMEO	11.70	WATER A	APPÉARAN	CE / ODO), Հ R:	- 00						
PURGE DATE	8.22.18		R, HC	=								
END OF PURGE TIME	COMMENTS:											
PURGE AMOUNT	12.5											
DTW (FEET)	31.40			-								
,	``			SAI	MPL	ING DA	NTA					
SAMPLE DATE	1		R CONDITI									
	8.22.18	CLOU	DY, <i>EAS</i> APPEARAN	TWIND	6	<u> </u>						
DTW (FEET)	29.90		AR, HC	-								
044471571145		COMME		ODUR				=	, e <u>.</u>			
SAMPLE TIME	1525											
	_				AMF	LE LO						
SAMPLE ID	TIME		CONTAINER			NL		CONTAINER		PRESERVATI	VE	
0W-62	1525		40 ML VOA				5			HCL		
			1 LITER AN				1_			NEAT		
			250 ML AN				1			NEAT		
			250 ML PL				1			HNO ₃		
			125 ML PL				1			HNO ₃		
			125 ML PL				1			H ₂ SO ₄		
<u> </u>	+		125 ML PL	ASTIC			1	······································		NEAT		
INSTRUMENT	SUSED (OIL / WA	TER INTERI	FACE PRO	RF							
			UALITY ME									
				. —								
				$\overline{}$				-		,		

COMPLETED BY: IRACY PAYNE SIGNATURE:

WE	LL ID		TEST PARAMETERS TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (mv)									
OW	<i>l</i> -63	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/L)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)		
GAUGE DATE	8.22.18	Initial	1011	7.04	15.1	1.40	1.12.45	0.88	0.24	-1192		
GAUGE TIME	1000	1	1018	7.04	14.5	1.40	1.1350	0.90	0.67	-107.8		
DHC (FEET)	ND	2	1026	7.04	13.9	1.41	1.1635		0.55	-103.6		
DTW (FEET)	20.67	3	1038	5٥, ٦	13,9	1,40	1.1440	0,90	0.60	-100.		
DTB (FEET)	32.20	4										
DTB - DTW	11.53	5										
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6						·				
8.5	3		***************************************	Pl	JRGING DA	TA			********			
3 WELL		WEATHE	R CONDIT	IONS:			• •	•				
VOLUMES	25.59				0, 63	, . БИG	HT RAIL	NFALL				
OLUMES 25.59 2LOUDY, SE WIND, 63°, SLIGHT RAINFALL WATER APPEARANCE / ODOR:												
PURGE DATE	8.22.18	CLEAR	7. HC O	DOR,	BELOM	es li	GHT E	ROWN	•			
END OF	ID OF COMMENTS:											
PURGE TIME												
PURGE AMOUNT 26												
DTW (FEET)	25.40											
		A.		SA	MPLING DA	TA						
SAMPLE DATE	^		R CONDITI									
OAMI LE BATE	822.18	CLOU	JDY, C.	ALM,	70°							
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:							
	20.68		AR, H	c odor	ર							
SAMPLE TIME		COMME		4	0 1000				0 - 1			
	1240	COLLE	ECTED	FBO#	@ /055	& EB	0401	115 ; D	MPOY			
OAAADI E ID	TINAC		CONTAINE		AMPLE LO		CONTAINE	20	DDECED (AT	\/F		
SAMPLE ID	TIME		CONTAINEF 40 ML VOA		NU		CONTAINEF		PRESERVAT	VE		
0W-63	1240		1 LITER AN			5			HCL NEAT			
			250 ML AN			<u>Z</u>			NEAT	-		
		 	250 ML PL			1			HNO ₃			
			125 ML PL			1			HNO ₃			
			125 ML PL		·	1			H ₂ SO ₄			
			125 ML PL			1			NEAT			
<u> </u>	*	-	LZJ IVIL PL	73110					INLAT			
INSTRUMENT	S USED	OII / \\/\	TER INTER	FACE PRO	RF					-		
II 40 I I (OIVILIVI	_		UALITY ME		<u></u>	 			· · · · · · · · · · · · · · · · · · ·			
			C. CLI C (VIL									
							 -					
	COMPLET	TED BY: •	TRACY	LAYNE	<u> </u>	SIG	NATURE:	SK-7				
					-		_	/ -				

WE	LL ID		TEST PARAMETERS Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved ORP (mv)									
OV	V-64	Volumes TIME pH Temperature Conductivity Degrees C (mS/CN) TDS (g/L) Salinity (ppt) Dissolved Oxygen (mg/L) ORP (mv)										
GAUGE DATE	8.22.18	Initial	0913	7.77	Z1, Z.	1.74	1.2220	0.96	0.26	-123.5		
GAUGE TIME	0905	1	0921	7.61	18.6	1.76	1.3065		0.59	-177.8		
DHC (FEET)	ND	2			N ON F							
DTW (FEET)	7.80	3]	DUTINE							
DTB (FEET)	27.35	4			R QUA							
DTB - DTW	19.55	5			ED DO							
CAPACITY PER		6										
FOOT	0.163 - 2"											
14.4	17				URGING DA	TA	.					
3 WELL VOLUMES	43.41		R CONDIT		15							
		WATER	APPEARAN									
PURGE DATE	8.22.18	ムービ	AR. HC	SDOR .	BECOM	=5 BRO	WN, TU	RBID.	SHEEN			
END OF		COMME	NTŚ:				•	, , , , , , , , , , , , , , , , , , ,				
PURGE TIME	0940				A.							
PURGE AMOUNT	27 GALS											
DTW (FEET)	27.03					,						
			<u></u>	SA	MPLING DA	\TA						
		WEATHE	R CONDITI	ONS:		·			***			
SAMPLE DATE	8.22.18	6100	DY E	AST W	IND, 6	೯°						
DTW (FEET)	10.71	WATER A	APPEARAN	CE / ODO	R:							
		COMME	NTS:	······						·		
SAMPLE TIME	1435											
	.				AMPLE LO	G	**					
SAMPLE ID	TIME		CONTAINE		NL	MBER OF (CONTAINER		PRESERVATI	VE		
0W-64	1435		40 ML VOA			5			HCL _z			
			1 LITER AM		· · · · · · · · · · · · · · · · · · ·				NEAT			
			250 ML AM			1			NEAT			
			250 ML PL			1			HN0 ₃			
			125 ML PL			1_			HNO ₃			
			125 ML PL			1			H ₂ SO ₄	•		
+	+	-	125 ML PL	ASTIC		1			NEAT			
NSTRUMEN	_		TER INTER		BE							
						·						
	* 1			\bigcirc								

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	WELL ID TEST PARAMETERS OW 65 Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved OPR (mv)									
OV	V-65	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/Cr	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	8.16.18	Initial					1			
GAUGE TIME	0953	1								
DHC (FEET)	24.96	2		WELL	NOT	SAMPL	ED			
DTW (FEET)	26.64	3		1		İ	1 PRE	SENT		
DTB (FEET)	41.66	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT		6								
1001	0.163 - 2"	li		<u>l</u> Pl	JRGING DA	I				
3 WELL		WEATHE	R CONDIT		Traine Br					
VOLUMES										
PURGE DATE		WATER A	APPEARAN	ICE / ODOI	R:					***
END OF PURGE TIME		СОММЕ	NTS:	,,					,	
PURGE (AMOUNT										
DTW (FEET)										
				SAI	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODOF	₹:					
SAMPLE TIME		COMME	NTS:							
				S	AMPLE LO	G				
SAMPLE ID	TIME	l	CONTAINE	R TYPE	NU	IMBER OF	CONTAINE	RS	PRESERVATI	VE
				···				, . · · · · · · · · · · · · · · · · · · 		
										
									······································	
INSTRUMENT	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
,	-		UALITY ME		<u>-</u>					
			······································							

COMPLETED BY: TRACY PAYNE SIGNATURE:

WE	WELL ID TEST PARAMETERS PW-3 Volumes TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) Dissolved Overon (mg (l) Ove									
PI	W-3	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE		Initial								
GAUGE TIME		1								
DHC (FEET)		2								
DTW (FEET)		3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER	0.74 - 4"	 								
FOOT	0.163 - 2"	6	;							
				Pl	URGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:			. *		<u> </u>	
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SA	MPLING DA	TA.		*		
SAMPLE DATE	9.19.18	ľ	R CONDITI						W	
DTW (FEET)	NA	WATER A	PPÉARAN	CE / ODOI	R:					
SAMPLE TIME	HARD X	COMMEN - 1410	ITS:							
					AMPLE LO					
SAMPLE ID	TIME		CONTAINER			MBER OF (PRESERVATIV	/E
PW-3	149		O ML VOA		· ·	3			HCL NEAT	-
			250 ML PL				1		HNO ₃	-
			25 ML PL			1			HNO ₃	
		· · · · · · · · · · · · · · · · · · ·	.25 ML PL			1	·		H ₂ SO ₄	
			.25 ML PL			<u>_</u>	·····		NEAT	
1	1		00 ML PL			1			VaOH	
NSTRUMENT		***	ER INTERI UALITY ME		BE					·
	COMPLE	TED BY: -	TRACY	Payne		SIG	NATURE:	W		

WE	LL ID					TEST PA	RAMETER	S		·
P۱	W-4	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE		Initial			 	,				
GAUGE TIME		1								
DHC (FEET)		2								
DTW (FEET)		3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
					RGING DA	TA				
3 WELL VOLUMES		WEATHE	ER CONDIT	IONS:						
PURGE DATE		WATER	APPEARAN	CE / ODOR	₹:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SAN	IPLING DA	ATA		M	/8_/	
SAMPLE DATE	0 10	4	R CONDITI		_					
O,	9.19.18	CLC	DUDY, C	2ALM, "	780					<u></u>
DTW (FEET)	_	ŧ	APPEARANI		(
SAMPLE TIME	1320	COMME		0002						
	1520			SA	MPLE LO	3				
SAMPLE ID	TIME		CONTAINE			MBER OF (CONTAINE	RS	PRESERVATI	VE
PW-4	1320	2	40 ML VOA			季	3		HCL	
			1 LITER AM	IBER		2			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	•
		:	125 ML PL	ASTIC		1			NEAT	
		Į	500 ML PL	ASTIC		1			NaOH	
INSTRUMENT	TS USED	OIL / WA	TER INTERI	FACE PROF	3E					<u> </u>
,			UALITY ME							
	COMPLE	TED BY:	TRACY	PAYNE		SIG	NATURE:	SHY	,	

WE	WELL ID TEST PARAMETERS RW-1 Volumes TIME pH Temperature Degrees C Conductivity (ms/cm) TDS (g/L) Salinity (ppt) Dissolved Oxygen (N) ORP (mv) E DATE 8.6.8 Initial									
R۱	W-1	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mS/CM		Salinity (ppt)	Dissolved Oxygen (X)	ORP (mv)
GAUGE DATE	8.16.18	Initial							(MG)	4)
GAUGE TIME	1106	1								
DHC (FEET)	27.44	2		WELL	NOT	SAMPL	ED			
DTW (FEET)	27.70	3			FEET		i	ESEN	_	
DTB (FEET)	43.45	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6					i			
				Pl	JRGING DA	ATA .				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:	·					
PURGE DATE		WATER /	APPEARAN	CE / ODOI	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)										
				SAI	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	₹:					
SAMPLE TIME		COMME	NTS:		•					
				S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NL	IMBER OF (CONTAINER	RS	PRESERVATIV	√E
								-		
								, -	······································	
					· · · · · ·	- ·				
								<u>-</u>		
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE	·				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PAI	RAMETERS	3		
R\	N-2	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.27.18	Initial		SHEE	N ON	PURGE		R	MG	4
GAUGE TIME	1401	1				DUAL		1	S	
DHC (FEET)	ND	2				,				
DTW (FEET)	20.05	3						:		
DTB (FEET)	40.00	4							:	
DTB - DTW	19.95	5								
CAPACITY PER FOOT	0.74 - 4"	6								
14.					JRGING DA	TA				
3 WELL VOLUMES PURGE DATE	44.28	PART.	R CONDITI LY <i>CLO</i> APPEARAN	UDY W	<i>EST W/</i> R:	NO, 73	, 0			
END OF PURGE TIME	8.27.18 1430	COMINE	412:			IDOR, 1.5 GAL				
PURGE AMOUNT	21.50									
DTW (FEET)	39.57									
			5 60N5/T		MPLING DA	ATA				
SAMPLE DATE	8.28.18	CLEA	R CONDITI	ons: ST Wir	1D, 77	٥				
DTW (FEET)	1010	WATER A	A <i>R HC</i> NTS:	CE / ODOF	₹:					
SAMPLE TIME				FBO	7@ 11	15 &				
SAMPLE ID	TIME	(CONTAINER		AMPLE LO	MBER OF C		UPOT	PRESERVATIV	/F
RW-2	120		10 ML VOA		,,,	5	.01177.4112		HCL	• =
1	1		250 ML AM	IBER		1			NEAT	
			1 1				/			
		 -				··· · · · · · · · · · · · · · · · · ·				
NSTRUMENT	S USED C	DIL / WAT	FER INTERF	FACE PRO	BE /					
1 2 (1)	COMPLET	ED BY:	TRACY	PAYNE		SIGI	NATURE:	SW-	7	

WE	LL ID				•	TEST PA	RAMETER	S		
RI	N-5	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (🔊	ORP (mv)
GAUGE DATE	8.16.18	Initial							mg	2
GAUGE TIME	1044	1								
DHC (FEET)	27.20	2		WELL	NOT	BAMPLI	ED.			
DTW (FEET)	32.58	3					İ	ESENT		
DTB (FEET)	39.51	4	-		1 Juni lines 1					
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
			· · · · · · · · · · · · · · · · · · ·	PL	JRGING DA	TA		<u> </u>	<u> </u>	
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						**************************************
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:							
PURGE AMOUNT										
DTW (FEET)		· · · · · · · · · · · · · · · · · · ·				ALAN I				
i	•	****		SAI	MPLING DA	ATA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:						
DTW (FEET)		WATER A	PPEARAN	CE / ODOF	₹:					
SAMPLE TIME	:	COMME	NTS:				• • •			-
I.	<u></u>		-	S	AMPLE LO	G				
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	IMBER OF (CONTAINER	RS F	PRESERVATIV	√E
					1					
						·				
									-	

INSTRUMENT	S USED (DIL / WA	TER INTER	FACE PRO	BE					
					·					

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	3		
R\	N-6	Volumes	TIME	рH	Temperature Degrees C	Conductivity (mSCM	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	8.16.18	Initial							ME	-
GAUGE TIME	1050	1								
DHC (FEET)	27.43	2		WELL	- NOT	SAME	LED			
DTW (FEET)	31.78	3		4.35				RESE	N7	
DTB (FEET)	40.85	4								
DTB - DTW	AA	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"					.]
		VACEATIVE	D CONDIT		JRGING DA	TA				
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:					·	
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		СОММЕ	NTS:							
PURGE AMOUNT							. ,			
DTW (FEET)										
				SAI	MPLING DA	TA				
SAMPLE DATE		WEATHE	R CONDITI	ONS:		•				
DTW (FEET)		WATER A	APPEARAN	CE / ODOI	₹:			,		
SAMPLE TIME		COMME	NTS:						,	
				S	AMPLE LO	3			·	
SAMPLE ID	TIME	(CONTAINE	R TYPE	NU	MBER OF (CONTAINER	RS	PRESERVATI	VE
									,	
										
INSTRUMENT	S USED (OIL / WA	TER INTER	FACE PRO	BE					
						·				

COMPLETED BY: TRACY PAYNE

WE	LL ID					TEST PA	RAMETERS	<u> </u>		Ox I
SM	IW-2	Volumes	TIME	pH	Temperature	Conductivity	TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
GAUGE DATE		Initial			Degrees C	(mS/C/	γ		Oxygen (%)	
	9.18.18		1214	7.53	18.0		5.6225		2.61	38.0
GAUGE TIME	1200	1	1218	7.34	17.1	9.84	7.3450	6.46	1.89	21.7
DHC (FEET)	ND	2	1225	7.37	17.0	10.48	7.7155	6.79	6.48	42.2
DTW (FEET)	24.62	3								
DTB (FEET)	52.90	4								:
DTB - DTW	28.28	5								
CAPACITY PER FOOT		6								
4.60)	i		PL	JRGING DA	TA	1			<u> </u>
3 WELL		WEATH	R CONDIT	IONS:						
VOLUMES	13.80	CLE	AR, WE	est W	IND, 81	, 0				
PURGE DATE	0 10 10	WATER .	APPEARAN	ICE / ODOI	R:					
	9.18.18			NO 01	DOR					
END OF PURGE TIME	1225	COMME PL		Dow	N@	8 64	<u> </u>			
PURGE AMOUNT	8									
DTW (FEET)	55.95									
				SAI	MPLING DA	ATA				
CAMPLE DATE		WEATHE	R CONDIT	IONS:						,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
SAMPLE DATE	9.18.18		EASA							
DTW (FEET)			APPEARAN	-	₹:					
	39.90	MAC COMME	NEAS A	BOVE						
SAMPLE TIME	1250	COMINE	N13.							
	1-0- 1			S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINE	r type	NU	IMBER OF	CONTAINER	RS	PRESERVAT	VE
SMW-2	1250		40 ML VOA			5			HCI	
			1 LITER AN			A			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1 1			NEAT NaOH	
NCTDI IN 4ENT	TO HOLD Y		500 ML PL			<u>T</u>			INAUT	
NSTRUMEN [*]	-		EVEL MET QUALITY ME				. <u>.</u>			

COMPLETED BY: TRACY PAYNE

WE	LL ID			, '''		TEST P	ARAMETERS	3		60
SM	IW-4	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/CF	M TOC/X/II	Salinity (ppt)	Dissolved Oxygen	ORP (mv)
GAUGE DATE	9.12.18	Initial	1450	8.52	17.3	1.11	0.8515	0.66	2.30	0.2
GAUGE TIME	1440	1	1457	8.04	16.0	1.03	0.8125		2.48	16.9
DHC (FEET)	ND	2	1504	8.05	16.4	1.08	0.8385		1.52	21.0
DTW (FEET)	29.15	3							2.04	
	69.68	4	1511	8.06	16.3	1.11	0.8710	84,0	2,07	<i>25,</i> S
DTB (FEET)	BBR3	1								
DTB - DTW	40.53	5	,		-					
CAPACITY PER FOOT	0.163-2"	6								
6.6	/	_		Pl	URGING DA	TΑ				
3 WELL		l	R CONDIT							
VOLUMES	19.83		AR, STA	PONG N	EST WI	ND, 8	30			
PURGE DATE	9.12.18	1	APPEARAN -	•	R:					
END OF	17278	COMME	NTS.	ODOR_						
END OF PURGE TIME	1511			ED DO	WN AT	210	ALS			
PURGE AMOUNT	21									
DTW (FEET)	60.20									
				SA	MPLING D	ATA				
SAMPLE DATE	9.12.18		R CONDIT							
DTM/CCCT)			APPEARAN		R:					
DTW (FEET)	57.cs	LLE	AR, NO NTS:	ODOR	<u> </u>					
SAMPLE TIME	1550	COMME	NTS:							
·	7000			S	SAMPLE LO	G				
SAMPLE ID	TIME		CONTAINE		NU	MBER OF	CONTAINER		PRESERVAT	IVE
SMW-4	<u> 155</u>		40 ML VOA			5			HCI	
			1 LITER AN						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1 1			NEAT	
			125 ML PL 500 ML PL			1			NaOH	
INICTOLINATION	TO LIGED		EVEL MET						Naoli	
INSTRUMEN	-		UALITY ME		****					-
		VVAIER	OALIT WIL	- I ER						

COMPLETED BY: TRACY PAYNE

WE	LL ID	}				TEST PA	RAMETERS	3		
STP-	1-NW	Volumes	TIME	pН	Temperature Degrees C	Conductivity (mS/cr) TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial	1400	7.94	15.6	5.22	4.1340	3.49	4,45	75,5
GAUGE TIME	/353	1	1413	7.76	14.2	5,91	4.8360	4.13	2.13	73.8
DHC (FEET)	ND	2 `	1427	7,78	13.9	5.80	4.7840	4.08	1.79	72.9
DTW (FEET)	20.95	3	1445	7.78	13.8	5.91	4.7850	4,08	1.97	73. <i>5</i>
DTB (FEET)	49.78	4						_		
DTB - DTW	28.83	5								
CAPACITY PER	0.74 - 4"	6								
FOOT	0.163 - 2"									
4.70				Pl	JRGING DA	TA				
3 WELL	EAL I	ı	R CONDIT		_		-			
VOLUMES	14.1		DY, CAL							
PURGE DATE	9.5.18	1	APPEARAN	•	14	5 -4				
	7.0.70	COMME		ROWN,	NO 01	JOK.				
END OF PURGE TIME	1445	COMME		. *						
PURGE AMOUNT	14.25									
DTW (FEET)	47.92									
				SA	MPLING DA	ATA				
		WEATHE	R CONDITI	ONS:						
SAMPLE DATE	9.6.18	PART	LY CLOO	DY, 56	WND.	56°				
DTW (FEET)	42.35	WATER /	APPEARAN	CE / ODOI	R:					
		COMME	NTS:							
SAMPLE TIME	0950			FBIZ	D 0910	. FRIT	@ 09	25 & T	DUP 13	
_					AMPLE LO					
SAMPLE ID	TIME		CONTAINER	R TYPE	NL	MBER OF	CONTAINER	RS	PRESERVATI	VE
STP-1-NW	095	50	40 ML VOA			5			HCL	
			250 ML AN	1BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
+	¥									
INSTRUMEN	-		TER INTER		BE					
		WATER (UALITY ME	TER						
				. %						

COMPLETED BY: TRACY PAYNE

SIGNATURE

75-

OUTF	ALL ID			¥-		TEST PA	RAMETERS	}		·
STP-1	T0 EP-2	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE		Initial	0152	B.31	20.0		2.4830	2.03	0.13	-13.5
GAUGE TIME		1		· - ·						
DHC (FEET)		2								
DTW (FEET)		3								
DTB (FEET)		4							,	
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								
				Pl	JRGING DA	TA				
3 WELL VOLUMES		WEATH	R CONDIT	IONS:						
PURGE DATE		WATER A	APPEARAN	CE / ODO	R:					
END OF PURGE TIME		COMME	NTS:		\times					
PURGE AMOUNT										
DTW (FEET)									· · · · ·	
				SA	MPLING DA	ATA				
SAMPLE DATE	6 2 10 1		R CONDITI		560					
DTW (FEET)	NA		APPEARANG		BROW	N. OI	00R 7	(IRRID)		
SAMPLE TIME	0820	COMME	NTS:			, , , , , , , , , , , , , , , , , , , 				
					AMPLE LO					
SAMPLE ID	TIME		CONTAINER		NL	MBER OF	CONTAINER		PRESERVATI	VE
STP-1 TO EP-	2 082	~	40 ML VOA 250 ML AM			5			HCL NEAT	
			250 ML AN 250 ML PL			1			HNO ₃	
			125 ML PL			<u>_</u> 1			HNO ₃	-
			LLITER PL			1			NEAT	
			500 ML PL			1			NEAT	
+	<u> </u>		500 ML PL	 		1			H ₂ SO ₄	
INSTRUMEN ⁻	TS USED	OIL / WA	TER INTER	FACE PRO	BE					
					· · · · · · · · · · · · · · · · · · ·					
	COMPLET	ΓED BY:	TRACY	PAYNE		SIG	NATURE:	X	,	

WE	LL ID					TEST PA	RAMETER	S		
WES	T LDU	Volumes	TIME	рН	Temperature Degrees C	Conductivity (mS/C+	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (mg/L)	ORP (mv)
GAUGE DATE	9.5.18	Initial				•				
GAUGE TIME		1								
DHC (FEET)		2		COU	D NO	T ACC	E55			
DTW (FEET)		3			1		i	VTRAT.	TONS "	IN
DTB (FEET)		4			EDIA	i	l .			
DTB - DTW		5		17 (<u> </u>				
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6						-		
	0.200 =	<u> </u>		Pl	JRGING DA	TA		·		
3 WELL VOLUMES		WEATHE	R CONDIT	IONS:						
PURGE DATE		WATER /	APPEARAN	CE / ODO	R:					-
END OF PURGE TIME		COMME	NTS:		···					
PURGE AMOUNT										
DTW (FEET)			, , ,							
		<u> </u>		SA	MPLING D	ATA				
SAMPLE DATE		WEATHE	R CONDIT	IONS:						
DTW (FEET)		WATER A	APPEARAN	CE / ODO	R:					
SAMPLE TIME		COMME	NTS:					·		
				S	AMPLE LO	G				
SAMPLE ID	TIME		CONTAINEI 40 ML VOA		NU	MBER OF	CONTAINE		PRESERVATI HCL	VE
WEST LDU			250 ML AN			<u>5</u>			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL		*. *	1			HNO3	
									,	>
· · · · · · · · · · · · · · · · · ·										
INSTRUMENT	rs used	OIL / WA	TER INTER	FACE PRO	BE			· · · · · · · · · · · · · · · · · · ·		
-										

COMPLETED BY: TRACY PAYNE SIGNATURE:



WELL ID	MKTF	-1			TES	T PARAM	ETERS			
GAUGE DATE	11/27/1	TIME	140	D						
DHC (FEET)	5.5	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	5.87	1			7					
DTB (FEET)	17.42	2								
DTB - DTW	313111	3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITION	s: 00	ight	\$ 100	>0	4.		
3 WELL . VOLUMES		Ų		1 1000	8	w w	æ			
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
		COMMEN	TS:							
END TIME				1	- 0	-	. (01/	1	0
AMT PURGED		N	0 Sur	uples	Coll	ected	C-0	PH	leve	
SAMPLE DATE				1						
SAMPLE TIME										
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	IBER OF O	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO	The same of the sa		5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
IOTOL WALLS	TO LICED	OHAME	an Indianta	Dunk - 1	Motor OI	the Mater				
ISTRUMENT	IS USED:	Oii/Wate	er interface	Prope; V	vater Qual	ty weter				
ompleted by:	: /s/ Cher	yl Johns	on/Environ	ımental Sp	pecialist					
and the second s										



WELL ID	MKTF	-2			TES	ST PARAN	IETERS			
GAUGE DATE	11/27/18	TIME	135	3					E 4.1	
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	8-4	1	1057	7.76	1334	3350	2.178	1.77	46.3	33.9
DTB (FEET)	20.48	2	1059	7.7	13.18	3361	2.185	1.77	43.6	41.5
DTB - DTW	12.08	3	1101	7.65	13.05	3370	2.191	1.78	424	45.9
CAPACITY	0.74 - 4"	4	1103	7.65	12.95	3370	2.19	1.78	42.4	47.
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	ish Roan	oligh	* D100	re o	ly Ol	dy-k	Seles
3 WELL VOLUMES	27			Com	" soul .		7		V	7 700 00
DUDGE DATE	11/27/18	WATER A	A A				,	1.5		
PURGE DATE	1 11		Cle	in, Al	ight 1x	wten	J, n	runk	4	
START TIME	1356	COMMEN			0 ()	*			
END TIME	1420	COMMEN								
AMT PURGED	M.5									
SAMPLE DATE	1									
SAMPLE TIME	1104									
Analysis Red	uest		CONTAIN	NER TYPE	NU	MBER OF	CONTAIN	IERS	PRESERV	ATIVE
			40 ML VC			5	5		HCL	
			1 LITER						NEAT NEAT	
			250 ML A 250 ML F			1			HNO ₃	
			125 ML F			1			HNO ₃	
			125 ML F			1			H ₂ SO ₄	
			125 ML P			1			NEAT	
8011	-EDB)	40m	LVDA		7	2	1	Jaso	3
NICTOLIMEN	ITS USED:	Oil/Wa	ter Interfa	ce Probe;	Water Qua	ality Meter				



WELL ID	MKTF	-3			TES	T PARAM	ETERS			
GAUGE DATE	111918	TIME	143	0						
DHC (FEET)	(0.85	RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	7.85	1								_
DTB (FEET)	18.45	2								
DTB - DTW	7 12	3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITION	IS:	0.00					
3 WELL VOLUMES			Carlotte and the	n, cu	UM				14	
		2.27 . 2.22 . 1.0	PPEARANCE		(1 -	-			
PURGE DATE		11	410	rescr	- Ocl	Lov				
START TIME		COMMEN	V re.	0					-1	_
END TIME		COMMEN	13.	NO.	Sam	ples	CO	lect	ed	
AMT PURGED									- 11	
SAMPLE DATE			~	0						
SAMPLE TIME			1 1 1 1 1							
Analysis Requ	ıest		CONTAIN	ER TYPE	NUI	MBER OF	CONTAIN	IERS	PRESERV.	ATIVE
			40 ML VO			5			HCL	
			1 LITER A			4			NEAT NEAT	
			250 ML AI 250 ML PI			1			HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI			1			H ₂ SO ₄	
	_		125 ML PI			1			NEAT	
NSTRUMENT	S USED:	Oil/Wate	er Interfac	e Probe; \	Nater Qual	ity Meter				
Completed by:	/s/ Cher	yl Johns	on/Enviro	nmental S	pecialist					
ignature:	1	2	7							



GAUGE DATE		4			TES	ST PARAM	IETERS			
	11/19/18	TIME	140							
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	839	1	0802	7.35	14.07	2183	1.419	1.13	24.3	-32.7
DTB (FEET)	22.15	2	0804	7.24	1334	2201	1.431	1.14	23.9	-266
DTB - DTW	13.74	3	6806	7.23	12.59	7267	1.434	1.14	22.9	-22.2.
CAPACITY	0.74 - 4"	4	0808	7.24	12.09	2210	1.436	1.14	21.2	-18-3
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	s: Cle	en (ulv	n			
3 WELL VOLUMES	3000	^								
/OLUMES (Whatch	WATER A	PPEARANCE	/ODOR:						1 1
PURGE DATE	applex	1-19-1	Cler	m -	antice.	u -	mu	nku	1 las	it Da
START TIME	1405				ag in	1	4.00	00.00	1	
END TIME	1423	COMMEN	TS:							
AMT PURGED	3									
CONTRACTOR AND A	20									
SAMPLE DATE	11/20/18									
SAMPLE TIME		0810	- Ca	lect	ed S	unpl	es			
Analysis Requ	0.1		CONTAIN			MBER OF	-	ERS	PRESERVA	ATIVE
			40 ML VO	A		5			HCL	
			1 LITER A						NEAT	
			250 ML AI	MBER		1			NEAT	
			250 ML PI	ASTIC		1			HNO ₃	
			125 ML PI	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
						1			NEAT	
8011-E			125 ML PL	ASTIC		0			INEXI	



WELL ID	MKTF	-5			TES	T PARAM	ETERS			
GAUGE DATE	11/9/18	TIME	135	2						
DHC (FEET)	14.62	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.83	1				1				_
DTB (FEET)	17.75	2								
DTB - DTW		3	- 4							
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITIONS	3:						
3 WELL VOLUMES			Luna							
PURGE DATE		district and market by	PPEARANCE		D	00	(/)			
START TIME		(Jul 1	Wije	L - 0	320	-10			
END TIME		COMMEN	rs:	10 s	r-0	in Ca	llec	ted		
AMT PURGED					- 100					
SAMPLE DATE				a .						
SAMPLE TIME										
Analysis Requ	ıest		CONTAINE		NUN	MBER OF (CONTAIN		PRESERVA	ATIVE
			40 ML VOA			5			HCL	
			1 LITER A			1			NEAT	
			250 ML AM			1			HNO ₃	
			250 ML PL			1			HNO ₃	
			125 ML PL			1				
			125 ML PL 125 ML PL			1			H ₂ SO ₄ NEAT	
			IZJ WIL FL	AO NO					A loof A I	
NSTRUMENT	'S USED:	Oil/Wate	r Interface	Probe; \	Nater Quali	ty Meter				
Completed by:	/s/ Cher	yl Johns	on/Environ	mental S	pecialist	77 11 11 11				
ignature:	1/2	2	~							



WELL ID	MKTF	-6			TES	T PARAM	ETERS			
GAUGE DATE	111918	TIME	139	5						
DHC (FEET)	14.85	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	18.01	1								
DTB (FEET)	23.77	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITIONS	S:	-					
3 WELL VOLUMES									-	
PURGE DATE		1.00	PPEARANCE		n		00			
START TIME		1	H.14	lay	2		08	201		
END TIME		COMMENT	s: N	n Sc	emple	A C	olle	chee	(
AMT PURGED										
SAMPLE DATE										
SAMPLE TIME			.416							
Analysis Requ	ıest		CONTAINE		NUN	BER OF C	CONTAIN		PRESERV/	ATIVE
			40 ML VOA			5			HCL	
			LITER A			1			NEAT NEAT	
			250 ML AM 250 ML PL	the second second second		1			HNO ₃	
			250 ML PL			1			HNO ₃	
						1			H ₂ SO ₄	
			25 ML PL			1			NEAT	
			LO WILL L	,5110					100111	
NSTRUMENT	'S USED:	Oil/Wate	r Interface	Probe; V	Vater Quali	ty Meter				
completed by:	/s/ Chen	yl Johnso	on/Environ	mental Sp	ecialist					
ignature: /	IN	2								



WELL ID	MKTF	-4			TES	T PARAM	ETERS			
GAUGE DATE	NFGII	TIME	143	8						
DHC (FEET)	12.35	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	13.52	1								
DTB (FEET)	7.62	2								
DTB - DTW		3						7 = 1		
CAPACITY	0.74 - 4"	4			-	127			120	
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	00.0	, oly	0.40	10020			
3 WELL VOLUMES		J-2-12-1	94.1	100 1 1 1 100	1,000	you r	uev		-	
PURGE DATE		WATER A	PPEARANCE							
START TIME			50	H lo	yer	,				
		COMMEN			•					
END TIME					11.7.17		4		1	
AMT PURGED		0	0 Su	upl	es Ca	lect	ed-	SPF	+ lan	ren
SAMPLE DATE									()
SAMPLE TIME										
Analysis Requ	ıest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A			- 4			NEAT	
			250 ML AN			1			NEAT	
			250 ML PL 125 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1			HNO ₃	
			125 ML PL			1			H₂SO₄ NEAT	
			120 IVIL PL	ASTIC	-	- 4			NEAT	
NSTRUMENT	S USED: (Oil/Wate	er Interface	Probe; V	Vater Quali	ty Meter				
ompleted by:	/s/ Chen	/L.Johne	on/Enviror	mental Sr	pecialist					
ompleted by.	/or Officity	, oomis	OT// ETTVITOT	monta of	Colcinot					
ignature:	100									



WELL ID	WKT	F-8			TES	ST PARAM	ETERS			
GAUGE DATE	11/27/18	TIME	143	3						*
DHC (FEET)	13.41	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (pav)
DTW (FEET)	13.8	- 1				100			SAJSSII (AS)	
DTB (FEET)	21.98	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4_								
PER FOOT	0.163 - 2"	WEATHER	CONDITIONS	s: 00 d	ly, x	201011	+ lan	20		
3 WELL VOLUMES			pru	1 00	cy i x	zugru	Due		~	
PURGE DATE		WATER A	PPEARANCE	ODOR:						
START TIME										
END TIME		COMMENT	rs:							
AMT PURGED			No :	Sam	ples i	Mas	cleo	8-1	PH 10	ine
SAMPLE DATE										0
SAMPLE TIME										=
Analysis Requ	ıest		CONTAINE	R TYPE	NUM	BER OF C	CONTAIN	ERS I	PRESERVA	TIVE
			40 ML VOA			5			HCL	
			1 LITER AN						VEAT	
			250 ML AM 250 ML PL			1			VEAT	
			250 ML PL/			1			HNO ₃	
			25 ML PLA			1			HNO ₃	
			25 ML PLA			1			H ₂ SO ₄ NEAT	
			EO WIL I L	.0110					NL/NI	
ISTRUMENT	S USED: 0	Dil/Wate	r Interface	Probe; W	/ater Qualit	y Meter				
	4, 4, 4, 5									
ompleted by:	/s/ Cherv	Johnso	on/Environr	mental Sn	ecialist					1
ompleted by: gnature:	/s/ Chery	Johnso	on/Environr	mental Sp	ecialist					



WELL ID	MKTF	-9			TES	ST PARAN	TETERS			
GAUGE DATE	11/27/1	TIME	143	O						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m)
DTW (FEET)	13.81	1	1126	8.17	19.93	91	0.059	0.04	68.8	38.4
DTB (FEET)	22.70	2	1128	7.41	14.3	2004	1.363	1.03	15.9	-9.1
DTB - DTW	8.89	3	1130	7.33	14.04	2007	1.305	1.03	14.5	-11
CAPACITY	0.74 - 4"	4	1132	729	13.85	2009	1.300	1.03	13.6	-10.1
PER FOOT	0.163 - 2"	WEATHE	CONDITION	s: cl	-0	flit	1000	2 7 0		
3 WELL VOLUMES	20	P	1001	conq	1511	ju	io la	cce		
ractic assaur	1127	WATER A	PPEARANCE	/ ODOR:						
PURGE DATE	11/2+		Clea	$1 - \infty$	nay-	Bun	al al 1	bari	0	
START TIME	1442				iwq	Mana	acco	bac		
END TIME	1458	COMMEN	rs:							
AMT PURGED	15									
SAMPLE DATE	11/28/18									
nalysis Requ	1135	To	CONTAIN	FR TYPE	NILIN	IBER OF C	CONTAINE	EPS I	PRESERVA	TIVE
maryolo recqu	1001		40 ML VO		14010	5	SONTAINE		HCL	TIVE
			1 LITER A	MBER					VEAT	
		2	250 ML AN	/IBER		1		1	VEAT	
		2	250 ML PL	ASTIC		1		ŀ	-lNO₃	
		1	25 ML PL	ASTIC		1		ŀ	HNO ₃	
			25 ML, PL			1		H	1 ₂ SO ₄	
		1	25 ML PL	ASTIC		1		١	IEAT	
	e licen. C	il/Wate	r Interface	Probe; W	/ater Qualit	y Meter				
STRUMENT	S USED. C	40.00								
STRUMENTS				mental Sp	ecialist					



7. 64. 146.	MKT	-10)		TE	ST PARAM	METERS			
GAUGE DATE	11/19/18	TIME	150	0						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m
DTW (FEET)	17.25	1	0841	7.47	247	41	0.027	0.02	88.9	-1
DTB (FEET)	15,90	2	0843	7.45	13.79	2048	1.331	1.05	13.9	-6S
DTB - DTW	8:74	3	0845	1.31	13,19	2060	1.339	1.06	12.6	-55
CAPACITY	0.74 - 4"	4	0847		12.68	2054	1.337	1.06	13	-48.
PER FOOT	100	WEATHER	CONDITION	S:			1001	1.00		70.
3 WELL VOLUMES	19		de	Ju -(culm	1				
VOLONICO		WATER A	PPEARANCE	/ ODOR:						
PURGE DATE		0	1002	1-pu	1. V	han	100 10	w.k		
START TIME	1510		MW	(- po	VCC -	0 COI	NV CVV	unc	10	
END TIME	1518	COMMENT	rs:							
AMT PURGED	M									
SAMPLE DATE	11/20/18									
orania di Afrikana.	0849									
SAMPLE TIME			CONTAIN	ER TYPE	NUN	BER OF	CONTAINE	ERS	PRESERVA	TIVE
TAK PO GALA	0-1.	10	SOMIAIM							
TAK POLICE	0-1.		40 ML VO	4		5	o i i i i i i i i i i i i i i i i i i i		HCL	TIVE
TAK POLICE	0-1.	4					3011174111		HCL NEAT	IIVE
TAK POLICE	0-1.	4	40 ML VO	MBER						IIVE
TAK PO GALA	0-1.	2	40 ML VO 1 LITER A	MBER MBER		5			NEAT	NIVE
TAC PO GALA	0-1.	2 2	40 ML VO 1 LITER A 250 ML AN	MBER IBER ASTIC		5			NEAT NEAT HNO ₃	.IIVE
0 1 M PO 0 0 0 1 2 -	0-1.	2 2 1	40 ML VOA 1 LITER A 250 ML AN 250 ML PL 25 ML PL	MBER IBER ASTIC ASTIC		5 1 1			NEAT NEAT HNO ₃ HNO ₃	SIIVE
TAC PO GALA	0-1.	2 2 2 1 1 1	40 ML VO 1 LITER A 250 ML AN 250 ML PL	MBER IBER ASTIC ASTIC		5 1 1			NEAT NEAT HNO ₃	SIIVE
THE POSTERIAL	0-1.	2 2 2 1 1 1	40 ML VOA 1 LITER A 250 ML AN 250 ML PL 25 ML PL 25 ML PL	MBER IBER ASTIC ASTIC	X	1 1 1 1			NEAT NEAT HNO ₃ HNO ₃ H ₂ SO ₄	
Analysis Requ	858	2 2 2 1 1 1 1 1	40 ML VOA I LITER A 250 ML AM 250 ML PL 25 ML PL 25 ML PL 25 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC	±te	1 1 1 1 1			NEAT NEAT HNO ₃ HNO ₃ H ₂ SO ₄	
Analysis Requ	s USED: C	2 2 1 1 1 2 2 1	40 ML VOA 1 LITER A 250 ML AN 250 ML PL 25 ML PL 25 ML PL 25 ML PL 25 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC Probe; W	tater Qualif	1 1 1 1 1			NEAT NEAT HNO ₃ HNO ₃ H ₂ SO ₄	
Analysis Requ	s USED: C	2 2 1 1 1 2 2 1	40 ML VOA 1 LITER A 250 ML AN 250 ML PL 25 ML PL 25 ML PL 25 ML PL 25 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC Probe; W	tater Qualif	1 1 1 1 1			NEAT NEAT HNO ₃ HNO ₃ H ₂ SO ₄	



WELL ID	MKTF	F-11			TES	ST PARAM	METERS			
GAUGE DATE	11/19/18	TIME	143	8						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	72	1	0820	7.34	4.6	29	0.019	10.01	91.1	5.3
DTB (FEET)	18.14.	2	0822	7.38	13.94	5045	3.279	2.73	14.8	-66.4
DTB - DTW	10.94	3	0824	7.35	1326	5084	3305	2.75	12.9	-62.2
CAPACITY	0.74 - 4"	4	0826	7.35	12.7	SIDI	3316	a.76	12.4	-58.0
PER FOOT	0.163 - 2"	WEATHER	CONDITION	S:						
3 WELL VOLUMES	24		cle	ur-	Calr	n			1+0	
Contract of the contract of th	ulialia		PPEARANCE							
PURGE DATE	11/19/18	01	001-5	0,010	tunit	110 X-	na	10	end	appe
START TIME			ene A	ugu	TO COO	, and t	0.	10		10-
END TIME	1458	COMMEN	rs:							
T (T 10 - 14 1 - 15 1	25									
	C 14 14 E C 17	,								
SAMPLE DATE	1120-18									
	0830									
SAMPLE TIME	000		CONTAIN	ER TYPE	NUN	IBER OF	CONTAIN	ERS	PRESERVA	TIVE
			CONTAIN							/ I I V E
			40 ML VO			5			HCL	TIVE
			40 ML VO 1 LITER A	MBER					NEAT	(IIVE
			40 ML VO 1 LITER A 250 ML AN	MBER MBER		1			NEAT NEAT	TIVE
The state of the s			40 ML VO 1 LITER A	MBER MBER					NEAT	(IIVE
Carrotte Ville		2	40 ML VO 1 LITER A 250 ML AN	MBER MBER ASTIC		1			NEAT NEAT	(IIVE
Carrotte Ville		2	40 ML VO 1 LITER A 250 ML AN 250 ML PL	MBER MBER ASTIC ASTIC		1			NEAT NEAT HNO ₃	ATIVE
			40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC		1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
			40 ML VO. 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC		1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
			40 ML VO. 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC		1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
Analysis Requ	est		40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	MBER //BER ASTIC ASTIC ASTIC ASTIC		1 1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
Analysis Requ	est		40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	MBER //BER ASTIC ASTIC ASTIC ASTIC	Vater Quali	1 1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
Analysis Requ	est S USED: 0	Dil/Wate	40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC		1 1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
Analysis Requ	est S USED: 0	Dil/Wate	40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC		1 1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE
Analysis Requ	est S USED: 0	Dil/Wate	40 ML VO 1 LITER A 250 ML AM 250 ML PL 125 ML PL 125 ML PL 125 ML PL	MBER MBER ASTIC ASTIC ASTIC ASTIC		1 1 1 1			NEAT NEAT HNO ₃ HNO ₃	ATIVE



WELL ID	MKTF	-12			TES	T PARAM	ETERS			
GAUGE DATE	11/27/18	TIME	1107	0						
DHC (FEET)	18.4	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	18.54	1								
DTB (FEET)	25.60	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITION	s: 0 1	ear, cul	100				
3 WELL VOLUMES		1.5			an ca	2 7 7 7				
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME		n Alexania								
END TIME		COMMENT	s: ND	Suno	oles	Calle	fed	-SP7	+ laye	1
AMT PURGED									0	V
SAMPLE DATE										
SAMPLE TIME										
Analysis Requ	iest	(CONTAINE	ER TYPE	NUM	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
			OML VO			5			HCL	
			LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			25 ML PL			1			HNO ₃	
			25 ML PL			1			H ₂ SO ₄	
		1	25 ML PL	ASTIC		1_			VEAT	
NSTRUMENT	S USED: (Oil/Wate	r Interface	Probe; V	Vater Quali	ty Meter				
ompleted by:	/s/ Chery	/I Johnso	on/Environ	mental S	pecialist					
ignature:	h	1								



WELL ID	MKTF	-13			TES	T PARAM	IETERS			
GAUGE DATE	11/27/18	TIME	1100)						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	12.72	1	0928	7.14	1438	2116	1.375	1.09	16.3	-58.4
DTB (FEET)	21.25	2	0430	7.12	1452	2127	13.79	1.09	14.5	-58,3
DTB - DTW	8.53	3	0932	7.12	14.26	2133	1.386	1.1	10.7	-57
CAPACITY	0.74 - 4"	4	0934	711	1417	2135	1.388	1.1	10.8	-56:
PER FOOT	0.163 - 2"	WEATHER	RCONDITION	S:	0 m	And in case of the last of the	The second second	lical	m	
3 WELL VOLUMES	19 ad	0	Q	MI (C	~ · · · (
DUDGE DATE	11/27/18	WATER A	PPEARANCE	/ODOR:	0 4 . 0 .	+:+				
The state of the state of	7	0	Ilean	, alig	htyp	tal	-rvu	ney		
START TIME	1110	COMMEN	re.	C	Clar	1 50	uen			
END TIME	1130	COMMEN	Bai	led	13 gal	\circ				
AMT PURGED	13				3					
SAMPLE DATE	11/38/18									
	0935							_		
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
	-		250 ML PL			1			HNO ₃	
			125 ML PL	CE AZALA MARA		1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED:	Oil/Wate	er Interface	e Probe; \	Water Quali	ty Meter				
Completed by:	/s/ Chery	vl Johns	on/Enviror	nmental S	pecialist					
Soulibiorod DA.										



WELL ID	NIKT	F-14	ł		TES	T PARAM	ETERS			
GAUGE DATE	11.27.18	TIME	1135							
DHC (FEET)	6,26	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (my)
DTW (FEET)	6.65	1								
DTB (FEET)	17.46	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4		Y						
PER FOOT	0.163 - 2"	WEATHE	CONDITION	s: al	0014 -	Doing	At to	ress		
3 WELL VOLUMES		1.00				sugr	- C - C	uce		
PURGE DATE		WATER A	PPEARANCE	10.0						
START TIME			9	PH						
TOTAL ACTOR AND		соммеи	TS:		4 1 1		1 .		01/1	ny in Fr
END TIME		NO	San	yples	Coll	eeted	C- 1	ras S	PH La	yer
AMT PURGED				V						O
SAMPLE DATE										
SAMPLE TIME										
Analysis Requ	ıest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A 250 ML AN			1			NEAT NEAT	
			250 ML AN			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL		1	1			NEAT	
	-									
NSTRUMENT	S USED:	Oil/Wate	er Interface	Probe; V	Vater Quali	ty Meter				
Completed by:	/s/ Cher	yl Johns	on/Environ	mental Sp	oecialist					
Signature:	1	w	7							



WELL ID	MKTF	-15		, ,	TES	ST PARAM	ETERS			
GAUGE DATE	11/19/18	TIME	133	8						
DHC (FEET)	1257	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	127	1								
DTB (FEET)	19.48	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	. 4								
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	S:	0 0 -0	10.00	20			
3 WELL VOLUMES			Clear	1. 2	light	Die				
		WATER A	PPEARANCE	/ ODOR:		2 /	n/Lati	2	011	0
PURGE DATE			SPH	laux	Cr -	NOS	sum	ples	Colle	Hec
START TIME										
END TIME		COMMEN	(e) (e)	eriu	wide	Vaul	& b	elow	plug	
AMT PURGED			00 00						Pool	
SAMPLE DATE		1	10 S	imp	res	Colle	A	d		
SAMPLE TIME		1	,	V						
Analysis Requ	est		CONTAINE	ER TYPE	NUN	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VOA	4		5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC		1		ſ	VEAT	
STRUMENT	S USED: (Oil/Wate	er Interface	Probe; W	Vater Quali	ty Meter				
ompleted by:	/s/ Chery	/l Johns	on/Environ	mental Sp	ecialist					
ignature:	/	M	~							



WELL ID	MKT	F-16)			res	T PARAM	IETERS			
GAUGE DATE	11/29/18	TIME	07	51							
DHC (FEET)		RUNS	TIME	pН	Tempera Degrees		Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	954	1	Du	dn	st 1	14	-Cov	el (eac	0	
DTB (FEET)	14.10	2									
DTB - DTW	4.56	3									
CAPACITY	0.74 - 4"	4									
PER FOOT	0.163 - 2"	WEATHER	CONDITION	S:	. 0						
3 WELL VOLUMES	a	01	urca	st, C	icim						
PURGE DATE	11/29	WATER AF	PEARANCE	/ODOR:	1+	10	t.	i f			
START TIME	0755		Clla	, pli	m	0					
END TIME	0759	COMMENT									
AMT PURGED	2										
SAMPLE DATE	11/29/18	/									
SAMPLE TIME	1400										
Analysis Requ		(CONTAIN	ER TYPE	N	UM	BER OF C	CONTAINE	RS	PRESERVA	TIVE
		4	0 ML VO	A			5			HCL	
			LITER A							NEAT	
		2	50 ML AN	1BER			1			NEAT	
		2	50 ML PL	ASTIC			1			HNO₃	
		1	25 ML PL	ASTIC			1			HNO ₃	
		1	25 ML PL	ASTIC			1			H ₂ SO ₄	
			25 ML PL				1			VEAT	
						_					
ISTRUMENT	S USED: (Dil/Water	Interface	Probe; V	Vater Qu	ıalit	y Meter				
ompleted by:	/s/ Chery	l Johnso	n/Environ	mental Sp	ecialist						
gnature:	W	7	7-								



WELL ID	MKTF	-17			TES	T PARAM	IETERS			
GAUGE DATE	11.27.18	TIME	090	00						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	13.6	1	0838	7.57	1434	1632	1.061	0.83	48	5
DTB (FEET)	a4.11	2	0840	759	1414	1631	1.06	0.83	44,9	10.8
DTB - DTW	10.46	3	0842	7.61	13.85	1627	1.058	083	43.5	15.2
CAPACITY	0.74 - 4"	4	0844	7.62	13,56	1625	1,056	0.83	42.2	18.5
PER FOOT	0.163 - 2"	WEATHER	CONDITION	VS:						
3 WELL VOLUMES	500lo	C	lecu,	Ceilh	1					
III 2			PPEARANCE							
START TIME	0905									
END TIME	0910	COMMEN	rs: Whr	unsida	vant us - clu	t-bel	la wa	401 -		
AMT PURGED		Bai	led 1	25 cm	who - 1	iil o	a his	le Vila	4/10	7
SAMPLE DATE	11/28/18			0.			V V		1,00	
SAMPLE TIME	0846									
Analysis Requ	0 0		CONTAIN	IER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PI			1			HNO ₃	
			125 ML PI	A CONTRACTOR OF THE CONTRACTOR		1			HNO ₃	
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI	LASTIC		1			NEAT	
NSTRUMENT						ty Meter				
Completed by: Signature:	/s/ Chery	/I Johns	on/Enviro	nmental S	pecialist					



WELL ID	MKTP	-18			TES	T PARAM	IETERS			
GAUGE DATE	11/28/18	TIME	160	5	4					
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2	1	T	dr	not 1	recor	al .	read	1 1	
DTB (FEET)	7.94	2							0	
DTB - DTW	2538	3								
CAPACITY	0.74 - 4"	4					<u> </u>			
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	S:						
3 WELL VOLUMES		C	leu							
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
END TIME		COMMEN	TS:							-
AMT PURGED										
SAMPLE DATE	11/28/14									
SAMPLE TIME	1920			A LULA		710				0.00
Analysis Req	THE PERSON NAMED IN COLUMN 1		CONTAIN	ER TYPE	NUN	IBER OF	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML PI			1			HNO₃	
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI	ASTIC		1			NEAT	
8011	-EDB		40 me	NOA		2			Nasso	3
INSTRUMEN						ity Meter			- Energy	
Completed by Signature:	r: /s/ Chei	ryl Johns	son/Enviro	nmental S	pecialist					



GAUGE DATE		,			120	T PARAM	IETEKS			
ALCOHOLD A STANCE	11.27.18	TIME	2012	20	Magre	10-2			- 1	
OHC (FEET) -		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m
OTW (FEET)	12.37	- 1	0818	7.07	1448	1949	1.267	1	10.4	-71
OTB (FEET)	17.47	2	0820	7.12	14.2	1947	1.266		10.3	-70.
OTB - DTW	51	3	0822	7.14	13.92	1949	1.267	1	10.6	-70.
CAPACITY	0.74 - 4"	4	0824	7.14	13.7	1951	1.268		11.1	-70.
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	s: 1 0 n	en, Ce					
WELL OLUMES	Bezul)		Cle	in 1 Co	um				
02011120	3000	WATER A	PPEARANCE	/ ODOR:		_				_
URGE DATE	-		0000	11 - 10	ink-	nord of	1 =	1000	dana	
TART TIME	935		Cu	ice P	mk-	Made	M Di	roll	- Sulla	~
ND TIME (934	COMMEN.	TS:					3		
MT PURGED	3 galo	D	ache	30	als.					
AMPLE DATE	111		0000		Con					
AWIFLE DATE	1/138/18									
AMPLE TIME	0825									
nalysis Requ	est		CONTAIN	ER TYPE	NUM	BER OF O	CONTAIN	ERS	PRESERVA	ATIVE
The state of the			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PL			1			HNO ₃	
		_	125 ML PL	IC WAS HITTED		1			HNO ₃	
			125 ML PL 125 ML PL			1			H₂SO₄ NEAT	
	said to					18			NE/ (I	
8011	EDB	(40ml	UOA		2	-	1	M25, 02	
STRUMENT	S USED: 0	Oil/Wate	er Interface	Probe: V	Vater Quali	ty Meter				
						y Wictor				
ompleted by:	/s/ Chery	/l Johns	on/Enviro	nmental Sp	oecialist					



WELL ID	MKT	F-2	0		TES	T PARAM	ETERS			
GAUGE DATE	1129/18	TIME	13	35						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	7.59	< 1								
DTB (FEET)	9.89	2				_				
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	ALC: NO.	CONDITION		T. HYYY					
3 WELL VOLUMES		0	ierc	eest 1	wm	dy				
PURGE DATE			PPEARANCE		clor,	sho	210			
START TIME		7	fice	1100	cor,	3.00	~ (
END TIME		COMMEN	rs:) o u	outer	Pu	ulit	1 PC	nat	etus
AMT PURGED		tru	(Cen	-od	or, s	sheer	ian	Diel	nat	
SAMPLE DATE		pw	180-	col	lecte	don	ub s	suny	ole.	
SAMPLE TIME	1345		0			0				
Analysis Requ	uest		CONTAIN	IER TYPE	NUN	IBER OF (CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VC			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
		-	250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML P	LASTIC		1			H ₂ SO ₄	
			125 ML P	LASTIC		1			NEAT	
INSTRUMEN	TS USED:	Oil/Wate	er Interfac	e Probe;	Water Qual	ity Meter				
Completed by	: /s/ Chei	ryl Johns	on/Enviro	onmental S	pecialist					
Signature:		0	n							



WELL ID	MKT	F-21		- 1	TES	T PARAM	ETERS			
GAUGE DATE	11/29/18	TIME	137)5					12.00	
DHC (FEET)		RUNS	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	752	1					_			
DTB (FEET)	9.89	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4	/							
PER FOOT	0.163 - 2"	WEATHER	CONDITIO	VS:	- 12	1 0				
3 WELL VOLUMES		0	ver	Cust	I,W	inac	1			
PURGE DATE		WATER A	PPEARANCI	I/ODOR:	dor	, Sh	9 On	/		
START TIME			cyla	9)	,0004	1000				
END TIME		COMMEN	rs: N	o w	ater	(0.	Par	ame	tur	1
AMT PURGED		tel	Cen			phe) -c	lil	rut
SAMPLE DATE		DW	rest -	- col	lecte	200	ruh	SUL	up 10	,
SAMPLE TIME	1320		9			0			1	
Analysis Requ	uest			IER TYPE	NUN	BER OF O	CONTAIN		PRESERVA	ATIVE
			40 ML VC			5			HCL	
			1 LITER A	Maria de la companya della companya		4			NEAT	
			250 ML A 250 ML P			1			NEAT HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML P			1			H ₂ SO ₄	
			125 ML P			1			NEAT	
INSTRUMENT	S USED:	Oil/Wate	er Interfac	e Probe; V	Vater Quali	ty Meter				
Completed by:	/s/ Chen	yl Johns	on/Enviro	nmental Sp	pecialist					
Signature:	/	1	2							



WELL ID	MKTP	-22	L .		TES	T PARAM	ETERS			
GAUGE DATE	1127-18	TIME	114	7						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2557	1	0955	7.29	12.71	1788	1.162	0.91	24	-9,3
DTB (FEET)	35.25	2	0957	724	12.67	1789	1.163	0.91	a2.6	-9.2
DTB - DTW	9.68	3	0959	7.22	1a.7	1790	1.164	0.91	21.5	-8.6
CAPACITY	0.74 - 4"	4	1001	76.97	1275	1791	1.164	0.91	20.5	-81,4
PER FOOT	0.163 - 2"	WEATHER	CONDITION	s: - Sl	islet b	areza	2/0	Hly (ldy	11/28
3 WELL VOLUMES	5				-0 .		1.	Cal	m	
PURGE DATE START TIME	11/27/18	WATER A	PPEARANCE Ulù		mt-	- mud	dh l	ast 3	3 bail	6
END TIME	獨	COMMEN	TS:							
AMT PURGED	3.75									
SAMPLE DATE	11/28/18									
SAMPLE TIME	1002									
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PI			1			HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI	ASTIC		1			H ₂ SO ₄	
			125 ML PI	ASTIC		1			NEAT	
NSTRUMENT	rs USED:	Oil/Wate	er Interfac	e Probe; V	Vater Qual	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	ecialist					
Signature:	1	2								



WELL ID	MKTF	.23			TES	T PARAM	ETERS			
GAUGE DATE	11/27/18	TIME	114	0						
DHC (FEET)	14.2	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.24	1								
DTB (FEET)	20.36	2								
DTB - DTW	200	3								
CAPACITY	0.74 - 4"	4					J. 3			
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	10000	r, alig	2. + Van	0020			
3 WELL VOLUMES				COU	ic, aug	VOL UI	W CK			
PURGE DATE		WATER	APPEARANCE		Cours					
START TIME			0	or i i	ayo	0				
END TIME		COMMEN	ITS:							
AMT PURGED		1	o Su	Jan M	en Cr	Mock	ed -	801	+ lay	ev
SAMPLE DATE									0	
SAMPLE TIME										
Analysis Requ	uest		CONTAIN	IER TYPE	NUN	MBER OF	CONTAIN		PRESERVA	ATIVE
	7 7 7		40 ML VC			5			HCL	
			1 LITER A 250 ML A	0.7-30-20-20-		1			NEAT	
			250 ML A			1			HNO ₃	
			125 ML P			1			HNO ₃	
		7,500	125 ML P			1			H ₂ SO ₄	
			125 ML P			- 1			NEAT	
801	1-EDI	3	40me	VOA		7	_		ا حکوها)3
NSTRUMEN	TS USED:	Oil/Wa	l ter Interfac	e Probe; \	Water Qual	ity Meter				
Completed by	: /s/ Cher	ryl John	son/Enviro	nmental S	pecialist					
Signature:	0	w	~							



WELL ID	Mt	TF	-24			TES	ST PARAM	IETERS			
GAUGE DATE	11/1	4/19	TIME	114	U						
DHC (FEET)			RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	23	3	1	0946	747	13.18	3035	1.913	1.59	22	425
DTB (FEET)	30	47	2	0948	7.38	12.88	3047	1.981	1.60	17.5	38.1
DTB - DTW	M	17	- 3	0950	7.33	12.73	3052	1.984	1.60	155	393
CAPACITY	0.74	- 4"	4	0992	7.3	12.68	3055	1-986	1.16	14.4	397
PER FOOT	0.16	3 - 2"	WEATHER	CONDITION	IS:			^	111-	12-18	Λ.
3 WELL VOLUMES	7	igw	0		pty	Ud	MIC	alm	100	our-co	elm
PURGE DATE	uli	21/14	WATER A	PPEARANCE					,	à	
START TIME	TIC	3	1	Cle	ar -	- pin	1c - n	nudd	y end	af pur	ige
END TIME	110	51	COMMEN								
AMT PURGED	20	5									
SAMPLE DATE	VI.	1101									
SAMPLE DATE	1111	5118									
SAMPLE TIME	09	51	4								
Analysis Requ	uest			CONTAIN	IER TYPE	NUI	MBER OF	CONTAIN	ERS	PRESERV	ATIVE
				40 ML VO			5			HCL	
X				1 LITER A						NEAT	
				250 ML A			1			NEAT	
				250 ML P			1			HNO ₃	
				125 ML P	LASTIC		1			HNO ₃	
				125 ML P	LASTIC		1			H₂SO₄	
			F-0-F-1	125 ML P	LASTIC		1			NEAT	
801	ID.	E	OB	40m	l voci			7	1	Jags 2 C	3
INSTRUMEN			250.00	Contractor.			lity Meter				
Signature:	/	1	w	~							



OHC (FEET)	11/14/1/ 13.35 19.43 (2.08 0.74-4" 0.163-2"	TIME RUNS 1 2 3 4 WEATHER	1155 TIME 1001 1003 1005	рн 7.7 7.35	Temperature Degrees C	(ms) 3197	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT	9,43 (e,08 0.74 - 4" 0.163 - 2"	1 2 3 4	1001	7.7	Degrees C	(ms) 3197	TOC DICATE		Oxygen (%)	
DTB (FEET) DTB - DTW CAPACITY PER FOOT WELL	9,43 (e,08 0.74 - 4" 0.163 - 2"	2 3 4	1003	735			2.078	1.68	148	50 G
CAPACITY PER FOOT WELL	0.74 - 4" 0.163 - 2"	3	104/		13				, 10	ex.
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	4	104/	7.00		3219	2.092	1.69	29.8	573
PER FOOT	0.74 - 4" 0.163 - 2"		1002	729	1261	3227	2.097	1.7	29.7	58.1
PER FOOT	2 1	WEATHE	100 1	727	1228	3230	18.1	1.7	29,1	578
	300D		RCONDITION			0	111-19	5-18	0.0	
		>	ptli	lud	410	um	Il	ear -	- al 1	M
NUDGE DATE	Mille	Table during section	PPEARANCE			1			h - 1	0
TART TIME	1158	L 1	Clea	1-6	rown	mude	ly e	nd at	ball	
TART TIME		COMMEN		2 - 2 2				200		
ND TIME	1203									
MT PURGED	.75gal									
SAMPLE DATE	1115/18									
AMPLE TIME	1012									
nalysis Requ	est		CONTAIN	ER TYPE	NUI	MBER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A 250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	-
			125 ML P			1			H ₂ SO ₄	
			125 ML P			1			NEAT	
NSTRUMENT	S USED:	Oil/Wat	er Interfac	e Probe; \	Water Qua	lity Meter				
completed by:	/s/ Cher	ryl Johns	son/Enviro	nmental S	pecialist					
	/									



WELL ID	MKTF	-26			TES	T PARAM	ETERS			
GAUGE DATE	11/4/18	TIME	190	,u						
DHC (FEET)	8.95	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	9.9	1							/g//	
DTB (FEET)	17.15	2								
DTB - DTW	1	3								
CAPACITY	0.74 - 4"	4				1				
PER FOOT	0.163 - 2"	WEATHER	CONDITION	S:					_	
3 WELL VOLUMES										
PURGE DATE			PEARANCE		ocurbo	w -	No.	Suny	les	-0
END TIME		COMMENT	·c.		laye			COLU	CACC	
AMT PURGED			1 1 -	110	- (tooy c	0				
SAMPLE DATE										
SAMPLE TIME										
Analysis Requ	ıest		CONTAINE	R TYPE	NUM	BER OF C	ONTAIN	ERS	PRESERVA	ATIVE
			10 ML VO			5			HCL	
			LITER A			- 1			NEAT	
			250 ML AN 250 ML PL			1			NEAT HNO3	
			25 ML PL			1			HNO ₃	
			25 ML PL			1			H ₂ SO ₄	
			25 ML PL			1			VEAT	
									4.4	
NOTOLIMENT	'e Heed	Oil/Mat-	r Intorface	Drobo: 1	Notor Ougli	hu Matau				
NSTRUMENT	7 11 210	141.7				y weter	1			
completed by:	/s/ Cher	yl Johnso	on/Environ	mental S	pecialist					
ignature:		12	2	_						



DTW (FEET)	WELL ID	MKTF.	27			TES	T PARAN	IETERS			
DHC (FEET)	GAUGE DATE	11/14/18	TIME	1421	1						
DTW (FEET)	DHC (FEET)		RUNS	TIME	рН			TDS (g/L)	Salinity (ppt)		ORP (mv)
DTB (FEET) 14.73 2 1103 7.51 IS 41 10584 16.881 (4.03 33.5 99) DTB - DTW 8.41 3 1114 7.38 1497 10405 16.881 (4.03 30.4 101) CAPACITY PER FOOT 3 WELL VOLUMES WATER APPEARANCE / ODOR: PURGE DATE 11148 WATER APPEARANCE / ODOR: START TIME 1430 COMMENTS: SAMPLE DATE 11168 SAMPLE TIME 433 INCOMMENTS: AMT PURGED 40 INCOMMENTS: 40 ML VOA 5 HCL 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 HNO3 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter SOMPleted by: /s/ Cheryl Johnson/Environmental Specialist	DTW (FEET)	631	1	1100	8.47	_		0.021	0.01	THE ALTER STORY	573
DTB-DTW 8.41 3 1114 138 147 10605 6843 663 30.4 101. CAPACITY PER FOOT 0.74-4" 4 1 0.163-2" WEATHER CONDITIONS: 3 WELL VOLUMES PLUE PLUE PLUE PLUE PLUE PLUE PLUE PLUE	DTB (FEET)	14.72	, 2	1102	7.51		10584		12		999
CAPACITY PER FOOT 0.163 - 2" WEATHER CONDITIONS: 3 WELL VOLUMES PURGE DATE START TIME 1426 COMMENTS: AMT PURGED Analysis Request CONTAINER TYPE 40 ML VOA 1 LITER AMBER 250 ML AMBER 1 NEAT 250 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 126 ML PLASTIC 1 HNO ₃ 127 ML PLASTIC 1 HNO ₃ 128 ML PLASTIC 1 HNO ₃ 129 ML PLASTIC 1 HNO ₃ 120 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 1 HNO ₃ 1 HNO ₃ 1 HNO ₃ 1 HNO ₃ 1	DTB - DTW	8.41	3		738	1497	10605	6277 833 - 1 2 1 2 1 2 2		30.4	101.2
SWELL VOLUMES PURGE DATE PURGE DATE PURGE DATE START TIME PURGE DATE PURGE DATE PURGE DATE PURGE DATE PURGE DATE PURGED COMMENTS: COMMENTS: CONTAINER TYPE AND BER OF CONTAINERS PRESERVATIVE 40 ML VOA Analysis Request CONTAINER TYPE AND ML VOA T LITER AMBER PESERVATIVE AND ML VOA T LITER AMBER PESERVATIVE AND ML VOA T LITER AMBER PESERVATIVE AND ML VOA T LITER AMBER PESERVATIVE AND ML VOA T LITER AMBER PESERVATIVE T NEAT PESERVATIVE AND ML PLASTIC T NEAT PESERVATIVE T NE		0.74 - 4"							L		
PURGE DATE START TIME ILLALO COMMENTS: AMT PURGED ANALYSIS REQUEST CONTAINER TYPE AND HOLE 1 LITER AMBER 1 NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 125 ML PLASTIC	PER FOOT	0.163 - 2"	WEATHER	CONDITION	is:	. 1		12			
PURGE DATE START TIME		toral)	ptu	1 ca	4 - 6	MULL	4			
START TIME 1436 COMMENTS: AMT PURGED 466 SAMPLE DATE 116 SAMPLE DATE 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TIME 116 SAMPLE TO SAMPLE TIME 116 SAMPLE TO SAMPLE THE SAMPLE TIME 116 SAMPLE TO SAMPLE THE SAMPLE TO SAMPLE THE SAM	PURGE DATE	1 1 1	WATER A	۸		0					
AMT PURGED SAMPLE DATE SAMPLE TIME Analysis Request CONTAINER TYPE ANUMBER OF CONTAINERS PRESERVATIVE 40 ML VOA 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 NEAT NEAT	START TIME	1426	G	Llan	- W	dy-	grav	١			
SAMPLE TIME SAMPLE TIME Analysis Request CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE 40 ML VOA 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist	END TIME	1433	COMMEN	rs:							
SAMPLE TIME SAMPLE TIME Analysis Request CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE 40 ML VOA 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist	AMT PURGED	4aal.									
Analysis Request CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE 40 ML VOA 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 NEAT NEAT NEAT 125 ML PLASTIC 1 NEAT NEAT NEAT NEAT NEAT NEAT NEAT	SAMPLE DATE		8	-							
Analysis Request CONTAINER TYPE NUMBER OF CONTAINERS PRESERVATIVE 40 ML VOA 1 LITER AMBER NEAT 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 NEAT NEAT NEAT 125 ML PLASTIC 1 NEAT NEAT NEAT NEAT NEAT NEAT NEAT	SAMPLE TIME	133	1110)							
1 LITER AMBER 250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist	Analysis Requ	uest			ER TYPE	NUM	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
250 ML AMBER 1 NEAT 250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist				40 ML VO	A		5			HCL	
250 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist											
125 ML PLASTIC 1 HNO ₃ 125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist				250 ML AI	MBER		1			NEAT	
125 ML PLASTIC 1 H ₂ SO ₄ 125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist				250 ML PL	ASTIC		1			HNO ₃	
NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist				125 ML PL	ASTIC		1			HNO₃	
125 ML PLASTIC 1 NEAT NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist				125 ML PL	ASTIC		1			H ₂ SO ₄	
NSTRUMENTS USED: Oil/Water Interface Probe; Water Quality Meter Completed by: /s/ Cheryl Johnson/Environmental Specialist							1				
Completed by: /s/ Cheryl Johnson/Environmental Specialist											
Completed by: /s/ Cheryl Johnson/Environmental Specialist											
	NSTRUMENT	TS USED: (Dil/Wate	r Interface	e Probe; W	/ater Quali	ty Meter				
	completed by:	: /s/ Chery	/I Johns	on/Enviror	nmental Sp	ecialist					
Ignature:	ignature:		-	7 - 1							



WELL ID	MKTF	-28			TES	ST PARAM	IETERS			
GAUGE DATE	1114/18	TIME	143	7						
DHC (FEET)	_	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	6.12	1	1222	823	22.63	2520	1.638	13	1364	87.6
DTB (FEET)	16.16	2	1224	7.96	19.63	2596	1.687	1,35	49.5	87.8
DTB - DTW	10.04	3	1224	7.89	1965	2660	1.69	1.35	47.8	86.8
CAPACITY	0.74 - 4"	4	1998	7.86	18.69	2663	1.692	1.35	47.9	85
PER FOOT	0.163 - 2"	WEATHER	CONDITION	1 (10	1 -	On	~ /1D	15/18-	0	-
3 WELL VOLUMES	5 guls		PIC	of cra	4 - C	alli	70	leen-	Culv	n
Anna Tan	7	WATER A	PPEARANCE				1			
PURGE DATE			0 000	0 - 1	Elizh	(mm)	tint	-		
START TIME	1440	ender.		01-	and o	900	0,,,			
END TIME	1447	COMMEN.	rs:							
AMT PURGED	Souls									
SAMPLE DATE	111316									
SAMPLE TIME	1230									
Analysis Requ			CONTAIN	ER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED:	Oil/Wate	er Interface	e Probe; V	Vater Qual	ity Meter				
ompleted by:	/s/ Chen	yl Johns	on/Enviro	nmental Sp	pecialist					
ignature:		1			,					



WELL ID	WHITE	29			TES	ST PARAM	ETERS			
GAUGE DATE	11)14/18	TIME	150	4						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	4.09	1	1201	7.92	12.09	2607	1.694	136	36.7	89.4
DTB (FEET)	33.8U	2	1203	778	1223	2605	1.693	1.36	339	95
DTB - DTW	18.75	3	1205	7.71	12.43	2608	1.695	1.36	33.5	99.1
CAPACITY	0.74 - 4"	4	1207	7.67	12.66	2611	1.697	1.30	33.2	1013
PER FOOT	0.163 - 2"	WEATHER	RCONDITION	S:						
3 WELL VOLUMES	acilo	ll/s								
PURGE DATE	111418	WATER A	PPEARANCE		elex	put b	wt	+		
END TIME		COMMEN.	rs:							
AMT PURGED	10 nal)							- 0	
SAMPLE DATE	1115/18									
SAMPLE TIME	1210			1						
Analysis Requ			CONTAIN	ER TYPE	NUN	MBER OF (CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A			P	+ ID		NEAT	
			250 ML AI			1	7		NEAT	
			250 ML PI			1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED.	Oil/Wate	er Interface	e Probe: V	Vater Qual	itv Meter				
						NO WOOL				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	ecialist					
Signature:		/				7				



WELL ID	WKIL	-3(TES	T PARAM	IETERS			
GAUGE DATE	11/14/18	TIME	145	1						
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	15.15	1	1131	7.62	15.68	3359	2.183	1.77	317	85
DTB (FEET)	2320	2	1133	7.59	1551	3360	7.184	1.77	30.8	84.5
DTB - DTW	8.05	3	1135	7.38	1533	3359	2.183	1.77	304	866
CAPACITY	0.74 - 4"	4	1137	757	15,1	3359	2.183	1.77	304	87
PER FOOT	0.163 - 2"	WEATHER	R CONDITION	is: Oth	u Clo	ly -	sligh	A DI	ell	
3 WELL VOLUMES	4ads	11/1	5/18	- (lear	- CC	Um	_		
PURGE DATE	11/4/18	111111111111111111111111111111111111111	PPEARANCE		m (C -	hall	Volum (Donal	lub p	IMSR
START TIME	1954	month of		or pe	VCIC-	Trock	1000	J 6/10	4 000	0.180
END TIME	1501	COMMEN	rs:							
AMT PURGED	2.75									
SAMPLE DATE	11 1918		×							
SAMPLE TIME	1137									
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VC			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	-
			250 ML P			1			HNO ₃	
			125 ML PI			1			HNO₃	
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI	LASTIC		1			NEAT	
NSTRUMENT	S USED: (Oil/Wate	er Interfac	e Probe; V	Vater Quali	ty Meter				
10.00	7 107 37 1			2087114	17.74	2 77 1				
Completed by	/s/ Chery	yı Jonns	on/Enviro	nmental Sp	pecialist					
ignature:		0	71							



WELL ID	MKTF	-3	ı		TES	ST PARAN	ETERS			
GAUGE DATE	nlight	TIME	190	7		I have I				
DHC (FEET)	1 4	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m
DTW (FEET)	8,44	1	1024	8.26	17.49	35	0.022	0.01	68	34
DTB (FEET)	22,81	2	1026	7.39	1557	3258	2.118	1.72	49.6	88.4
DTB - DTW	1437	3	1028	7.38	15.45	3270	2.125	1.72	47.8	90.0
CAPACITY	0.74 - 4"	4			11.000		1			
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	vs:		0		11-15-1	8	
3 WELL VOLUMES	M	(PTW	Cla	1 - 0	ul	m	Clew	o cul	w
	ilal	WATER A	PPEARANCE	ODOR:					10,000	
PURGE DATE	nii	(loa	1 - 0	Loud	, - v	21 M			
START TIME	1910	Laboratoria de		1 0	conco	M F	ovac			
END TIME	1221	COMMEN	15:							
AMT PURGED	8 gal									
SAMPLE DATE	1115/18									
SAMPLE TIME	1032									
Analysis Req	uest			IER TYPE	NUI	MBER OF		ERS	PRESERV	ATIVE
			40 ML VC			5			HCL NEAT	
			1 LITER A 250 ML A			1			NEAT	
		-	250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	
						1			H ₂ SO ₄	
			125 ML P			1			NEAT	
			125 IVIL P	LAGIIC					INLA	
8011	TEDB									
INSTRUMEN	TS USED:	Oil/Wa	ter Interfac	ce Probe;	Water Qua	lity Meter				
0	" lat Ob-	d - l - ls	con/Environ	nmontal C	nocialist					
Completed by	. Isi Che	ryi John	SON/ENVIR	mmental S	pecialist					
		7.41			-					



WELL ID	MKT	-3	2		TES	T PARAM	ETERS			
GAUGE DATE	11-14-1	TIME	093	0		V. mark				
DHC (FEET)	_	RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.1	1	0839	791	14.35	2552	1.659	1.33	16.4	1029
DTB (FEET)	27.75	2	0841	7.92	14.08	2563	1.665	1.33	9.4	99.8
DTB - DTW	13.65	3	0843	7.92	13.89	256	11667	1.33	9.1	962
CAPACITY	0.74 - 4"	4	0845	792	13.71	2566	1.668	1.33	8.6	933
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	dy, C	a O ma	111-	15-18	7 7 7 7	1	
3 WELL VOLUMES	Truls	P	140	my, c	COM	1 0	leu	1, Cel	lm	
PURGE DATE	11-19-18	1. (4. 2) . (4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	PPEARANCE		Clbron	MO	and o	it Din	9/	
START TIME	0932			Po	1000		0, 600	0 1	7	
END TIME	0946	COMMEN	TS:							
AMT PURGED	Total)								
SAMPLE DATE	11-151	6								
SAMPLE TIME	0846							3.4		
Analysis Req	uest		CONTAIN	IER TYPE	NUN	IBER OF	CONTAIN	ERS	PRESERV	ATIVE
			40 ML VC			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P			1			HNO₃	
			125 ML P			1			H ₂ SO ₄	
			125 ML P	LASTIC		1			NEAT	
8611	-EDE	3	40ml	VOA		2		(002500	3
INSTRUMEN	TS USED:	Oil/Wat	er Interfac	e Probe; \	Water Qual	ity Meter				
Completed by	r: /s/ Cher	yl Johns	son/Enviro	nmental S	pecialist					
Signature:	/	1	V)						
J				/						



WELL ID	MKTI	-33			TES	ST PARAM	IETERS			
GAUGE DATE	11-27-11	TIME	120	5						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2272	- 1	1010	7.55	1234	1656	1.076	0.84	34	31.5
DTB (FEET)	33.2	2	1012	7.54	12.25	1655	1.076	0.84	34.6	32.5
DTB - DTW	19.52	3	1014	7.54	12.16	1653	1.075	0.84	345	33.2
CAPACITY	0.74 - 4"	4	1014	7.53	11.98	1656	1.076	084	34.6	34
PER FOOT	0.163 - 2"	WEATHER	CONPITIO	NS: WID	light	bree	20	othy	Oldy	. 1
3 WELL VOLUMES	10				0	11/11		sli	Clay Jut by	0020
DUDGE DATE	11/27		PPEARANC		V 1-		1-	TITLE TO B		
PURGE DATE			flew	-pu	16-18	non	njsu	LTY		
START TIME	1908	COMMEN	TS:						_	
END TIME	1227									
AMT PURGED	10									
SAMPLE DATE	11/28/18							47.0		
SAMPLE TIME	1020	(lla	octec	D	mohe	ate	0	1028	
Analysis Req				NER TYPE		MBER OF			PRESERV	ATIVE
			40 ML V			5			HCL	
			1 LITER						NEAT	
			250 ML A			1			NEAT	
			250 ML F			1			HNO ₃	
			125 ML F			1			HNO ₃	
			125 ML F			1			H ₂ SO ₄ NEAT	
			120 WET	Litorio						
8011	-EDB		40ml	VOA		2			Day S20	3
NSTRUMEN	TS USED:	Oil/Wat	20 477 22 22			lity Meter				
		- 1 1 1		Committee of the second						
Completed by	: /s/ Che	ryl Johns	son/Envir	onmental S	pecialist					



WELL ID	MKTF	34			TES	T PARAM	ETERS			
GAUGE DATE	11/27/18	TIME	694	1						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	18.95	1	D857	7.87	13.18	2017	1.311	1.04	44.5	22.6
DTB (FEET)	27.68	2	0859	7.83	12.39	2031	1.32	1.04	8.GP	24.4
DTB - DTW	873	3	0901	7.8	11.81	2035	1.323	1.04	42.2	24.4
CADACITY	0.74 - 4"	4		17.79	1.30	2038	1.325	1.05	41	25
CAPACITY PER FOOT	0.163 - 2"	WEATHER	CONDITION	S.						
3 WELL VOLUMES	N		ele	en	culn	lou	er cer	st, Ca	lm	
PURGE DATE	1127		PPEARANCE LUL	/ ODOR:						
START TIME	0945									
END TIME	0954	SOMMEN.	rs: iled	Uga	b					
AMT PURGED	4.			9						
SAMPLE DATE	13848									
SAMPLE TIME	0964									
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	IBER OF	CONTAIN	ERS	PRESERV	ATIVE
			40 ML VO			5			HCL	
			1 LITER A	the sale of the sa					NEAT	
			250 ML AI			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	-		1			HNO ₃	
			125 ML PL 125 ML PL			1			H₂SO₄ NEAT	
8011-E	102		10 M			7			W2520=	
5011-6	מט		10 Ma	V C/L					m3356	-
NSTRUMENT	S USED: (Oil/Wate	er Interface	e Probe; V	Water Qual	ty Meter				
ompleted by:	/s/ Chery	yl Johns	on/Enviror	nmental S	pecialist					
and the state of t					THE RESERVE AND ADDRESS OF THE PARTY OF THE					



WELL ID	MKTF	-35			TES	T PARAM	ETERS			
GAUGE DATE	1112818	TIME	133	5						
DHC (FEET)	110 00 11 0	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	9.1	1	1208	771	16.81	1719	1.118	0.87	138.8	-54.1
DTB (FEET)	16.45	2	1210	7.39	14.35	1755	1,14	0.89	11.8	-72.
DTB - DTW	17:35	3	1212	7.33	14.11	1752	1.139	0.89	12.3	-707
CAPACITY	0.74 - 4"	4	1214	7.3	13.08	1774	1.153	0.91	11.8	-65.
PER FOOT	0.163 - 2"	WEATHER	CONDITION	is:	a Alalat 1	10020				
3 WELL VOLUMES	4		over	casa 16	alight b	pod Or				
	11/27	WATER A	PPEARANCE	/ ODOR:	A. = 2A.5.	V.	0.40.0	lahl	reil.	
PURGE DATE			Clean	-gra	y-m	uncy	ence	r coo v	sail.	
START TIME	1540	1								
END TIME	1550	COMMEN.	15:							
AMT PURGED	4 mil									
SAMPLE DATE	11128/18									
SAMPLE TIME	1218									
Analysis Req			CONTAIN	IER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERV	ATIVE
			40 ML VC			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P	THE PARTY NAMED IN COLUMN		1			HNO ₃	
			125 ML P			1			H ₂ SO ₄	-0.2
			125 ML P	LASTIC		1			NEAT	
801	1-EDP	5	40ml	VOA		2		1	Jan Sa	03
NSTRUMEN						ity Meter				
Joinpleted by	. ISI CHE	yr Jorna	SOUNCITORIO	minorital C	poolalist			12.1		
Signature:	//	7	_ /					100		



WELL ID	MAIN-34									
GAUGE DATE	1111	-		4		COV. TO				
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)		- 1								
DTB (FEET)	15.45	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	S:						
3 WELL VOLUMES										
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
END TIME		COMMEN	TS:	1/10	trek	ilo A	n1.	DCU.	to 1	1100
AMT PURGED			00.00	1100	- \ (\ \-\) (, CALLA
SAMPLE DATE										
SAMPLE TIME										
Analysis Req	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	71-72
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	and the same of the same		1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
8011-	EDB		40 ml	VOA		2			Mass	03
NSTRUMENT						ity Meter				
Signature:	1	20								



WELL ID	MKTIF-37 TEST PARAMETERS									
GAUGE DATE	1112118	TIME	152	16						
DHC (FEET)	9.4	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	9.52	1				1			2.0,920. (10)	
DTB (FEET)	24.60	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4						1		
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	is:	1 0 1	13000				
3 WELL VOLUMES		0	rence	orta	tilgil	10/101	æ			
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
END TIME		COMMEN	TS:			7				
AMT PURGED		0,	in Sa	minle	0 m	Hart	ocl -	SP-	Alan	Ph
SAMPLE DATE			1004	7000	2 00	raci				800
SAMPLE TIME										
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	TIVE
THE STREET	0.77		40 ML VC			5			HCL	
			1 LITER A						NEAT	
		-	250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML PI		-	1			H₂SO₄ NEAT	
2511	-/\10		PER PARTS							
8011-	EUB		40ml	UUA		2	_	Y	Vassa (13
NSTRUMENT	TS USED:	Oil/Wat	er Interfac	e Probe; \	Water Qual	ity Meter	_			
Completed by	: /s/ Cher	yl Johns	son/Enviro	nmental S	pecialist					
	10				E. P. CARRIER					
ignature:	VV	V	1							



WELL ID	MKT	F-3	8		TES	T PARAM	ETERS			
GAUGE DATE	11/19/18	TIME	150	5						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	899	1	0940	7.87	1526	2283	1.484	1.18	29.9	16.6
DTB (FEET)	20,29	2	0942	7.58	15.1	2305	1.498	1.19	24.8	32.6
DTB - DTW	11.3	3	0944	7.51	4.77	2309	1.501	1.19	244	34
CAPACITY	0.74 - 4"	4	0946	7.46	14,44	2313	1.503	1.2	a2.5	349
PER FOOT	0.163 - 2"	WEATHER	CONDITION							
3 WELL VOLUMES	6.			lem,	Colm					
PURGE DATE	11/19/18	WATER A	PEARANCE	/ODOR:	110-1	nudd	yen	clab	bail	
START TIME	1549		cere	h			,			
END TIME	1559	COMMEN	UTR.	mad	p Van	et be	elow	phio	4	
AMT PURGED	5.35								0	
SAMPLE DATE	1/20/18		×	n						
SAMPLE TIME	0948									
Analysis Requ	ıest		CONTAIN	ER TYPE	NUN	BER OF O	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO.			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1_			HNO ₃	
			125 ML PL			1_			H ₂ SO ₄	
			125 ML PL	ASTIC		1		-	NEAT	
NSTRUMENT	S USED: (Dil/Wate	r Interface	Probe; W	/ater Quali	ty Meter				
Completed by:	/s/ Cherv	d Johnso	on/Enviror	mental Sp	ecialist					
	/	3			CONTRACT CONTRACT					
Signature:	1	1		_						



WELL ID	MKTP	-30	9		TES	T PARAN	IETERS			
GAUGE DATE	11/19/18	TIME	150	32						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m)
DTW (FEET)	90	1	0914	7.81	615	8	,006	0	84.1	-8.5
DTB (FEET)	15.20	2	0918	7,24	1667	5963	3876	3.26	13	-53
DTB - DTW	6.2	3	0920	7.19	15.69	6002	3901	3.28	12.2	-53
CAPACITY	0.74 - 4"	4	0922	716	1527	6012	3.908	3.29	12.1	-51.
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	S:0 0	100	01-				
3 WELL VOLUMES	3	世	I (new	1, C a	en				
PURGE DATE	11/19/18	100	PPEARANCE		14		Λ.	()		
START TIME	1533	U	lar	- (ce	st ba	ul-n	mdd	4		
END TIME	1543	COMMEN	TS:							
AMT PURGED	3									
SAMPLE DATE	11/20/18		~	-						
SAMPLE TIME	0922									
Analysis Requ	ıest		CONTAIN		NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A 250 ML AN			1			NEAT	
		-	250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			VEAT	
NSTRUMENT	S USED: 0	Dil/Mate	r Interface	Probe: V	Vater Quali	ty Meter				
TO THOME!	O GOLD.	JIII V V CITC	, mondo	, , , , ,	retor equal	cy motor				
completed by:	/s/ Chery	l Johns	on/Environ	mental Sp	oecialist					
	/									
ignature:	/				_					



WELL ID	MKTF	-40)		TES	T PARAM	IETERS			
GAUGE DATE	11114118	TIME	127	4						
DHC (FEET)	_	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	13.04	1	1048	7.7	15.39	8476	5509	4.74	60	96.3
DTB (FEET)	23.64	2	1050	7.61	14.93	8567	5.53	4.76	577	96.5
DTB - DTW	3000	3	1052	758	14.57	8526	5542	4.78	57.5	96.4
CAPACITY	0.74 - 4"	4	1054	7.57	14,25	8531	5.551	4.78	54.3	96.1
PER FOOT	0.163 - 2"	WEATHER	CONDITION	s: 00	A	00,	Dot A	aree.	70	
3 WELL VOLUMES	5 gill		PI	MIST	879	lear	cali	nuc	a	
PURGE DATE	11/4/18	WATER A	PPEARANCE	/ ODOR:						
START TIME	1229		Cle	ell -						
END TIME		COMMEN.	rs:							
AMT PURGED	Soul	0								
SAMPLE DATE	1200	,								
	11115118									
SAMPLE TIME	1095					حالياتيا	000			
Analysis Requ	uest		CONTAIN		NUN	IBER OF	CONTAIN		PRESERV	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML PI	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC.		1			NEAT	
INSTRUMENT	S USED:	Oil/Wate	er Interface	e Probe: V	Vater Qual	ity Meter				
Maria 4 Maria 2011	7 7 7 7 7 7 7 7				1117111 1707.11	200				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	pecialist					
Signature:		1	2			-/				



WELL ID	MKTF	-41			TES	T PARAM	ETERS			
GAUGE DATE	11-14-18	TIME	095	1		4				
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2051	1	0858	8.4	13.66	31	0.62	0.01	80.5	944
DTB (FEET)	40.10	2	6900	8.44	13.85	3166	2.698	1.67	9.8	104.4
DTB - DTW	19.59	3	0902	8.43	13.7	3172	3.00	1.67	8.8	483
CAPACITY	0.74 - 4"	4	0904	8.42	13.65	3172	2.062	167	8.5	F.90
PER FOOT	0.163 - 2"	WEATHE	RCONDITION	S:	vial o	ptly	Oldy	- Cu	0,00	
3 WELL VOLUMES	10als		4	1115/18	- Cle	4	em	, Cex	VIV.	
PURGE DATE	11/14/19	WATER A	PPEARANCE	7 O 0 (1 A	- el	eht i	uno-	ting		
START TIME	6953		,	MM		0	U	0		
END TIME	1013	COMMEN	TS:							
AMT PURGED	Majulo									
SAMPLE DATE	11/15/18	/								
SAMPLE TIME	0907									
Analysis Req	uest		CONTAIN		NUI	MBER OF	CONTAIN	ERS	PRESERV	ATIVE
			40 ML VO			5			HCL	
/ E			1 LITER A	THE OWN THE PARTY		1			NEAT NEAT	
			250 ML AI 250 ML PI			1			HNO ₃	
			125 ML PI	7.34		1			HNO ₃	
-			125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			NEAT	
8011-E	DB		40 ml	VOA		2	2		وكوه	03
INSTRUMEN	TS USED:	Oil/Wat	er Interfac	e Probe; \	Water Qua	lity Meter				
Completed by	r: /s/ Chei	ryl John:	son/Enviro	nmental S	pecialist					
Signature:	(1								



	MKTF	-4:	2		TES	ST PARAM	IETERS			
GAUGE DATE	11-14-18	TIME	D85	8						
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m)
DTW (FEET)	1694	1	0800	8.41	13.49	3635	2.363	1.93	36.2	
DTB (FEET)	33.15	2	0802	8.42	13.08	3665	2.382	1.94	34.4	
DTB - DTW	16.21	3	0804	8.49	1276	3683	2.394	1.95	34.7	-
CAPACITY	0.74 - 4"	4	0804	8.51	12.46	36016	2402	1.9,6	35.3	
PER FOOT	0.163 - 2"		RCONDITION		0	1	111	15/0	lear,	
3 WELL VOLUMES	Egul	. 1	2119	ccou	dy, c	eilm	1		Caln	n
PURGE DATE	11-14	CHARLEST CONTRACTOR	PPEARANCE	100 Co. 100 Co	nge te	A	00.1	+	1. /	
START TIME	0902		Clau	c / wwa	nge te	M -	secon	400	Lev	
END TIME		COMMEN	TS:							
AMT PURGED	85									
	1/ /									
SAMPLE DATE	11-15									
SAMPLE DATE	11-15		170							
	0828		CONTAIN	ER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERVA	ATIVE
SAMPLE DATE	0828		40 ML VO	Α	NUM	MBER OF	CONTAIN	ERS	HCL	ATIVE
SAMPLE DATE	0828		40 ML VO 1 LITER A	A MBER	NUM	5	CONTAIN		HCL NEAT	ATIVE
SAMPLE DATE	0828		40 ML VO 1 LITER A 250 ML AI	A MBER MBER	NUM	5 1	CONTAIN		HCL NEAT NEAT	ATIVE
SAMPLE DATE	0828		40 ML VO 1 LITER A 250 ML AI 250 ML PI	MBER MBER LASTIC	NUM	5 1 1	CONTAIN		HCL NEAT NEAT HNO ₃	ATIVE
SAMPLE DATE	0828		40 ML VO 1 LITER A 250 ML AI 250 ML PI 125 ML PI	MBER MBER LASTIC LASTIC	NUÑ	5 1 1 1	CONTAIN		HCL NEAT NEAT HNO ₃ HNO ₃	ATIVE
SAMPLE DATE	0828		40 ML VO 1 LITER A 250 ML AI 250 ML PI	MBER MBER LASTIC LASTIC LASTIC	NUN	5 1 1	CONTAIN		HCL NEAT NEAT HNO ₃	ATIVE
SAMPLE DATE	0828 uest		40 ML VO 1 LITER A 250 ML AI 250 ML PI 125 ML PI 125 ML PI	MBER MBER LASTIC LASTIC LASTIC LASTIC	NUM	1 1 1 1	CONTAIN		HCL NEAT NEAT HNO ₃ HNO ₃	ATIVE
SAMPLE DATE SAMPLE TIME Analysis Requ	USAK uest	Oil/Wate	40 ML VO 1 LITER A 250 ML AI 250 ML PI 125 ML PI 125 ML PI 125 ML PI	MBER MBER LASTIC LASTIC LASTIC LASTIC VOA	Vater Qual	5 1 1 1 1 1	CONTAIN		HCL NEAT NEAT HNO ₃ HNO ₃	ATIVE



WELL ID	MKTF	-43	3		TES	T PARAN	IETERS			
GAUGE DATE	11-14-18	TIME	1019							
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	5.47	1	0920	779	12.59	7538	4.9	4.18	60.7	138.7
DTB (FEET)	15.43	2	0922	7.72	1265	7556	4.912	4.19	58	134.8
DTB - DTW	10.01	3	0924	7.67	12.78	7564	4.917	4.2	57	131.3
CAPACITY	0.74 - 4"	4	0926	7.64	12.97	7569	4.92	4.2	56.9	127.8
PER FOOT	0.163 - 2"	WEATHE	CONDITION	ο 0 Δ		0	/11/1	5 - C	lear.	- 1
3 WELL VOLUMES	5gols	طيريا	più	i eld	410	MM			caln	\wedge
PURGE DATE	11.19.18	WATER A	PPEARANCE			٥				
START TIME	1021		ale	an,	ND C	dw				
END TIME	1030	COMMEN	TS:							
AMT PURGED										
SAMPLE DATE	11-1518		-							
SAMPLE TIME	0925		1 1 7 1 1			- 1.	101000			
Analysis Req			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL	VIII CONTRACTOR		1			H ₂ SO ₄	
			125 IVIL PL	ASTIC					NEAT	
NSTRUMEN ⁻	rs used:	Oil/Wate	er Interface	e Probe; V	Vater Quali	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	ecialist					
Signature:	1	1	10-							
ignaturo.		1/	V	3				V		



DHC (FEET) DTW (FEET) DTB (FEET) CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE START TIME []	2 aw	RUNS 1 2 3 4	0753	PH 8.12 8.18	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET) DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE START TIME []	91.15 4.73 0.74-4" 0.163-2" 20	1 2 3	0751	8.12	Degrees C 11.5Φ	(mS)	1	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE START TIME [[]]	91.15 4.73 0.74-4" 0.163-2" 20	2	0753	-		2120	1007	. 1		-
DTB (FEET) DTB - DTW CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE START TIME [[]]	91.15 4.73 0.74-4" 0.163-2" 20	3		81.8	. 10	01107	1.38 +	1. 1	48.7	1161
CAPACITY PER FOOT 3 WELL VOLUMES PURGE DATE START TIME [[0.74 - 4" 0.163 - 2"		6755	0	11.15	2145	1.394	1.1	8.TH	112.2
PURGE DATE START TIME END TIME	0.163 - 2" 2 AW	4	0100	8.2	10.94	2148	1.396	1.11	U7.8	110.1
PER FOOT 3 WELL VOLUMES PURGE DATE START TIME [[]]	2 aw			821	10.83	2151	1.398	1.17	48	1083
PURGE DATE START TIME END TIME	10/00	WEATHE	CONDITIONS	. 010		0,00		5.18		
START TIME		Δ	Ptu	1 cra	4, Ca	XIVI	1 e	lear, c	calm	
START TIME	1-19	WATER A	PPEARANCE /	ODOR:						
END TIME										
	040	COMMEN	TS:	_	^			+ .	. 6	
AMT PURGED	100		Cle	cu -	Clai	dy.	- you	wlu	nt @	9 and
10 10 10 10 10 10 10 10 10 10 10 10 10 1	e-Scral	0	6 pw	180			U			
SAMPLE DATE	1-15-18		11-15-1	8						
SAMPLE TIME	0802	,								
Analysis Reques			CONTAINE	R TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERV	ATIVE
			40 ML VOA			5	1000		HCL	
			1 LITER AN						NEAT	
			250 ML AN			1			NEAT HNO ₃	
			250 ML PL			1			HNO ₃	
			125 ML PL						H ₂ SO ₄	
			125 ML PL			1			NEAT	
		-	125 IVIL 1 L/	10110					IVE/VI	
NSTRUMENTS	S USED:	Oil/Wat	er Interface	Probe; V	Vater Qual	ity Meter				
					40.000					
Completed by:		ul Johns								
Signature:	/s/ Cher	yr Jorns	son/Environ	mental S	pecialist					



WELL ID	MKT	F-4	5		TES	ST PARAM	ETERS			
GAUGE DATE	11/27/18	TIME	5	38	-					
DHC (FEET)	13.6	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.15	1								
DTB (FEET)	30.24	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITION	is:	i Sly	ond And	102e	/		
3 WELL VOLUMES			Own	Casi	1 Sug	/u 0 0				
PURGE DATE		WATER A	PPEARANCE 50	10.17.00.000.00						
START TIME		COMMEN.	re.							
END TIME		COMMEN								
AMT PURGED			No	Samy	ples 1	To lle	Hed	- 64	HIC	uxer
SAMPLE DATE										4
SAMPLE TIME										
Analysis Requ	est	-	CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A 250 ML AI						NEAT	
			250 ML PI			1			NEAT HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI			1			NEAT	
NSTRUMENT	S USED:	Oil/Wate	er Interfac	e Probe; \	Nater Quali	ty Meter				
Completed by:	/s/ Cher	yl Johns	on/Enviro	nmental S	pecialist					
Signature:	6	7/	V	_						



WELL ID	BW-				TES	T PARAM	ETERS			
GAUGE DATE	11-7-18	TIME	151	6						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	DRY	1								
DTB (FEET)	38.8	2								
DTB - DTW		3					_ C-00			
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHER	CONDITION	is:	13.1	-	1			
3 WELL VOLUMES			٥	ear	- C	pung	4			
PURGE DATE		WATER AF	PEARANCE		0 14					
START TIME			,	0	RY					
END TIME		COMMENT	S:							
AMT PURGED										
SAMPLE DATE										
SAMPLE TIME				4						
Analysis Requ	iest		CONTAIN	ER TYPE	NUN	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
			10 ML VO			5			HCL	
			LITER A						NEAT	
			250 ML AI						NEAT	
			250 ML PL			1			HNO ₃	
			25 ML PL			1			HNO ₃	
			25 ML PL			1			H ₂ SO ₄	
		1	25 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED:	Oil/Wate	r Interface	e Probe; \	Water Quali	ty Meter				
Completed by:	/s/ Cher	yl Johnso	on/Enviro	nmental S	pecialist					
Signature:	/	20			_					



WELL ID	BW- 4B				TES	ST PARAM	IETERS			
GAUGE DATE	11-18-18	TIME	1319	1335						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	44.87	1	1424	8.98	11.72	1828	1.188	0.93	232	-5,2
DTB (FEET)	63.5	2	1924	81.63	21.41	1828	1.188	0.93	8.8	-591
DTB - DTW	1863	3	1428	8.59	11.32	1819	1.18	0.93	8.2	-74.2
CAPACITY	0.74 - 4"	4	1430	Did	TOCH	Recov		istre	adir	-
PER FOOT	0,163 - 2"	A CARLON	CONDITION			_		3		1
3 WELL VOLUMES	9	(le	ou 1	wu	rolu	1			
PURGE DATE	11-13-18	WATER A	PPEARANCE	IODOR:	eou	dy				
END TIME	1345	COMMENT	rs:	<+ <1	ucti	an Car	2,5	~ 1 l	0-	
AMT PURGED	25	mu	llall	low -			GIL	10 (5	1100	Dime.
SAMPLE DATE	1413	T I	mpl				1000.	u (v		oche
SAMPLE TIME	1430		010015							
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS I	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						VEAT	
			250 ML AN			1			VEAT	
		_	250 ML PL	THE PERSON IN		1			HNO ₃	
			125 ML PL			1			HNO₃	
			125 ML PL 125 ML PL			1			H₂SO₄ NEAT	
			125 IVIL FL	ASTIC					NEAT	
INSTRUMENT						ty Meter				
Signature:	C CITE	y comis	2	interital op	Colalist					



WELL ID	BWSF	1			TES	T PARAM	ETERS			
GAUGE DATE	11-13-15	TIME	1150)						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	DRY	1			Bugicus u	(me)			Oxygen (10)	
DTB (FEET)	23.0	2 .						X		
DTB - DTW		3							17 8	
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"		R CONDITION		0					
3 WELL VOLUMES		C	len	40	uliv	7				
PURGE DATE	T-1	WATER A	PPEARANCE	/ODOR:						
START TIME			R	KY						
END TIME		COMMEN	TS:	I and I a						
AMT PURGED			No	Sular	ples	0 21	Local	001		
SAMPLE DATE			110	Same	pus	Col	QC.			
SAMPLE TIME						_				
Analysis Req	uest		CONTAIN	ER TYPE	NUN	MBER OF C	CONTAIN	FRS	PRESERVA	TIVE
20 ml . m			40 ML VO			5	201111111		HCL	.,,,,,
			1 LITER A	MBER					NEAT	
			250 ML AI	MBER					NEAT	
			250 ML PI			1_			HNO ₃	
			125 ML PI			1		-	HNO ₃	
			125 ML PI			1			H₂SO₄	
			125 ML PI	ASTIC		1			VEAT	
NSTRUMENT	TS USED:	Oil/Wate	er Interface	e Probe; V	Vater Quali	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	oecialist					
Signature:	6	2	7							



WELL ID	BW-513	3			TES	ST PARAIV	IETERS				
GAUGE DATE	11-1818	TIME	1152	1							
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissol Oxygen	ved	ORP (mv)
DTW (FEET)	10.57	1	1456	8.82	9.92	1907	1.24	0.98	35.1	_	-as4
DTB (FEET)	61.45	2	1458	8.82	9.61	1910	1.241	0.98	35,	1	-20.2
DTB - DTW	50.88	3	1500	8.8	9,38	1910	1.242	0.98	34.	_	152
CAPACITY	0.74 - 4"	4	1502	8.79	9.19	1911	1.242	0.98	34.		-11
PER FOOT	0.163 - 2"	WEATHE	CONDITION					10			
3 WELL VOLUMES	25		U	eui(alm	\					
PURGE DATE	11-13	WATER A	PPEARANCE			1					
START TIME	1309		pinic	- Cl	such	- Cl	eur	1			
END TIME		COMMEN	TS:	t suc	ction	00	Carl) - 1	uil	l	
AMT PURGED	Pauls	- 10			nurs			colle	1.	377	
	11-13	SU	mple		8		A. a.	107CW		101	
Analysis Requ	1-10		CONTAIN	ER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESE	RVA	TIVE
	18260		40 ML VO		.,	5	0011171111	-110	HCL		· · · · ·
80)15		1 LITER A						NEAT		
827			250 ML AI			1	+ Ichu	pliat		0	1510
wacc.	Total		250 ML PL 125 ML PL	117771111111111111111111111111111111111		1			HNO ₃		
0 1	DISS					1			HNO ₃	_	
Catro	ro/Aru	aro	125 ML PL	ASTIC		1			NEAT		
NSTRUMENT					Vater Quali	ty Meter					
ompleted by	/s/ Chery	/I Johns	on/Enviro	nmental S	pecialist						
ignature:	0	2	2		-						



WELL ID	BW.SC	-			TES	T PARAM	IETERS			
GAUGE DATE	11-13-1	V TIME	115	5						T
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	3.49	4	1248	7.8	1097	4889	3178	2.64	8.8	-914.3
DTB (FEET)	76.35	2	1250	7.81	10.73	4890	3.178	2.69	7.7	-95.4
DTB - DTW	7286	3	1252	M.82	1039	4903	3/87	2.64	9.1	-96.5
CAPACITY	0.74 - 4"	4	1254	7.83	10.18	4911	3192	2.69	9.1	-967
PER FOOT	0.163 - 2"	WEATHER	CONDITION							
3 WELL VOLUMES	He gra	0		Cleu	1,C	ulm				
PURGE DATE	11.13	WATER A	PPEARANCE		, 0-	. 0		0		
START TIME	1205		Brun	/UV (-	Clo	ridy	- C	leur	-	
END TIME	1248	COMMEN	rs:							
AMT PURGED	35gul)								
SAMPLE DATE	11-13									
SAMPLE TIME	1255									
Analysis Requ	jest		CONTAIN	ER TYPE	NUM	BER OF C	CONTAIN	ERS	PRESERVA	ATIVE
800018	015		40 ML VO	4		5			HCL	
80	15		1 LITER A						NEAT	
827	0	78	250 ML AN			1			NEAT	
wacc	- Tota		250 ML PL			1			HNO_3	
6 1	- Diss		125 ML PL			1			HNO ₃	
Cat			125 ML PL			1			H ₂ SO ₄	
(-)	num) '	125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED: (Dil/Wate	r Interface	Probe; W	/ater Quali	ty Meter				
ompleted by:	/s/ Chery	/l Johns	on/Enviror	mental Sp	ecialist	YV IV				
ignature:	1				-0					
gnature.	1/	///					-			



ow-53				TES	ST PARAM	ETERS			
11-6-18	TIME	1320)						
	RUNS	TIME	рН	Temperature		TDS (g/L)	Salinity (ppt)	Dissolved	ORP (mv)
DRY	i i			Degrees 0	(1110)			Oxygen (78)	
33.9	2								
	3								
0.74 - 4"	4								
0.163 - 2"	TO SHAPE SHIP		7						
				zy.					
	WATER A	PEARANCE	/ODOR:						
		DI.	< /						
	COMMENT	S:	-						
uest	10	CONTAIN	ER TYPE	NUN	BER OF C	CONTAIN	ERS	PRESERVA	ATIVE
					5				
			111111111111111111111111111111111111111						
					1			JU 16 7 7 7	
					1			-	
								NE/XI	
TO LICED:	OHAA/-t-	. l	Dustries	A/					
IS USED:	Oii/VVate	r Interface	e Probe; \	vvater Quali	ty Meter				
: /s/ Cher	yl Johnso	on/Enviror	nmental S	pecialist					
10	X	7 -		7					
	0.74 - 4" 0.163 - 2" USED:	## RUNS RUNS 1 33.9 2 3 3 3 4 4 4 4 4 4 4	RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS TIME RUNS 1 33.9 2 3 0.74 - 4" 4 0.163 - 2" WEATHER CONDITION WATER APPEARANCE COMMENTS: COMMENTS: COMMENTS: LUEST CONTAIN 40 ML VO. 1 LITER A 250 ML AN 250 ML PL 125 ML PL 125 ML PL 125 ML PL 125 ML PL 125 ML PL 125 ML PL	RUNS TIME PH RU	RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH Temperature Degrees C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME DEGREES C RUNS TIME DH TEMPERATURE DEGREES C RUNS TIME	NI-16-18 TIME 1320 RUNS TIME pH Temperature Conductivity Degrees C (mS) 33.9 2 0.74-4" 4 0.163-2" WEATHER CONDITIONS: WATER APPEARANCE / ODOR: COMMENTS: UMM WATER APPEARANCE / ODOR: 40 ML VOA 5 1 LITER AMBER 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	II-lo-(18 TIME Day Temperature Conductivity TDS (g/L)		



WELL ID	0W54				TE	ST PARAM	IETERS			
GAUGE DATE	11-10-18	TIME	135	0						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	17.9	1	0804	7.79	1640000	2099	1.365	1.08	9.4	-26
DTB (FEET)	31.04	2	0806	756	12.46	2116	1.375	1.09	7.2	-16.7
DTB - DTW	13.14	3	0808	7.49	12.26	2119	1.377	1.09	7.2	-16.8
CAPACITY	0.74 - 4"	4			10.50			1.0		7.0
PER FOOT	0.163 - 2"	WEATHER	CONDITION			7725				
3 WELL VOLUMES	600	ls	0	ar-	Drec.	ech				
PURGE DATE	11-6-18	WATER A	PPEARANCE	10DOR: — r	100	DW				
START TIME	1400			-01						
END TIME		COMMEN	rs: 11-7-1	8- Cl	ear d	a1 - 6	slech	t Sugar	122	
AMT PURGED	Local	(ollec	tina	Sau	nles		t bree		
SAMPLE DATE	11-7-18					10 00				
SAMPLE TIME	0815									7
Analysis Requ			CONTAIN	ER TYPE	NUN	MBER OF O	CONTAINE	ERS I	PRESERVA	ATIVE
See COC -			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO_3	
			125 ML PL			1			-INO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PL	ASTIC		1		1	VEAT	
INSTRUMENT	S USED: (Oil/Wate	er Interface	Probe; W	/ater Qual	ity Meter				
Completed by:	/s/ Chery	/I Johns	on/Enviror	mental Sp	ecialist					
Signature:	1	n	7							



WELL ID	0W-55				TES	ST PARAM	IETERS			
GAUGE DATE	11-6-18	TIME	140	6						
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	17.72	1	0836	7.18	14.16	2198	1.429	1.13	35.2	-75.1
DTB (FEET)	30.7	2	0838	7.17	14.25	2204	1.433	1.14	33.6	-70.4
DTB - DTW	12.98	3	0840	7.17	14.31	2211	9.437		315	-67.8
CAPACITY	0.74 - 4"	4	0842	7.17	14.91	2217		1.14	29.9	-65.7
PER FOOT	0.163 - 2"	C-120-120-100	CONDITION		MONTA	7.7				
3 WELL VOLUMES	Leguls	(lleu	1 K	nez	N				
PURGE DATE	11618	The Late of the Late	PPEARANCE							
START TIME	1409	,	illa	n-n	000	W				
END TIME	1418	COMMENT	1-7-1	1008	40 -	Cloc	100	1-151	lyhtk	norze
AMT PURGED	6.5 gu	n				040			700	O. P.
SAMPLE DATE	11-7-18									
SAMPLE TIME	0842									
Analysis Requ	uest		CONTAIN	ER TYPE	NUM	BER OF	CONTAINE	ERS	PRESERVA	ATIVE
and the second			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN 250 ML PL			1			NEAT	
			125 ML PL			1			HNO ₃	
			125 ML PL						HNO ₃	
			125 ML PL			1			H₂SO₄ NEAT	
				, 10110					NEAT	
NSTRUMENT			4 1000			y Meter				
Signature:	(1	W							



WELL ID	0W-				TES	ST PARAN	IETERS			
GAUGE DATE	11-6.18	TIME	142	8						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.05	1	0857	7.48	14.43	2824	1:835	1.48	30	35.8
DTB (FEET)	18.59	2	0859	7.49	14.53	2892	1.8.35	147	29	40.8
DTB - DTW	4,54	3	0901	7.46	14.57	2820	1.833	1.47	27.6	44.4
CAPACITY	0.74 - 4"	4	0903	7.45	14.64	2653	1.725	1.38	27.4	47.3
PER FOOT	0.163-2"		RCONDITION							
3 WELL VOLUMES	2.2	ce	un-	- 6n	الاكر	1				
PURGE DATE			PPEARANCE			-1				
START TIME	1430	C	leur	-no	000					
END TIME		COMMEN	7-7-19	2 PD	857	-0000	a de	di	ght b	1 2000
AMT PURGED	Agal		. , , ,	000	007	cceo	uaa	1-300	Jul 10	Car OC
SAMPLE DATE	11.7-18	,								
10.00.000.000	0905								-	
Analysis Requ			CONTAIN	ER TYPE	NUM	BER OF C	CONTAINE	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	ACTOR ACTOR ACT		1			HNO₃	
			125 ML PL	manufactured by all of and the facilities		1		1	H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED: (Dil/Wate	er Interface	e Probe; V	Vater Quali	y Meter				
Completed by:	/s/ Chery	/l Johns	on/Enviror	nmental Sp	ecialist					
Signature:	/	1/1	1		7					



WELL ID	ow-5	7			TES	ST PARAM	ETERS			
GAUGE DATE	11/29/18	TIME	09	03						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2013	-1	N.			1				
DTB (FEET)	28.1	2	1420	746	13.1	1815	1.179	0.93	21	-66.7
DTB - DTW	7.8	3	1422	7.37	12.95	1815	1.18	0.43	19.5	-65.3
CAPACITY	0.74 - 4"	4	7.17	14						,
PER FOOT	0.163 - 2"		R CONDITION		bree	211				
3 WELL VOLUMES	4.	U	V-0 (C)		in an					
PURGE DATE	11/2/19	WATER A	PPEARANCE				1 0			
START TIME	1 10 1 10 10 10 10 10 10 10 10 10 10 10	N	ell	1000	bron	MIM	udd	M		
	0928	COMMEN	TS:	-	-			<u> </u>		
END TIME	0933	all Williams								
AMT PURGED	1.5									
SAMPLE DATE					Dire	dien	to	143	5	
SAMPLE TIME	1/125				tu	nea			<u> </u>	
	1901	_	CONTAIN	IER TYPE	NII IN	MBER OF (CONTAIN	EDE	PRESERVA	ATIVE
Analysis Req	uest	-	40 ML VC		NON	5 JBER OF C	JONTAIN		HCL	ATIVE
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
7-			250 ML P			1			HNO ₃	
			125 ML P	LASTIC		1			HNO ₃	-
			125 ML P			1			H₂SO ₄	
			125 ML PI			1			NEAT	
NSTRUMEN'	TS USED:	Oil/Wat	er Interfac	e Probe; V	Vater Qual	ity Meter				
Completed by	: /s/ Cher	yl Johns	son/Enviro	nmental_S	pecialist					
	1	200	2							
Signature:		VY								



WELL ID	00.58	~			TES	T PARAM	IETERS			
GAUGE DATE	11/2/18	TIME	091	4	Lance					
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	24,27	- 1	1209	796	12.92	13	0.008	0	209.3	17.8
DTB (FEET)	47.3	2	1211	7.26	13.07	1862	1.211	0.95	15.4	-699
DTB - DTW	93.03	3	1213	7.21	1297	1866	1.213	0.95	13.7	-71.3
CAPACITY	0.74 - 4"	4						11		
PER FOOT	0.163 - 2"	WEATHE	CONDITION	s:		0. 1				
3 WELL VOLUMES	11	80	elle	27	ww	Jun,				
PURGE DATE	11/29	WATER A	PPEARANCE	IODOR:	_					
START TIME	0930		Cle	uc						
END TIME	0952	COMMEN	TS:							
AMT PURGED	9									
SAMPLE DATE	11/29									
SAMPLE TIME	1215									
Analysis Req			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	10.00
			1 LITER A						NEAT	
			250 ML AI 250 ML PI			1			NEAT	
			125 ML PL			1			HNO ₃	
	_		125 ML PL						HNO ₃	
			125 ML PL			1			H₂SO₄ NEAT	
			TEO WILL I	710110					NEAT	
NSTRUMEN ⁻	TS USED:	Oil/Wate	er Interface	e Probe; \	Nater Quali	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental S	pecialist					
Signature:	1	1/	>							



WELL ID	0w-59				TES	ST PARAM	TETERS			
GAUGE DATE	11-6-18	TIME	1450	D						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (m
DTW (FEET)	23.9	1	0926	7.73	12.54	10877	7.07	6.2	50.3	89
DTB (FEET)	38.3	2	0928	7.71	12.43	10874		6.2	49.9	88.6
DTB - DTW	14.4	3	0930	7.69	1 2.33	10869			48.8	88.8
CAPACITY	0.74 - 4"	4	0932	7.68	- 64	10870		6.19	46.6	88.4
PER FOOT	U. 100 - /		CONDITION						10.4	
3 WELL VOLUMES	Mogal	,			Dree 2	1				
PURGE DATE	11-618		PPEARANCE				17.			
START TIME	1455		Cle	u-	aligh	tpu	K tut	n	oods	V
END TIME									leght &	
AMT PURGED	7 suls				10.0		u xu	1 00	egu e	New 2st
SAMPLE DATE	11-7-18		Co	leet	ed d	uplic	ute 1	0 09	460	
SAMPLE TIME	0934								17	
Analysis Requ	est		CONTAIN	ER TYPE	NUM	BER OF	CONTAINE	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO₃	
			125 ML PL			1			H ₂ SO ₄	
		1	125 ML PL	ASTIC		1			NEAT	
NSTRUMENT	S USED: (Dil/Wate	er Interface	e Probe; V	Vater Quali	ty Meter				
ompleted by:	/s/ Chery	l Johns	on/Enviror	nmental Sp	ecialist					
ignature:	1/1	1								



WELL ID	OW-60				TES	ST PARAN	IETERS			
GAUGE DATE	11-6-18	TIME	1510)	1 900					
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	1625	1	1002	8.21	1273	2	1001	0	241	a19.4
DTB (FEET)	45.5	2	1004	7.62	12.36	6983	4.539	385	56.5	190.4
DTB - DTW	29.25	3	1006	7.69	1232	7006	4.554	387	54.2	184.2
CAPACITY	0.74 - 4"	4	1008	7.73	12.28	7019	4.562	3.88	54	180.4
PER FOOT	0.163 - 2"	WEATHER	CONDITION							1,000
3 WELL VOLUMES	14	C	New	y br	lezi	1				
PURGE DATE	11-6-18		PPEARANCE	11.25.25.20						
START TIME	1512	cl	em	-cloud	dy-p	inle-	- bron	on (mu	(dy)	
END TIME		COMMENT	re.						Strape	-1
AMT PURGED	9 culs	VOI	10 100	NON	rvaaa	1 WII	00 90	gaes	SVIPP	
SAMPLE DATE	, 5 ,0	11	748	@10	03-0	Deces	day-	Sleph	t Die	022
SAMPLE TIME	1010									
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAINE	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PI	2-451-1-1		1			HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
			125 ML PI	ASTIC		1			NEAT	
INSTRUMENT			Zahana Me			ty Meter				
Completed by: Signature:	/s/ Chery	Johns	On/Environ	imental Sp	pecialist					



WELL ID	0w-61				TES	T PARAM	ETERS			
GAUGE DATE	11129118	TIME	CSOS	3						
DHC (FEET)	1-1.95	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	જો.	1								
DTB (FEET)	32.0	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	and the second second	RCONDITION							
3 WELL VOLUMES		t	verc	ten	Ca	lm				
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
END TIME		COMMEN	TS:						^	
AMT PURGED			NC	SXX	note	201	0/10	ode	c.l	
SAMPLE DATE			17		1					
SAMPLE TIME										
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A 250 ML A			1	-		NEAT NEAT	
			250 ML PI			1			HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI			1			H ₂ SO ₄	
			125 ML PI			1			NEAT	
NSTRUMEN ⁻	TS USED:	Oil/Wat	er Interfac	e Probe;	Water Qual	ity Meter				
Completed by	: /s/ Chei	ryl Johns	son/Enviro	nmental S	pecialist					
Signature:	1	2	7							



WELL ID	OW-67	-			TES	T PARAM	IETERS			
GAUGE DATE	11/29/18	TIME	100	0						
DHC (FEET)		RUNS	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	33,99	- 1	1237	7.92	1276	1222	0.794	0.61	17,9	-64.7
DTB (FEET)	40.0	2	1239	7.84	F.61	1224	6.796	0.61	14.2	-66.5
DTB - DTW	16.01	3	1241	7.82	12.65	1224	6.795	0.61	16.7	106.7
CAPACITY	0.74 - 4"	4	1243	7.8	12.61	1223	0.795	0.61	15.8	-60.4
PER FOOT	0.163 - 2"	WEATHE	CONDITION	15: 62t 1	Diez	. 1				
3 WELL VOLUMES	36	0		1	2000					
PURGE DATE	1040	WATER A	PPEARANCE	e/odor:	pul	C				
END TIME		COMMEN			N.					
AMT PURGED	11									
SAMPLE DATE	11/29									
SAMPLE TIME	1245						1.5		J 1000	
Analysis Req	uest		CONTAIN	IER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VC			5	=		HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML P 125 ML P			1			HNO ₃	
			125 ML P			1			H ₂ SO ₄	
			125 ML P			1			NEAT	
	- 3-27									
NSTRUMEN'	TS USED:	Oil/Wat	er Interfac	e Probe; \	Water Qual	ity Meter				
Completed by	: /s/ Cher	yl Johns	son/Enviro	nmental S	pecialist					
77 5 7 5	1									



WELL ID	6W-63				TES	T PARAM	IETERS			
GAUGE DATE	11/29/18	TIME	083							
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	20.95	1	1152	7.4	13.77	1643	1.068	0.84	77	-830
DTB (FEET)	32.0	2	1134	73	13.59	1142	1.067	0.83	7.3	-81
DTB - DTW	11.05	3	1154	7,27	1337	1643	1.068	0.84	6.8	-77.5
CAPACITY	0.74 - 4"	4_	1158							
PER FOOT	0.163 - 2"	WEATHER	CONDITION	S:	1 0					
3 WELL VOLUMES	25	74	Olil	WIN	1 calv	n				
PURGE DATE	11129		PPEARANCE		,		12 0	1.1	100	- 1
START TIME	0833	(llen	, ell	ruly,	pin	KE	naco	pu	se
END TIME	0900	COMMEN.	rs:							
AMT PURGED	25									
SAMPLE DATE	1129/18									
and the state of the state of	1200						_			
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5		-,	HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL 125 ML PL			1			HNO ₃	
			125 ML PL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1			H₂SO₄ NEAT	
			125 IVIL FL	AOTIC					NEAT	
NSTRUMENT	IS USED:	Oil/Wate	er Interface	Probe: \	Nater Quali	ty Meter				
NO THOME!	O OOLD.	Olivvalo	i interiact	511000, 1	vater Quan	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental S	pecialist					
ignature:	1	7								



WELL ID	OW-63				TES	ST PARAM	IETERS			
GAUGE DATE	12/3/18	TIME	100	35						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	20.89	1	1452	7.2	22.71	7	0.004	0	92	79.9
DTB (FEET)	32.0	2	1454	7.33	12.64	1696	1.103	0.84	17.2	-824
DTB - DTW	11.11	3	1456	7.2	12.57	1690	1.099	6.84	14.8	-75.7
CAPACITY	0.74 - 4"	4	1458	7.17	12.46	1690	1.098	0.86	14	-70.7
PER FOOT	0.163 - 2"	11,400 01,000	CONDITION	1						
3 WELL VOLUMES	29	0	lleur	(b	reeze	1				
			PPEARANCE		7 10 151					
PURGE DATE		(lear	, cl	ond	1				
START TIME	1030									
END TIME	1104	COMMENT	rs: Sanual	od wel	ll - d.	o no	time	Quelo	8260 mpled)
AMT PURGED	25	Cont	himo	sule	nano	0 000	olan	Rosa	millad	1 Luc
SAMPLE DATE	12/3/18	ont	inos	suite	i.	v Sur	ques	j. 1 CCM	ng ca	000
	10 10	wisc								
SAMPLE TIME	1500									
Analysis Requ	iest		CONTAIN	-	NUN	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
		1	125 ML PL	ASTIC		1			-l ₂ SO ₄	
			25 ML PL	ASTIC		1		1	VEAT	
NSTRUMENT	S USED: (Dil/Wate	r Interface	Probe: V	Vater Quali	ty Meter				
344444	Y					1				
Completed by:	/s/ Chery	/I Johns	on/Enviror	mental Sp	pecialist					
Manatura	(/	n	1							
Signature:		4	1							



WELL ID	ow.64				TES	T PARAM	ETERS			
GAUGE DATE	10/24/18	TIME	114	4						
DHC (FEET)	800	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	8.11	1				1				
DTB (FEET)	44.0	2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4)				
PER FOOT	0.163 - 2"	WEATHER	CONDITION	is:						
3 WELL VOLUMES										
PURGE DATE		WATER AI	PPEARANCE	ODOR:	PH	101	85	/		
START TIME					7 11	Cary				
END TIME		COMMENT					7.5	^ ^		
AMT PURGED			No	Sam	ples	(7	Mec	fed		
SAMPLE DATE			1 1							
SAMPLE TIME									1	
Analysis Req	uest		CONTAIN	IER TYPE	NUN	MBER OF (CONTAIN	ERS	PRESERV	ATIVE
			40 ML VC			5			HCL	
			1 LITER A						NEAT	
			250 ML A 250 ML P			1			NEAT HNO ₃	
			125 ML P			1			HNO ₃	
			125 ML P			1			H ₂ SO ₄	
			125 ML P			1			NEAT	
NSTRUMEN	TS USED:	Oil/Wate	er Interfac	e Probe;	Water Qual	ity Meter				
Completed by	/: /s/ Che	ryl Johns	on/Enviro	nmental S	Specialist					
Signature:	0		7							



WELL ID	00.65				TES	T PARAM	ETERS			
GAUGE DATE	11/29/15	TIME	08	18						
DHC (FEET)	34.05	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	318	1								
DTB (FEET)	40.0	2								
DTB - DTW		3	-		10					
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHE	RCONDITIONS		1/					
3 WELL VOLUMES			Over	Cun	x/0a	lm				
PURGE DATE		WATER A	PPEARANCE /	ODOR:						
START TIME		130								
END TIME		COMMEN	TS:	7						
AMT PURGED		1	NO.	Say	noles	CE	Nec	tec		
SAMPLE DATE		1					Ţ			
SAMPLE TIME										1. 5.
Analysis Req	uest		CONTAINE		NUN	BER OF	CONTAIN	100 4 1 1 1 1 1 1	PRESERVA	ATIVE
			40 ML VOA			5			HCL	
			1 LITER AN						NEAT NEAT	
			250 ML AN 250 ML PL			1			HNO ₃	
			125 ML PL			1			HNO ₃	
	-		125 ML PL			1			H ₂ SO ₄	
			125 ML PL			1			NEAT	
			Last Hall I							
NSTRUMEN'	TS USED:	Oil/Wat	er Interface	Probe;	Water Qual	ty Meter				
Completed by		-		0.340.04		454444				
Signature:	. isi che	VIOLINE	2	mentar e	pecialist					



WELL ID	owl				TES	ST PARAM	METERS			
GAUGE DATE	11-7-18	TIME	191	5						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	1.33	1	0925	8.8	11.84	1423	0.925	.72	5.5	361
DTB (FEET)	94.55	2	0927	8.82	11.82	1426	0.927	.72	5.8	30.6
DTB - DTW	93,22	3	0929	8.83	11.82	1426	0.927	.72	6.1	27
CAPACITY	0.74 - 4"	4	0931	8.83	11.8	1427	0.928	.72	6.2	24.9
PER FOOT	0.163 - 2"	WEATHER	CONDITION			O. T	1777			
3 WELL VOLUMES	206		<u> Vee</u>	i, i	lenc	cy				
PURGE DATE	11-7-18		PPEARANCE		a !					
START TIME	1520		ceu	<i>-</i>	punk	_ —				
END TIME	1430	COMMEN	tost	such	in -u	illa	llow t	Drechq	-Sany	ble
MT PURGED	90	ner	t dan					5	-	
SAMPLE DATE	11-8-18	11-	8.18-	meal	their-	clea	r, ca	em.	Back	10
SAMPLE TIME	0933	coll	ect Si	umple	-4	the .	Clear	pligh	ty Chal	1
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
8260	801S		40 ML VO			5			HCL	
801	2		1 LITER A						NEAT	
10.00.00	200	_	250 ML AN			1			NEAT	
<u> </u>	Total	0	250 ML PL	A ALCOHOLOGICAL COMPANY		1			HNO ₃	
ugcc-	D155-47		125 ML PL			1			HNO ₃	
	Anus		125 ML PL 125 ML PL			1			H ₂ SO ₄	
Shill	EDB.					1		41	NEAT	
2011)-	EDG		6 401	LL VOA		- 6	λ		300°	1
NSTRUMENT	S USED: (Dil/Wate	er Interface	e Probe; V	Vater Quali	ty Meter				
ompleted by	: /s/ Chery	/l Johns	on/Enviror	nmental Sp	pecialist					
ignature:	M	51						7		



FOURTH QUARTER 2018

WELL ID	DW-10				TES	ST PARAM	METERS	v		
GAUGE DATE	11-8-18	TIME	094	Ō						
DHC (FEET)		RUNS	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	2.5	1	1050	783	1222	3376	2.195	1.78	11.4	1036
DTB (FEET)	6033	2	1052	7.75	11.92	3391	2.204	1.79	9.3	1043
DTB - DTW	57.83	- 3	1054	7.73	11.73	3396	2,207	179	8.2	1034
CAPACITY	0.74 - 4"	4	1056	771	1154	3397	2.208	1,79	8.7	102.5
PER FOOT	0.163 - 2"	WEATHER	R CONDITION	7.7	4 .					
3 WELL VOLUMES	12/8/51	0	Clu	W, s	2lizli	t b	10e 20	/		
DUDGE DATE	1-8-18	WATER A	PPEARANCE							
PURGE DATE START TIME	0945	C	leur	ine	00	ex				
	0	COMMEN	TS:							
END TIME	1050	751811611								
AMT PURGED	130gal)								
SAMPLE DATE			D	uple	cate	Sum	ioles (pllock	d 01	110
SAMPLE TIME	1100			Oupro		3-077-	<i>y</i> -000			,,,
Analysis Req			CONTAIN	ER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERVA	TIVE
8260	18015		40 ML VO			5			HCL	
20	15		1 LITER A			,			NEAT	
111 mm	7 + 1		250 ML A			1			NEAT	
WOCC -	Total		250 ML PL			1			HNO ₃	
wacc	DIS5+		125 ML PL			1			HNO ₃	
Cation	privary		125 ML PL 125 ML PL			1			H₂SO₄ NEAT	
			TEO IVIL II						VL/\I	_
20110	EDB		YOMR	Voa		9	-	Λ	002500	4
NSTRUMEN	TS USED: (Oil/Wate	er Interface	e Probe; V	Water Qual	ity Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental S	pecialist					
and William	10	~	7							
ignature:	VV	()								

100



WELL ID	ow-13				TES	ST PARAM	METERS			
GAUGE DATE	11-6-18	TIME	113	55	land to	1.750				
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	a0.7	1	1221	8.22	12.91	1375	0.894	0.69	71.9	c/10.11
DTB (FEET)	99.15	2	1223	8.17	12.98	1336	0.869	0.67	25.3	1034
DTB - DTW	78.45	3	1225	8.1.	12.98	1314	0.854	0.66	25	104.4
CAPACITY	0.74 - 4"	4	1227	8.07	12.96	1292	0.821	0.65	17.8	107
PER FOOT	0.163 - 2"	The state of the s	R CONDITION							7,77
3 WELL VOLUMES	174	0	lear	ore	rsi	(
PURGE DATE	11-6-18		PPEARANCE			,				
START TIME	1140		lec	u -	no	2 De	5			
END TIME		COMMEN	rs:							
AMT PURGED	180gu	10								
SAMPLE DATE	123									
SAMPLE TIME	1230									
Analysis Req			CONTAIN	ER TYPE	NUN	MBER OF	CONTAIN	ERS	PRESERVA	ATIVE
826	108/0	01	40 ML VO			5			HCL	
-			1 LITER A	ad her aspect assessed a Commercial					NEAT	
8015			250 ML AI			1			NEAT	
	- Meta	-	250 ML PL			1			HNO ₃	
Total	DISSO		125 ML PL			1			HNO₃	
10 H	otted		125 ML PL			1			H ₂ SO ₄	
anıı	= N D		125 ML PL	ASTIC		1			NEAT	
8011	EDB								VasSoO	3
NSTRUMEN	TS USED:	Oil/Wate	er Interface	e Probe; V	Vater Qual	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	ecialist			-		
	1	7	7							
ignature:		1	>-		-/					



5 .30	CL.		7.13 7.14 7.19 s:	Temperature Degrees C 13.63 13.71 13.52 13.11	(ms) 1911 1897 1905 1904	1.242 1.233 1.238 1.238	.97	Dissolved Oxygen (%) LoO.9 85.4 82.3 79.9	ORP (mv -80.5 -82.5 -78.4
1.82 3.52 1.7 24-4" 63-2" 5 30 140	1 2 3 4 WEATHER	0940 0942 0944 0946 R CONDITION LULL C	7.13 7.14 7.19 s: www.	Degrees C 13.63 13.71 13.52 13.41	(ms) 1911 1897 1905 1904	1.242 1.233 1.238 1.238	.98 .97 .98	0xygen (%) 60.9 85.4 82.3	-80.5 -82.9
30 140	2 3 4 WEATHER WATER A	DGYZ DGYY DGYY R CONDITION LUL C PPEARANCE	714 7.19 s:	13.63 13.71 13.52 13.44	1897 1905 1904	1.233 1.238 1.238	.97	60.9 85.4 82.3	-82°
30 140	3 4 WEATHER WATER A	DGYZ DGYY DGYY R CONDITION LUL C PPEARANCE	714 7.19 s:	13.71 13.52 13.44 13.44	1905	1.233 1.238 1.238	.97	85.4 82.3	-82°
1.7 24-4" 63-2" 5 .30	4 WEATHER WATER A	PPEARANCE	S: VODOB:	1344	1904	1.238 1.238	.97	82.3	-
24-4" 63-2" 5 .30	WATER A	PPEARANCE	S: VODOB:	1344	1904	1.238	.97		-
5 .30 140	WATER A	PPEARANCE	Lel N	٨	w d		ed		
.30 140	WATER A	PPEARANCE	/ ODOR:		w d	etect	ed		
.30 140	U	eur	/ ODOR: - / V	od	or d	etect	ed		
40			- / \		NV 0	NIGH.			
40	COMMEN	TS:							
0-0/00									
150									
		CONTAIN	ER TYPE	NUN	BER OF C	CONTAINE	ERS	PRESERVA	ATIVE
SD					5				
	_								
1				_		_			
/1/1	0 11 1								
us	000				1				
- To be					1			The Park of the Pa	
EDI			1		2				3
01077				Y	ty Meter				
	SD D Vez SED:	SD Details Netails SED: Oil/Wat	CONTAIN 40 ML VO 1 LITER A 250 ML AI 250 ML PL 125 ML PL	CONTAINER TYPE 40 ML VOA 1 LITER AMBER 250 ML AMBER 250 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC	CONTAINER TYPE NUM 40 ML VOA 1 LITER AMBER 250 ML AMBER 250 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC 125 ML PLASTIC	CONTAINER TYPE NUMBER OF OR SD 40 ML VOA 5 1 LITER AMBER D 250 ML AMBER 1 Chul) 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	CONTAINER TYPE NUMBER OF CONTAINES D 40 ML VOA 5 1 LITER AMBER D 250 ML AMBER 1 (Little) 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	CONTAINER TYPE NUMBER OF CONTAINERS 40 ML VOA 5 1 LITER AMBER 250 ML AMBER 1 250 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1 125 ML PLASTIC 1	CONTAINER TYPE NUMBER OF CONTAINERS PRESERV. \$ D



					T PARAM				
11-6-18	TIME	103)						
	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
17.22	1	1055	7.36		2044	1.329	1.05	4	-1.6
51.08	2	1057	7.34			1.289	1.02	7.6	-2.5
33.86	3	1059	7.35			1.288			5.3
(0.74)4"	4	1101	7.36	12.94	-	-	1.02		-4.3
0.163 - 2"	WEATHE	CONDITION	S:	10711					
75	O	un.	· WU	uczo					
1681A	WATER A	,			24				
MV r correct horse	C	lem	- N	000	Qur	_			
1101	COMMEN	TS:							
75									
1105									
		CONTAIN	ER TYPE	NUN	MBER OF O	CONTAIN	ERS	PRESERV	ATIVE
	D				5			HCL	111.7.
		1 LITER A	MBER	-				NEAT	
15D		250 ML A	MBER O	n	1			NEAT	
Ketrel	,	250 ML PI	ASTIC		1			HNO ₃	
met	es	125 ML PI	ASTIC		1			HNO ₃	
		125 ML PI	ASTIC		1			H ₂ SO ₄	
		125 ML PI	ASTIC		1			NEAT	
EDB		40m	e von		2	\		Nassal	3
V 7 1					ity Meter				
	17.22 51.08 33.84 0.74 4" 0.163 - 2" 75 1040 1101 75 1105 1105 1105 1105 1105 1105	RUNS 1 1 2 1 1 1 2 1 1 1	RUNS TIME 17.22 1 1055 51.08 2 1057 33.84 3 1059 0.74 4" 4 1101 0.163 - 2" WEATHER CONDITION 1040 COMMENTS: 1101 COMMENTS: 1105 IEST CONTAIN 1801SD 40 ML VO 1 LITER A 250 ML PI 125 ML PI	RUNS TIME PH 17.22 1 1055 7,36 51.08 2 1057 7.34 33.84 3 1059 7.35 0.74 4" 4 1101 7.36 0.163 - 2" WEATHER CONDITIONS: 1040 COMMENTS: 1101 75 1105 1105 1105 1105 1105 1105 1101 1105 1106 1107 1107 1107 1108 1108 1109	RUNS TIME PH Temperature Degrees C 17.22 1 1055 7.34 12.97 12.94 12.94 11.01 7.34 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94 11.01 7.36 12.94	RUNS TIME pH Temperature Conductivity (ms) 17.22 1 1055 7.34 12.97 2044 51.08 2 1057 7.34 12.94 1983 3.89 3 1059 7.35 12.96 1982 0.74 4" 4 1101 7.36 12.94 1983 0.163 - 2" WEATHER CONDITIONS: ULLU - WOOLZ WITHER CONDITIONS: 1040 COMMENTS: 105 105 105 105 105 105 105 10	RUNS TIME pH Temperature Conductivity TDS (g/L) 17.22 1 1055 7,34 12.97 2044 1.329 51.08 2 1057 7.34 12.94 1983 1.289 31.84 3 1059 7.35 12.94 1982 1.288 0.74) 4" 4 11.01 7.36 12.94 1983 1.289 0.163-2" WEATHER CONDITIONS: Cluw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR: Clw - VO O Q WATER APPEARANCE / ODOR	RUNS TIME pH Temperature Conductivity TDS (g/L) Salinity (ppt) 17.22 1 1055 7.34 12.94 1.329 1.05 51.08 2 1057 7.34 12.94 1983 1.289 1.02 33.84 3 1059 7.35 12.94 1983 1.288 1.02 0.744" 4 1101 7.36 12.94 1983 1.289 1.02 0.163-2" WEATHER CONDITIONS: COLUMN - WATER APPEARANCE / ODOR: COMMENTS: 1040 COMMENTS: 1105 1105 1105 1105 1105 1105 1105 1105 1105 1105 1105 1105 1106 1107 1107 1108 1109 110	RUNS TIME PH Temperature Conductivity TOS (g/L) Salinity (ppt) Dissolved Oxygen (%) 17.22 1 10.55 7.34 12.94 1.329 1.05 9 1.05 9 1.05 7.34 12.94 1.983 1.289 1.02 7.6 1.05 9 1.05 1.05 9 1.05



WELL ID	ow30				TES	T PARAM	ETERS			
GAUGE DATE	12/3/18	TIME	152	7						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	21.3	1	1552	7.43	A service and a service of	1992	1.295	1.02	13.4	29.6
DTB (FEET)	49.90	2	1554	7.34	9.83	2002	1.301	1.03	13.6	28.3
DTB - DTW	28.4	3	1554	7.3	9.17	7010	1.306	1.03	126	27
CAPACITY	0.74 - 4"	4	1558	4.29	8165	2013	1.308	1.03	12.6	F.26
PER FOOT	0.163 - 2"	WEATHER	CONDITION		0 11	ut b	100 7	2		
3 WELL VOLUMES	57		elle	un,	Lug	ou B	THE CI			
PURGE DATE	13/3/18	ALC & 100 - 100 10 10 10 10	1) les	10DOR:	00	der	_			
END TIME		COMMEN.								
AMT PURGED	58									
SAMPLE DATE	12/3/18									
SAMPLE TIME	1600									-
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PI			1			HNO ₃	
			125 ML PI			1			HNO ₃	
			125 ML PI 125 ML PI			1			H₂SO₄ NEAT	
60 -	EDB			POOR		7				.05
- OULI-	رازان		7010	CON					Massi	3
INSTRUMENT	ΓS USED:	Oil/Wate	er Interfac	e Probe; V	Vater Qual	ty Meter				
Completed by	: /s/ Cher	yl Johns	on/Enviro	nmental Sp	oecialist				×	
Signature:	IV	>	7		-					



WELL ID	DW.50				TES	T PARAN	TETERS			
GAUGE DATE	11-7-18	TIME	131	50						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	15.2	1	1328	8.06	13.02	1185	רד.ט	0.59	11.5	110.5
DTB (FEET)	64.00	2	1330	8.07	13	1185	0.77	0.59	11.1	101.3
DTB - DTW	48.8	3	1332	8.09	12.94	1185	ורר.ס	059	10.6	94
CAPACITY	0.74 - 4"	4	334	8.15	12.87	1187	וררם	0.59	10.4	857
PER FOOT	0.163 - 2"	WEATHER	CONDITION	s:		-0 1				11 7 7
3 WELL VOLUMES	24 gul)	· Vu	less -	ww	euj				
PURGE DATE	11-7-18		PPEARANCE		^	0				
START TIME	1310	bo	mb -	-clou	our-	Lea	\sim			
END TIME		COMMEN.	TS:							
AMT PURGED	25guls									
SAMPLE DATE	1.7.18									
	1340		1777							
Analysis Req	uest		CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
8260	801GD		40 ML VO			5			HCL	
500	15D		1 LITER A 250 ML AI		-	1			NEAT NEAT	
wacc	- Tota		250 ML PI			1			HNO ₃	
wax			125 ML PI	7-2-4 1111-3		1			HNO ₃	
Gence			125 ML PI			1			H ₂ SO ₄	
4	hem		125 ML PL			1			NEAT	
BOILE	-EOB		40m	LVOA		2	3	1	VaaSal	3
NSTRUMENT	VINITE E			No.	431 4010	ty Meter			X	
Signature:	6	2	7		-					



WELL ID	OW-5:	2			TES	T PARAN	IETERS			
GAUGE DATE	11/7/18	TIME	140	8						J., ., ., .
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	14.44	1	1429	8.27	13.29	1005	0.653	0.5	9.4	-539
DTB (FEET)	77.74	2	1431	8.26	13.35	1005	0.653	0.5	9.7	-48.4
DTB - DTW	103.3	3	1433	8.25	13.43	1005	0.653	0.5	10.2	-437
CAPACITY	0.74 - 4"	4	1435	8.25	1347	1006	0.654	0.5	10.5	-39.3
PER FOOT	0 <u>.1</u> 63 - 2"	WEATHER	CONDITION	is:	wind	. 1				7.7
3 WELL VOLUMES	31 gels		Ca							
PURGE DATE	11/7/18	A 100 May 200	PPEARANCE			. 0				
START TIME	1411	,		N-Cl	ordy	-00	ear			
END TIME	4	COMMEN	rs:							
AMT PURGED	32		-							
SAMPLE DATE	11/9-11	8								
SAMPLE TIME	1435									
Analysis Requ			CONTAIN	ER TYPE	NUN	BER OF	CONTAIN	ERS	PRESERV	ATIVE
8260	1/8015		40 ML VO			.5			HCL	
con	150		1 LITER A						NEAT	
11).000	CTOS		250 ML AI 250 ML PI			1			NEAT	
100			125 ML PI			1			HNO ₃	
			125 ML PI			1			HNO ₃	
Coenc	2 Prayo		125 ML PI	in his half and the same and th		1			H₂SO₄ NEAT	
801	chem 1-FOR	3		& VOF	7	7			Vu 250	04
NSTRUMENT			· · · · · · · · · · · · · · · · · · ·			ty Meter				
Signature:	IN	2	7							



WELL ID	STPI	-NV	V		TES	T PARAN	IETERS			
GAUGE DATE	11/19/18	TIME	0\$	55						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)	19.93	1	1150	8.65	18.5	13	,009	0	206	242
DTB (FEET)	50.00	2	1152	8.2	12.9	7032	4511	3.88	42.1	23.3
DTB - DTW	30.07	3	1154	8.15	1274	7062	491	39	38.4	22.2
CAPACITY	0.74 - 4"	4	1154	8.11	12.64	7083	4.604	3.91	37,2	22.0
PER FOOT	0.163 - 2"	the A. Strategier, San W. and St.	CONDITION	NS:			1.0		7,1	
3 WELL VOLUMES	10)	(Hea	ly Lill	W				1	
PURGE DATE	11/19/18	WATER A	PPEARANCE	I/ODOR:	00	ex C				
START TIME	900	C.C.	Jux	100						
END TIME	940	COMMEN	rs:							
AMT PURGED	15gal									
SAMPLE DATE	1119/18		Ti .	;						
SAMPLE TIME	1156					***************************************				
Analysis Requ	1100		CONTAIN	ER TYPE	NUM	BER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A	1000					NEAT	
			250 ML AI 250 ML PI			1			NEAT	
			125 ML PL			1			HNO₃ HNO₃	
			125 ML PL	A. A. C. L. A. D. C. L. C. C. C. C. C. C. C. C. C. C. C. C. C.		1			H ₂ SO ₄	-
	-		125 ML PL			1			NEAT	
			IZO IVIL I L						NE/NF	
NSTRUMENT	S USED: (Dil/Wate	r Interface	e Probe; V	Vater Quali	ty Meter				
completed by:	/s/ Chen	/L.lohne	an/Enviror	mental Sr	necialist					
cilibieted by.	/ar Onery	i Joiiii St	JUL TIVITOI	intentar op	Coldilat					



WELL ID	STP-				TES	T PARAM	ETERS			
GAUGE DATE	11-19-18	TIME								
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	1.24.11	1								
DTB (FEET)	29.10	2								
DTB - DTW	1-4-1	3								
CAPACITY	0.74 - 4"	4						-		
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	IS:		,				
3 WELL VOLUMES										
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME										
END TIME		COMMEN	of no	t au	uel -	high	J Ha	S len	els i	11
AMT PURGED		POV	rel o	erea	- NO	ot au	thor	incl	10	
SAMPLE DATE		en	ter	. Po				0	els i	
SAMPLE TIME	1									
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
	S-11-100		40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AI			1			NEAT	
			250 ML PI	ASTIC		1			HNO ₃	
			125 ML PI	ASTIC		1			HNO_3	
			125 ML PI	ASTIC		1			H ₂ SO ₄	
			125 ML PI	ASTIC		1			NEAT	
			_	_						
	14.11.11.11									
NSTRUMENT	rs used:	Oil/Wate	er Interfac	e Probe; V	Vater Quali	ty Meter				
Completed by	: /s/ Çher	yl Johns	on/Enviro	nmental S	pecialist					
Signature:	1	_	7							
ignature.		-	-					~		

Chun In

Cocaha WELL ID	STP	-1 to	EPS	7	TES	ST PARAM	ETERS			
GAUGE DATE	11/8/18	TIME		1 = 1,0					4,	
DHC (FEET)	/	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	/	1								
DTB (FEET)		2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	Metal Indiana	R CONDITION:							
3 WELL VOLUMES	1	C	leu	40	ulv	`				
PURGE DATE		ACT 12 12 12 12 12 12 12 12 12 12 12 12 12	APPEARANCE		0.2					. /
START TIME		C	lon	Qy,	dk	1900	4,5	sligh	t od	lov
END TIME	/	COMMEN								
AMT PURGED		Co	llect	ed c	nap	Sam	ple	Crov	γ	
SAMPLE DATE	DV/8/18	in	let	cr	to t	EP3	2 .		,	
	0830									
Analysis Requ			CONTAINE	ER TYPE	NUN	BER OF C	CONTAINE	ERS I	PRESERVA	TIVE
8200/8	015		40 ML VO			5			HCL	
8015			1 LITER A						NEAT	
8015	0 0		250 ML AM			1			NEAT	
WYCC T	-	-	250 ML PL			1			HNO ₃	
NECC -1	115-KK		125 ML PL			1			HNO ₃	
			125 ML PL			1			H ₂ SO ₄	
		/	125 ML PL	ASTIC		1_		N	VEAT	
Boblec	earlac	S	500ml/2	150ml/6	rsonul	lea	(3)	Non	elHasD4/	none
NSTRUMENT	S USED: (Oil/Wate	er Interface	Probe; V	Nater Quali	ty Meter				
Completed by:	: /s/ Cher	yl Johns	son/Enviror	mental Sp	pecialist					
Signature: /	m									
	-	7-9								



WELL ID	GWM	1-1			TES	T PARAM	ETERS			
GAUGE DATE	11/19/18	TIME	08	35						
DHC (FEET)	21.42	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	21.55	1							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
DTB (FEET)	26.2	2								
DTB - DTW		3	1			~				
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"		RCONDITION							
3 WELL VOLUMES		G	leur,	allm						
PURGE DATE	4,1	WATER A	PPEARANCE CLUM	10DOR:	enla	eyer	- 1)0 Su	mple	
END TIME		COMMEN				~				
AMT PURGED			1010	user	= 0	.13				
SAMPLE DATE				0						
SAMPLE TIME										
Analysis Requ	ıest		CONTAIN	ER TYPE	NUN	BER OF C	CONTAIN	ERS	PRESERVA	TIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL			1			HNO ₃	
			125 ML PL	ASTIC		1			HNO₃	
			125 ML PL	ASTIC		1		ŀ	H ₂ SO ₄	
			125 ML PL	ASTIC		1_		١	NEAT	
NSTRUMENT	S USED: (Oil/Wate	er Interface	Probe: V	Vater Quali	v Meter				
						V. 12177777				
completed by:	/s/ Chery	/I Johns	on/Environ	mental Sp	pecialist					
ignature:	11	2)							



WELL ID	GOM	-6-										
GAUGE DATE	ulighe	TIME	083	33								
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)		
DTW (FEET)		1										
DTB (FEET)	*	2										
DTB - DTW		3										
CAPACITY	0.74 - 4"	4		===				1				
PER FOOT	0,163 - 2"	WEATHE	R CONDITION:									
3 WELL VOLUMES			Cle	eu,	culi	n			~			
PURGE DATE		WATER A	PPEARANCE		Exil	pla	0					
START TIME			10	0	XXIV	y w						
END TIME		COMMEN	TS:									
AMT PURGED		-	DRU	1	19.0	7						
SAMPLE DATE												
SAMPLE TIME							I					
Analysis Requ	est		CONTAINE	R TYPE	NUM	BER OF C	ONTAIN	ERS I	PRESERVA	TIVE		
			40 ML VOA			5			HCL			
			1 LITER AN						VEAT			
			250 ML AN			1			VEAT			
		-	250 ML PL			1			HNO ₃			
			125 ML PL			1			HNO ₃			
			125 ML PL						H ₂ SO ₄			
			125 ML PL	45110		1		P	NEAT			
									-			
NSTRUMENT	S USED: (Dil/Wate	er Interface	Probe; \	Nater Qualit	y Meter						
Completed by:	/s/ Chery	d Johns	on/Environ	mental S	pecialist							
ignature:	In	A		_						-1		



WELL ID	GWN	1-3	\-3 TEST PARAMETERS										
GAUGE DATE	111918	TIME	080	13									
DHC (FEET)		RUNS	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)			
DTW (FEET)		1											
DTB (FEET)		2			1								
DTB - DTW		3											
CAPACITY	0.74 - 4"	4											
PER FOOT	0.163 - 2"		CONDITION										
3 WELL VOLUMES		(i	leci	riced	lm				-				
PURGE DATE		WATER AI	PEARANCE		- \	× 0 5							
START TIME			1)1/2	٦ -	_ (0.0							
END TIME		COMMENT	S:										
AMT PURGED			N	05	any) (ec)						
SAMPLE DATE													
SAMPLE TIME				A = 3.5									
Analysis Requ	est		CONTAIN	ER TYPE	NUM	IBER OF C	ONTAIN	ERS	PRESERVA	TIVE			
			O ML VO			5			HCL	77.			
			LITER A						NEAT				
			250 ML AN			1			VEAT				
			50 ML PL			1			HNO ₃				
			25 ML PL	7777		1			HNO₃				
			25 ML PL			1			H ₂ SO ₄				
			25 ML PL	ASTIC		1		1	VEAT				
NSTRUMENT	S USED: (Oil/Wate	Interface	Probe; V	Vater Qualit	y Meter							
completed by:	/s/ Chery	/l Johnsc	n/Environ	mental Sp	pecialist								
ignature:	W	20											



WELL ID	OPP	5-1			TES	T PARAM	ETERS			
GAUGE DATE	1119/18	TIME	110	5						
DHC (FEET)		RUNS	TIME	pН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)	11.89	1	1122	7.28	16.74	6.366	4.138	3.49	18.9	-51.3
DTB (FEET)	2601	2	1124	7.27	16.69	6.382	4.149	3.50	18.3	-48.0
DTB - DTW	14.11	3	1126	7.26	16.60	6.400	4.160	351	18.1	-451
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	4 WEATHER	SCONDITION O	7.20	16.54 , Cl	6.415	4.167	~.S-	17.8	-42.8°
3 WELL VOLUMES	Toul	0	(-	your	100	~ VV (8	
PURGE DATE START TIME		WATER A	PPEARANCE	IODOR:	d bru	tin	t			
END TIME		COMMEN.	rs:					-		
AMT PURGED	Moul									
SAMPLE DATE	HAR			1						
SAMPLE TIME	1130									
Analysis Requ	1100		CONTAIN	ER TYPE	NUN	IBER OF (CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VO			5			HCL	
			1 LITER A			9	_		NEAT	
		1	250 ML AN	/BER		1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
		1	125 ML PL	ASTIC		1			H ₂ SO ₄	
			125 ML PL	ASTIC		1			NEAT	
Cyc	inicli							(apo H	
NSTRUMENT	S USED: (Dil/Wate	r Interface	Probe; W	ater Quali	y Meter				
Completed by:	/s/ Chery	l Johns	on/Enviror	mental Sp	ecialist					
Signature:	N	V	~							



WELL ID	NAPI	S-I	DAPLY	KA-3	TES	T PARAM	ETERS			
GAUGE DATE	11/8/18	TIME		1, 5						
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv
DTW (FEET)		1								
DTB (FEET)		2					>			
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHE	CONDITION	is:				-		
3 WELL VOLUMES		Jun 10								
PURGE DATE		WATER A	PPEARANCE	ODOR:	2 00	Hock	cd	or o	unsi	nes
START TIME		du	o su	high	Les	iels	ab.	Has	0000	1
END TIME		COMMEN	TS:	0						
AMT PURGED		Onal	ath	2 104 10	+					
SAMPLE DATE	(12/3	18 - at	temp	fed di	> 5an	uple	wells	- hig Only PRESERV	h
SAMPLE TIME		Has	- Rist	rinter	d-Jp	acces	SSITU	nless	Onli	
Analysis Requ	uest		CONTAIN	ER TYPE	NUN	IBER OF	CONTAIN	ERS	PRESERVA	ATIVE
			40 ML VC	A		5			HCL	
			1 LITER A						NEAT	
			250 ML A			1			NEAT	
			250 ML P			1			HNO ₃	
			125 ML P						HNO ₃	
			125 ML PI 125 ML PI			1			H₂SO₄ NEAT	
			120 IVIL PI	-WO LIO					INE/AT	
JOTEL MATERIA	TO LIGED:	Oil/Mat	or Interfer	o Drober 1	Notor Ougl	ity Motor				
NSTRUMENT	o doed:	Oli/wate	er interrac	e Flobe, \	vater Quar	ity weter				
ompleted by:	: /s/ Che	ryl Johns	on/Enviro	nmental S	pecialist					
ignature:	In	2								



WELL ID	RW-	21	RW=	, RW	√ TES	T PARAM	ETERS			
GAUGE DATE	11-7-1	TIME								
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
DTW (FEET)		1								
DTB (FEET)		2								
DTB - DTW		3								
CAPACITY	0.74 - 4"	4								
PER FOOT	0.163 - 2"	WEATHE	R CONDITION	S:						
3 WELL VOLUMES										
PURGE DATE		WATER A	PPEARANCE	/ ODOR:						
START TIME		J., Z.,								
END TIME		COMMEN								1
AMT PURGED		h	CVD	Q(D)	Mora	5 10	em	ton	rillo C	
SAMPLE DATE		on	all	uel	ery es-1	Vo 1	neas	men	rend	5
SAMPLE TIME		OV S	sam	ple	s Co	160	teel			
Analysis Requ	est		CONTAIN			IBER OF			PRESERV	ATIVE
			40 ML VO			5			HCL	
			1 LITER A						NEAT	
			250 ML AN			1			NEAT	
			250 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	ASTIC		1			HNO ₃	
			125 ML PL	.ASTIC		1			H ₂ SO ₄	
		- 1	125 ML PL	ASTIC		1			NEAT	
					10.00					
NSTRUMENT	S USED:	Oil/Wat	er Interface	e Probe;	Water Qual	ity Meter				
Completed by:	/s/ Cher	ryl Johns	on/Enviror	nmental S	Specialist					
Signature:	In			_						



O David Comp		~	3 TEST PARAMETERS									
GAUGE DATE	NIA	TIME										
DHC (FEET)		RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)		
DTW (FEET)		1										
DTB (FEET)		2										
OTB - DTW		3										
CAPACITY	0.74 - 4"	4										
PER FOOT	0.163 - 2"	WEATHER	CONDITION	3:				-				
WELL OLUMES												
PURGE DATE	*	WATER A	PPEARANCE	ODOR:								
START TIME	1015											
END TIME	1025	COMMENT	s: Pro	(020)	mul	- En	case	d				
MT PURGED		(et	WH	R R	uul un!	PV	10-19	Sm	mo	(
AMPLE DATE	11/20/18	bet	vie (Na	echin	as	am	10 4				
AMPLE TIME	1030	- ()			- ()		1				
nalysis Req	uest	10	CONTAIN	ER TYPE	NUN	IBER OF (CONTAIN	ERS	PRESERVA	ATIVE		
			10 ML VO			5			HCL			
			LITER A						NEAT			
			250 ML AN			1			NEAT			
			250 ML PL	A STATE OF THE STA		1			HNO ₃			
		1	125 ML PL	ASTIC		1			HNO ₃			
		1	125 ML PL	ASTIC		1			H ₂ SO ₄			
		1	25 ML PL	ASTIC		1			NEAT			
IOTEL INC.	TO LIGHT	Olland	1-1-6-	Dualeur	Mahaw Out I	h. Matau						
ISTRUMENT	IS USED:	Oll/vvate	r Interface	Prope;	water Qual	ty Meter						
ompleted by	: /s/ Cher	yl Johnso	on/Environ	mental S	pecialist							
gnature: /	11	7										



WELL ID	PW-L	ł	TEST PARAMETERS								
GAUGE DATE	11/19/1	TIME 0950									
DHC (FEET)	/	RUNS	TIME	рН	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
DTW (FEET)		1				,,					
DTB (FEET)	1	2									
DTB - DTW	/	3									
CAPACITY	0.74 - 4"	4									
PER FOOT	0.163 - 2"	WEATHE	CONDITION	S:							
3 WELL VOLUMES	. 1 10 1	/									
PURGE DATE	11-19-1 0951	VYATER A	PPEARANCE	ODOR:							
START TIME	1991										
END TIME	1001	COMMEN	OMMENTS: allowed water to run-10-10 mi								
AMT PURGED		hi	bore	1 0110	chino	1.Cav	110 lo	Δ.			
SAMPLE DATE		100	Ovic	-		13-11	· ops u				
SAMPLE TIME											
Analysis Requ	uest		CONTAINE	R TYPE	NUN	BER OF	ERS	PRESERVATIVE			
8200			40 ML VOA	4		5			HCL		
827	0		1 LITER A					NEAT			
			250 ML AN			1		NEAT HNO ₃			
1110000	metal	1	250 ML PL	ASTIC		1					
water !			125 ML PL			1			HNO ₃		
MI.T.	1-		125 ML PL	ASTIC		1		1	H ₂ SO ₄		
Norte	cus		125 ML PL	ASTIC		1			VEAT .		
Cyande 250ml				Ple	us 1 Nach						
NSTRUMENT						ty Meter					
ompleted by:	/s/ Chery	/I Johns	on/Environ	mental Sp	ecialist						
ignature:	In	2									

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX C APPLICABLE STANDARDS (ON ATTACHED CD)

TITLE 20 ENVIRONMENTAL PROTECTION

CHAPTER 6 WATER OUALITY

PART 2 GROUND AND SURFACE WATER PROTECTION

20.6.2.1 ISSUING AGENCY: Water Quality Control Commission

[12-1-95; 20.6.2.1 NMAC - Rn, 20 NMAC 6.2.I.1000, 1-15-01]

- **20.6.2.2 SCOPE:** All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq. [12-1-95; 20.6.2.2 NMAC Rn, 20 NMAC 6.2.I.1001, 1-15-01]
- **20.6.2.3 STATUTORY AUTHORITY:** Standards and Regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17. [2-18-77, 9-20-82, 12-1-95; 20.6.2.3 NMAC Rn, 20 NMAC 6.2.I.1002, 1-15-01]
- **20.6.2.4 DURATION:** Permanent.

[12-1-95; 20.6.2.4 NMAC - Rn, 20 NMAC 6.2.I.1003, 1-15-01]

- **20.6.2.5 EFFECTIVE DATE:** December 1, 1995 unless a later date is cited at the end of a section. [12-1-95, 11-15-96; 20.6.2.5 NMAC Rn, 20 NMAC 6.2.I.1004, 1-15-01; A, 1-15-01]
- **20.6.2.6 OBJECTIVE:** The objective of this Part is to implement the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.

[12-1-95; 20.6.2.6 NMAC - Rn, 20 NMAC 6.2.I.1005, 1-15-01]

- **20.6.2.7 DEFINITIONS**: The following terms, as used in this part shall have the following meanings; terms defined in the Water Quality Act, but not defined in this part, will have the meaning given in the act.
 - **A.** Definitions that begin with the letter "A."
- (1) "abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be rehabilitated for its intended purpose or other purposes including monitoring and observation;
- (2) "abate" or "abatement" means the investigation, containment, removal or other mitigation of water pollution;
- (3) "abatement plan" means a description of any operational, monitoring, contingency and closure requirements and conditions for the prevention, investigation and abatement of water pollution, and includes Stage 1, Stage 2, or Stage 1 and 2 of the abatement plan, as approved by the secretary;
- (4) "adjacent properties" means properties that are contiguous to the discharge site or property that would be contiguous to the discharge site but for being separated by a public or private right of way, including roads and highways.
 - **B.** Definitions that begin with the letter "B."
- (1) "background" means, for purposes of ground water abatement plans only and for no other purposes in this part or any other regulations including but not limited to surface water standards, the amount of ground water contaminants naturally occurring from undisturbed geologic sources or water contaminants which the responsible person establishes are occurring from a source other than the responsible person's facility; this definition shall not prevent the secretary from requiring abatement of commingled plumes of pollution, shall not prevent responsible persons from seeking contribution or other legal or equitable relief from other persons, and shall not preclude the secretary from exercising enforcement authority under any applicable statute, regulation or common law;
 - **C.** Definitions that begin with the letter "C."
- (1) "casing" means pipe or tubing of appropriate material, diameter and weight used to support the sides of a well hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent fluid from entering or leaving the well other than to or from the injection zone;
- (2) "cementing" means the operation whereby a cementing slurry is pumped into a drilled hole and/or forced behind the casing;
- (3) "cesspool" means a "drywell" that receives untreated domestic liquid waste containing human excreta, and which sometimes has an open bottom and/or perforated sides; a large capacity cesspool means a cesspool that receives liquid waste greater than that regulated by 20.7.3 NMAC;

- (4) "collapse" means the structural failure of overlying materials caused by removal of underlying materials:
 - (5) "commission" means:
 - (a) the New Mexico water quality control commission or
 - (b) the department, when used in connection with any administrative and

enforcement activity;

- (6) "confining zone" means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement from an injection zone;
- (7) "conventional mining" means the production of minerals from an open pit or underground excavation; underground excavations include mine shafts, workings and air vents, but does not include excavations primarily caused by in situ extraction activities;
 - **D.** Definitions that begin with the letter "D."
- (1) "daily composite sample" means a sample collected over any twenty-four hour period at intervals not to exceed one hour and obtained by combining equal volumes of the effluent collected, or means a sample collected in accordance with federal permit conditions where a permit has been issued under the national pollutant discharge elimination system or for those facilities which include a waste stabilization pond in the treatment process where the retention time is greater than twenty (20) days, means a sample obtained by compositing equal volumes of at least two grab samples collected within a period of not more than twenty-four (24) hours;
- (2) "department", "agency", or "division" means the New Mexico environment department or a constituent agency designated by the commission;
 - (3) "discharge permit" means a discharge plan approved by the department;
- (4) "discharge permit modification" means a change to the requirements of a discharge permit that result from a change in the location of the discharge, a significant increase in the quantity of the discharge, a significant change in the quality of the discharge; or as required by the secretary;
- (5) "discharge permit renewal" means the re-issuance of a discharge permit for the same, previously permitted discharge;
- (6) "discharge plan" means a description of any operational, monitoring, contingency, and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into ground water;
- (7) "discharge site" means the entire site where the discharge and associated activities will take place;
- (8) "disposal" means to abandon, deposit, inter or otherwise discard a fluid as a final action after its use has been achieved;
- (9) "domestic liquid waste" means human excreta and water-carried waste from typical residential plumbing fixtures and activities, including but not limited to waste from toilets, sinks, bath fixtures, clothes or dishwashing machines and floor drains;
- (10) "domestic liquid waste treatment unit" means a watertight unit designed, constructed and installed to stabilize only domestic liquid waste and to retain solids contained in such domestic liquid waste, including but not limited to aerobic treatment units and septic tanks;
- (11) "drywell" means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids;
 - **E.** Definitions that begin with the letter "E."
- "experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested;
 - **F.** Definitions that begin with the letter "F."
- "fluid" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state;
 - **G.** Definitions that begin with the letter "G."
- **"ground water"** means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply;
 - **H.** Definitions that begin with the letter "H."
- "hazard to public health" exists when water which is used or is reasonably expected to be used in the future as a human drinking water supply exceeds at the time and place of such use, one or more of the standards of Subsection A of 20.6.2.3103 NMAC, or the naturally occurring concentrations, whichever is higher in determining whether a discharge would cause a hazard to public health to exist, the secretary shall investigate and

consider the purification and dilution reasonably expected to occur from the time and place of discharge to the time and place of withdrawal for use as human drinking water;

- **I.** Definitions that begin with the letter "I."
- (1) "improved sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface;
 - (2) "injection" means the subsurface emplacement of fluids through a well;
- (3) "injection zone" means a geological formation, group of formations, or part of a formation receiving fluids through a well;
 - **J** Definitions that begin with the letter "J." [RESERVED]
 - **K.** Definitions that begin with the letter "K." [RESERVED]
 - L. Definitions that begin with the letter "L." [RESERVED]
 - **M.** Definitions that begin with the letter "M."
- "motor vehicle waste disposal well" means a well which receives or has received fluids from vehicular repair or maintenance activities;
 - **N.** Definitions that begin with the letter "N."
- "non-aqueous phase liquid" means an interstitial body of liquid oil, petroleum product, petrochemical, or organic solvent, including an emulsion containing such material;
 - **O.** Definitions that begin with the letter "O."
- (1) "operational area" means a geographic area defined in a project discharge permit where a group of wells or well fields in close proximity comprise a single class III well operation;
- (2) "owner of record" means an owner of property according to the property records of the tax assessor in the county in which the discharge site is located at the time the application was deemed administratively complete;
 - **P.** Definitions that begin with the letter "P."
- (1) "packer" means a device lowered into a well to produce a fluid-tight seal within the casing;
- (2) "person" means an individual or any other entity including partnerships, corporation, associations, responsible business or association agents or officers, the state or a political subdivision of the state or any agency, department or instrumentality of the United States and any of its officers, agents or employees;
- (3) "petitioner" means a person seeking a variance from a regulation of the commission pursuant to Section 74-6-4(H) NMSA 1978;
- (4) "plugging" means the act or process of stopping the flow of water, oil or gas into or out of a geological formation, group of formations or part of a formation through a borehole or well penetrating these geologic units;
- (5) "project discharge permit" means a discharge permit which describes the operation of similar class III wells or well fields within one or more individual operational areas;
 - **Q.** Definitions that begin with the letter "Q." [RESERVED]
 - **R.** Definitions that begin with the letter "R."
- (1) "refuse" includes food, swill, carrion, slops and all substances from the preparation, cooking and consumption of food and from the handling, storage and sale of food products, the carcasses of animals, junked parts of automobiles and other machinery, paper, paper cartons, tree branches, yard trimmings, discarded furniture, cans, oil, ashes, bottles, and all unwholesome material;
- (2) "responsible person" means a person who is required to submit an abatement plan or who submits an abatement plan pursuant to this part;
 - **S.** Definitions that begin with the letter "S."
- (1) "secretary" or "director" means the secretary of the New Mexico department of environment or the director of a constituent agency designated by the commission;
- (2) "sewer system" means pipelines, conduits, pumping stations, force mains, or other structures, devices, appurtenances or facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal;
- (3) "sewerage system" means a system for disposing of wastes, either by surface or underground methods, and includes sewer systems, treatment works, disposal wells and other systems;
- (4) "significant modification of Stage 2 of the abatement plan" means a change in the abatement technology used excluding design and operational parameters, or re-location of 25 percent or more of the

compliance sampling stations, for any single medium, as designated pursuant to Paragraph (4) of Subsection E of 20.6.2.4106 NMAC:

- (5) "subsurface fluid distribution system" means an assemblage of perforated pipes, drain tiles, or other mechanisms intended to distribute fluids below the surface of the ground;
- (6) "subsurface water" means ground water and water in the vadose zone that may become ground water or surface water in the reasonably foreseeable future or may be utilized by vegetation;
 - **T.** Definitions that begin with the letter "T."
- (1) "TDS" means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180 degrees" of the "U.S. geological survey techniques of water resource investigations," or by conductivity, as the secretary may determine;
- (2) "toxic pollutant" means any water contaminant or combination of the water contaminants in the list below
 - (a) acrolein (CAS 107-02-8)
 - **(b)** acrylonitrile (CAS 107-13-1)
 - (c) benzene and alkylbenzenes
 - (i) benzene (CAS 71-43-2)
 - (ii) toluene (methylbenzene) (CAS 108-88-3)
 - (iii) ethylbenzene (CAS 100-41-4)
 - (iv) xylenes (dimethyl benzene isomers): o-xylene (CAS 95-47-6); m-

xylene (CAS 108-38-3); and p-xylene (CAS 106-42-3)

- (v) styrene (ethenylbenzene) (CAS 100-42-5)
- (d) chlorinated benzenes
 - (i) monochlorobenzene (CAS 108-90-7)
 - (ii) 1,2-dichlorobenzene (ortho-dichlorobenzene) (CAS 95-50-1)
 - (iii) 1,4-dichlorobenzene (para-dichlorobenzene) (CAS 106-46-7)
 - (iv) 1,2,4-trichlorobenzene (CAS 120-82-1)
 - (v) 1,2,4,5-tetrachlorobenzene (CAS 95-94-3)
 - (vi) pentachlorobenzene (CAS 608-93-5)
 - (vii) hexachlorobenzene (CAS 118-74-1)
- (e) chlorinated phenols
 - (i) 2,4-dichlorophenol (CAS 120-83-2)
 - (ii) 2,4,5-trichlorophenol (CAS 95-95-4)
 - (iii) 2,4,6-trichlorophenol (CAS 88-06-2)
 - (iv) pentachlorophenol (PCP) (CAS 87-86-5)
- **(f)** chloroalkyl ethers
 - (i) bis (2-chloroethyl) ether (CAS 111-44-4)
 - (ii) bis (2-chloroisopropyl) ether (CAS 108-60-1)
 - (iii) bis (chloromethyl) ether (CAS 542-88-1)
- (g) 1,2-dichloropropane (propylene dichloride, PDC) (CAS 78-87-5)
- (h) dichloropropenes (CAS 542-75-6)
- (i) 1,4-dioxane (CAS 123-91-1)
- (i) halogenated ethanes
 - (i) 1,2-dibromoethane (ethylene dibromide, EDB) (CAS 106-93-4)
 - (ii) 1,1-dichloroethane (1,1-DCA) (CAS 75-34-3)
 - (iii) 1,2-dichloroethane (ethylene dichloride, EDC) (CAS 107-06-2)
 - (iv) 1,1,1-trichloroethane (TCA) (CAS 71-55-6)
 - (v) 1,1,2-trichloroethane (1,1,2-TCA) (CAS 79-00-5)
 - (vi) 1,1,2,2-tetrachloroethane (CAS 79-34-5)
 - (vii) hexachloroethane (CAS 67-72-1)
- (k) halogenated ethenes
 - (i) chlorothene (vinyl chloride) (CAS 75-01-4)
 - (ii) 1,1-dichloroethene (1,1-DCE) (CAS 75-35-4)
 - (iii) cis-1,2-dichloroethene (cis-1,2-DCE) (CAS 156-59-2)
 - $(iv) \qquad \text{trans-1,2-dichloroethene (trans-1,2-DCE) (CAS~156-60-5)} \\$
 - (v) trichloroethene (trichloroethylene, TCE) (CAS 79-01-6)
 - (vi) tetrachloroethene (perchloroethylene, PCE) (CAS 127-18-4)

```
(1)
                                  halogenated methanes
                                  (i)
                                          bromodichloromethane (CAS 75-27-4)
                                  (ii)
                                          bromomethane (CAS 74-83-9)
                                  (iii)
                                          chloromethane (CAS 74-87-3)
                                  (iv)
                                          dichlorodifluoromethane (fluorocarbon-12) (CAS 75-71-8)
                                          dichloromethane (methylene chloride) (CAS 75-09-2)
                                  (v)
                                          tribromomethane (bromoform) (CAS 75-25-2)
                                  (vi)
                                          trichloromethane (chloroform) (CAS 67-66-3)
                                  (vii)
                                  (viii)
                                          tetrachloromethane (carbon tetrachloride) (CAS 56-23-5)
                                          trichlorofluoromethane (fluorocarbon-11) (CAS 75-69-4)
                                  (ix)
                         (m)
                                  hexachlorobutadiene (CAS 87-68-3)
                                  isophorone (CAS 78-59-1)
                         (n)
                                  methyl tertiary-butyl-ether (MTBE) (CAS 1634-04-4)
                         (0)
                                  nitroaromatics and high explosives (HE)
                         (p)
                                          nitrobenzene (CAS 98-95-3)
                                  (i)
                                  (ii)
                                          2,4-dinitrotoluene (2,4-DNT) (CAS 121-14-2)
                                  (iii)
                                          2,6-dinitrotoluene (2,6-DNT) (CAS 606-20-2)
                                 (iv)
                                          octrahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) (CAS 2691-
41-0)
                                  (v)
                                          hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) (CAS 121-82-4)
                                          2,4,6-trinitrotoluene (TNT) (CAS 118-96-7)
                                  (vi)
                                  (vii)
                                          2,4-dinitro-o-cresol (CAS 534-52-1)
                                          dinitrophenols (CAS 51-28-5)
                                  (viii)
                                  nitrosamines
                         (q)
                                  (i)
                                          N-nitrosodiethylamine (CAS 55-18-5)
                                  (ii)
                                          N-nitrosodimethylamine (CAS 62-75-9)
                                  (iii)
                                          N-nitrosodibutylamine (CAS 924-16-3)
                                  (iv)
                                          N-nitrosodiphenylamine (CAS 86-30-6)
                                          N-nitrosopyrrolidine (CAS 930-55-2)
                                  (v)
                                  perchlorate (CAS 14797-73-0)
                         (r)
                                  perfluorinated-chemicals (PFCs)
                         (s)
                                          perfluorohexane sulfonic acid (PHHxS) (CAS 355-46-4)
                                  (i)
                                  (ii)
                                          perfluorooctane sulfonate (PFOS) (CAS 1763-23-1)
                                  (iii)
                                          perfluorooctanoic acid (PFOA) (CAS 335-67-1)
                                  pesticides
                         (t)
                                          Aldrin (CAS 309-00-2)
                                  (i)
                                          atrazine (CAS 1912-24-9)
                                  (ii)
                                  (iii)
                                          chlordane (CAS 57-74-9)
                                  (iv)
                                          DDT (CAS 50-29-3)
                                  (v)
                                          dieldrin (CAS 60-57-1)
                                          endosulfan (CAS 115-29-7)
                                  (vi)
                                          endrin (CAS 72-20-8)
                                  (vii)
                                  (viii)
                                          heptachlor (CAS 76-44-8)
                                          hexachlorocyclohexane (HCH, lindane): alpha-HCH (CAS 319-84-6);
                                  (ix)
beta-HCH (CAS 319-85-7); gamma-HCH (CAS 58-89-9); and, technical-HCH (CAS 608-73-1)
                                          hexachlorocyclopentadiene (CAS 77-47-4)
                                  (x)
                                  (xi)
                                          prometon (CAS 1610-18-0)
                                  (xii)
                                          toxaphene (CAS 8001-35-2)
                                  phenol (CAS 108-95-2)
                         (u)
                                  phthalate esters
                         (v)
                                          dibutyl phthalate (CAS 84-74-2)
                                  (i)
                                          di-2-ethylhexyl phthalate (DEHP) (CAS 117-81-7)
                                  (ii)
                                  (iii)
                                          diethyl phthalate (DEP) (CAS 84-66-2)
                                  (iv)
                                          dimethyl phthalate (DMP) (CAS 131-11-3)
                                  polycyclic compounds
                         (w)
                                          benzidine (CAS 92-87-5)
```

- (ii) dichlorobenzidine (CAS 91-94-1)
- (iii) diphenylhydrazine (CAS 122-66-7
- (iv) polychlorinated biphenyls (PCBs) (CAS 1336-36-3)
- (x) polynuclear aromatic hydrocarbons (PAHs)
 - (i) anthracne (CAS 120-12-7)
 - (ii) benzo(a)pyrene (CAS 50-32-8)
 - (iii) 3,4-benzofluoranthene (CAS 205-99-2)
 - (iv) benzo(k)fluoranthene (CAS 207-08-9)
 - (v) fluoranthene (CAS 206-44-0)
 - (vi) fluorene (CAS 86-73-7)
 - (vii) naphthalene (CAS 91-20-3)
 - (viii) 1-methylnaphthalene (CAS 90-12-0)
 - (ix) 2-methylnaphthalene (CAS 91-57-6)
 - (x) phenanthrene (CAS 85-01-8)
 - (**xi**) pyrene (CAS 129-00-0)
- (y) thiolane 1,1 dioxide (sulfolane) (CAS 126-33-0)
- **U.** Definitions that begin with the letter "U." [RESERVED]
- **V.** Definitions that begin with the letter "V."
- (1) "vadose zone" means earth material below the land surface and above ground water, or in between bodies of ground water
 - **W.** Definitions that begin with the letter "W."
- (1) "wastes" means sewage, industrial wastes, or any other liquid, gaseous or solid substance which will pollute any waters of the state;
- (2) "water" means all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water;
- (3) "water contaminant" means any substance that could alter if discharged or spilled the physical, chemical, biological or radiological qualities of water; "water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954;
- (4) "watercourse" means any river, creek, arroyo, canyon, draw, or wash, or any other channel having definite banks and beds with visible evidence of the occasional flow of water;
- (5) "water pollution" means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property;
- (6) "well" means: (1) A bored, drilled, or driven shaft; (2) A dug hole whose depth is greater than the largest surface dimension; (3) An improved sinkhole; or (4) A subsurface fluid distribution system;
- (7) "well stimulation" means a process used to clean the well, enlarge channels, and increase pore space in the interval to be injected, thus making it possible for fluids to move more readily into the injection zone; well stimulation includes, but is not limited to, (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.
 - **X.** Definitions that begin with the letter "X." [RESERVED]
 - Y. Definitions that begin with the letter "Y." [RESERVED]
 - **Z.** Definitions that begin with the letter "Z." [RESERVED]

[1-4-68, 4-20-68, 11-27-70, 9-3-72, 4-11-74, 8-13-76, 2-18-77, 6-26-80, 7-2-81, 1-29-82, 9-20-82, 11-17-84, 3-3-86, 8-17-91, 8-19-93, 12-1-95; 20.6.2.7 NMAC - Rn, 20 NMAC 6.2.I.1101, 1-15-01; A, 1-15-01; A, 12-1-01; A, 9-15-02; A, 9-26-04; A, 7-16-06; A, 8-1-14; A, 12-21-18]

- **20.6.2.8 SEVERABILITY:** If any section, subsection, individual standard or application of these standards or regulations is held invalid, the remainder shall not be affected. [2-18-77, 12-1-95; 20.6.2.8 NMAC Rn, 20 NMAC 6.2.I.1007, 1-15-01]
- **20.6.2.9 DOCUMENTS:** Documents referenced in the part may be viewed at the New Mexico environment department, ground water quality bureau, Harold Runnels building, 1190 St. Francis Drive, Santa Fe, New Mexico 87503.

[12-1-95; 20.6.2.9 NMAC - Rn, 20 NMAC 6.2.I.1006, 1-15-01; A, 12-1-01]

20.6.2.10 LIMITATIONS: These regulations do not apply to the following:

- **A.** Any activity or condition subject to the authority of the environmental improvement board pursuant to the Hazardous Waste Act, NMSA 1978, Sections 74-4-1 to -14, the Ground Water Protection Act, NMSA 1978, Sections 74-6B-1 to -14, or the Solid Waste Act, NMSA 1978, Sections 74-9-1 to -25, except to abate water pollution or to control the disposal or use of septage and sludge; or
- **B.** Any activity or condition subject to the authority of the oil conservation commission pursuant to the provisions of the Oil and Gas Act, NMSA 1978, Section 70-2-12 and other laws conferring power on the oil conservation commission and the oil conservation division of the energy, minerals and natural resources department to prevent or abate water pollution.

 [N, 12-21-18]

20.6.2.1<u>1</u>[0] - 20.6.2.1199: [RESERVED]

[12-1-95; 20.6.2.10 - 20.6.2.1199 NMAC - Rn, 20 NMAC 6.2.I.1008-1100, 1102-1199, 1-15-01]

20.6.2.1200 PROCEDURES:

[12-1-95; 20.6.2.1200 NMAC - Rn, 20 NMAC 6.2.I.1200, 1-15-01]

20.6.2.1201 NOTICE OF INTENT TO DISCHARGE:

- A. Except for the notices specified in paragraphs (1) and (2) of this subsection, any person intending to make a new water contaminant discharge or to alter the character or location of an existing water contaminant discharge, unless the discharge is being made or will be made into a community sewer system or subject to the Liquid Waste Disposal Regulations adopted by the New Mexico environmental improvement board, shall file a notice with the ground water quality bureau of the department for discharges that may affect ground water, and/or the surface water quality bureau of the department for discharges that may affect surface water.
- (1) Notices regarding discharges from facilities for the production, refinement, pipeline transmission of oil and gas or products thereof, the oil field service industry as related to oil and gas production activities, oil field brine production wells, and carbon dioxide facilities shall be filed with the oil conservation division of the energy, minerals and natural resources department,
- (2) Notices regarding discharges related to geothermal resources, as defined in Section 71-9-3 of the Geothermal Resources Development Act, NMSA 1978, Sections 71-9-1 to -11 (2016) shall be filed with the energy conservation and management division of the energy, minerals and natural resources department.
- **B.** Except for the notices specified in paragraphs (1) and (2) of this subsection any person intending to inject fluids into a well, including a subsurface distribution system, unless the injection is being made subject to the Liquid Waste Disposal Regulations adopted by the New Mexico environmental improvement board, shall file a notice with the ground water quality bureau of the department.
- (1) Notices regarding injections to wells associated with oil and gas facilities as described in Paragraph (1) of Subsection A of 20.6.2.1201 NMAC shall be filed with the oil conservation division.
- (2) Notices regarding injections to wells associated with exploration, development or production of geothermal resources, as described in Paragraph (2) of Subsection A of 20.6.2.1201 NMAC, shall be filed with the energy conservation and management division of the energy, minerals and natural resources department pursuant to the Geothermal Resources Development Act, NMSA 1978, Sections 71-9-1 to -11 (2016).
 - **C.** Notices shall state:
 - (1) the name of the person making the discharge;
 - (2) the address of the person making the discharge;
 - (3) the location of the discharge;
 - (4) an estimate of the concentration of water contaminants in the discharge; and
 - (5) the quantity of the discharge.
- **D.** Based on information provided in the notice of intent, the department will notify the person proposing the discharge as to which of the following apply:
 - (1) a discharge permit is required;
 - (2) a discharge permit is not required;
 - (3) the proposed injection well will be added to the department's underground injection well

inventory;

(4) the proposed injection activity or injection well is prohibited pursuant to 20.6.2.5004

NMAC.

[1-4-68, 9-5-69, 9-3-72, 2-17-74, 2-20-81, 12-1-95; 20.6.2.1201 NMAC - Rn, 20 NMAC 6.2.I.1201, 1-15-01; A, 12-1-01; A, 12-21-18]

20.6.2.1202 FILING OF PLANS AND SPECIFICATIONS--SEWERAGE SYSTEMS:

- A. Any person proposing to construct a sewerage system or proposing to modify any sewerage system in a manner that will change substantially the quantity or quality of the discharge from the system shall file plans and specifications of the construction or modification with ground water quality bureau of the department for discharges that may affect ground water, and/or the surface water quality bureau of the department for discharges that may affect surface water. Modifications having a minor effect on the character of the discharge from sewerage systems shall be reported as of January 1 and June 30 of each year to the ground water quality bureau of the department for discharges that may affect ground water, or the surface water quality bureau of the department for discharges that may affect surface water.
- **B.** Plans, specifications and reports required by this section, if related to facilities for the production, refinement and pipeline transmission of oil and gas, or products thereof, shall be filed instead with the oil conservation division.
- **C.** Plans and specifications required to be filed under this section must be filed prior to the commencement of construction.

[1-4-68, 9-3-72, 2-20-81, 12-1-95; 20.6.2.1202 NMAC - Rn, 20 NMAC 6.2.I.1202, 1-15-01; A, 12-1-01]

20.6.2.1203 NOTIFICATION OF DISCHARGE-REMOVAL:

- **A.** With respect to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, the following notifications and corrective actions are required:
- (1) As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, any person in charge of the facility shall orally notify the chief of the ground water quality bureau of the department, or the appropriate counterpart in any constituent agency delegated responsibility for enforcement of these rules as to any facility subject to such delegation. To the best of that person's knowledge, the following items of information shall be provided:
- (a) the name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;
 - **(b)** the name and address of the facility;
 - (c) the date, time, location, and duration of the discharge;
 - (d) the source and cause of discharge;
 - (e) a description of the discharge, including its chemical composition;
 - (f) the estimated volume of the discharge; and
 - (g) any actions taken to mitigate immediate damage from the discharge.
- (2) When in doubt as to which agency to notify, the person in charge of the facility shall notify the chief of the ground water quality bureau of the department. If that department does not have authority pursuant to commission delegation, the department shall notify the appropriate constituent agency.
- (3) Within one week after the discharger has learned of the discharge, the facility owner and/or operator shall send written notification to the same department official, verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.
- (4) The oral and written notification and reporting requirements contained in this Subsection A are not intended to be duplicative of discharge notification and reporting requirements promulgated by the oil conservation commission (OCC) or by the oil conservation division (OCD); therefore, any facility which is subject to OCC or OCD discharge notification and reporting requirements need not additionally comply with the notification and reporting requirements herein.
- (5) As soon as possible after learning of such a discharge, the owner/operator of the facility shall take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by the discharge.
- (6) If it is possible to do so without unduly delaying needed corrective actions, the facility owner/operator shall endeavor to contact and consult with the chief of the ground water quality bureau of the department or appropriate counterpart in a delegated agency, in an effort to determine the department's views as to what further corrective actions may be necessary or appropriate to the discharge in question. In any event, no later

than fifteen (15) days after the discharger learns of the discharge, the facility owner/operator shall send to said Bureau Chief a written report describing any corrective actions taken and/or to be taken relative to the discharge. Upon a written request and for good cause shown, the bureau chief may extend the time limit beyond fifteen (15) days.

- (7) The bureau chief shall approve or disapprove in writing the foregoing corrective action report within thirty (30) days of its receipt by the department. In the event that the report is not satisfactory to the department, the bureau chief shall specify in writing to the facility owner/operator any shortcomings in the report or in the corrective actions already taken or proposed to be taken relative to the discharge, and shall give the facility owner/operator a reasonable and clearly specified time within which to submit a modified corrective action report. The bureau chief shall approve or disapprove in writing the modified corrective action report within fifteen (15) days of its receipt by the department.
- (8) In the event that the modified corrective action report also is unsatisfactory to the department, the facility owner/operator has five (5) days from the notification by the bureau chief that it is unsatisfactory to appeal to the department secretary. The department secretary shall approve or disapprove the modified corrective action report within five (5) days of receipt of the appeal from the bureau chief's decision. In the absence of either corrective action consistent with the approved corrective action report or with the decision of the secretary concerning the shortcomings of the modified corrective action report, the department may take whatever enforcement or legal action it deems necessary or appropriate.
- (9) If the secretary determines that the discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within one hundred and eighty (180) days after notice is required to be given pursuant to Paragraph (1) of Subsection A of Section 20.6.2.1203 NMAC, the secretary may notify the facility owner/operator that he is a responsible person and that an abatement plan may be required pursuant to Section 20.6.2.4104 and Subsection A of Section 20.6.2.4106 NMAC.
- **B.** Exempt from the requirements of this section are continuous or periodic discharges which are made:
- (1) in conformance with regulations of the commission and rules, regulations or orders of other state or federal agencies; or
- (2) in violation of regulations of the commission, but pursuant to an assurance of discontinuance or schedule of compliance approved by the commission or one of its duly authorized constituent agencies.
- **C.** As used in this section and in Sections 20.6.2.4100 through 20.6.2.4115 NMAC, but not in other sections of this part:
- (1) "discharge" means spilling, leaking, pumping, pouring, emitting, emptying, or dumping into water or in a location and manner where there is a reasonable probability that the discharged substance will reach surface or subsurface water:
- (2) "facility" means any structure, installation, operation, storage tank, transmission line, motor vehicle, rolling stock, or activity of any kind, whether stationary or mobile;
- (3) "oil" means oil of any kind or in any form including petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes;
- (4) "operator" means the person or persons responsible for the overall operations of a facility; and
 - (5) "owner' means the person or persons who own a facility, or part of a facility.
- **D.** Notification of discharge received pursuant to this part or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except for perjury or for giving a false statement.
- **E.** Any person who has any information relating to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, is urged to notify the chief of the ground water quality bureau of the department. Upon such notification, the secretary may require an owner/operator or a responsible person to perform corrective actions pursuant to Paragraphs (5) and (9) of Subsection A of Section 20.6.2.1203 NMAC.

[2-17-74, 2-20-81, 12-24-87, 12-1-95; 20.6.2.1203 NMAC - Rn, 20 NMAC 6.2.I.1203, 1-15-01; A, 12-1-01; A, 12-1-18]

20.6.2.1204 - 20.6.2.1209 [RESERVED]

20.6.2.1210 VARIANCE PETITIONS:

- **A.** Any person seeking a variance pursuant to Section 74-6-4(H) NMSA 1978, shall do so by filing a written petition with the commission. The petitioner may submit with his petition any relevant documents or material which the petitioner believes would support his petition. Petitions shall:
 - (1) state the petitioner's name and address;
 - (2) state the date of the petition;
 - (3) describe the facility or activity for which the variance is sought;
 - (4) state the address or description of the property upon which the facility is located;
- (5) describe the water body or watercourse affected by the discharge for which the variance is sought and provide information on uses of water that may be affected;
 - (6) identify the regulation of the commission from which the variance is sought;
 - (7) state in detail the extent to which the petitioner wishes to vary from the regulation;
- (8) state why the petitioner believes that compliance with the regulation will impose an unreasonable burden upon his activity; and
 - (9) state in detail how any water pollution above standards will be abated; and
- (10) state the period of time for which the variance is desired including all reasons, data, reports and any other information demonstrating that such time period is justified and reasonable.
- **B.** The variance petition shall be reviewed in accordance with the adjudicatory procedures of 20 NMAC 1.3.
- C. The commission may grant the requested variance, in whole or in part, may grant the variance subject to conditions, or may deny the variance. If the variance is granted in whole or in part, or subject to conditions, the commission shall specify the length of time that the variance shall be in place.
- **D.** For variances associated with a discharge permit or abatement plan, the existence and nature of the variance shall be disclosed in all public notices applicable to the discharge permit or abatement plan.
- **E.** For variances granted for a period in excess of five years, the petitioner shall provide to the department for review a variance compliance report at five year intervals to demonstrate that the conditions of the variance are being met, including notification of any changed circumstances or newly-discovered facts that are material to the variance. At such time as the department determines the report is administratively complete, the department shall post the report on its website, and mail or e-mail notice of its availability to those persons on a general and facility-specific list maintained by the department who have requested notice of discharge permit applications, and any person who participated in the variance process. If such conditions are not being met, or there is evidence indicating changed circumstances or newly-discovered facts or conditions that were unknown at the time the variance was initially granted, any person, including the department, may request a hearing before the commission to revoke, modify, or otherwise reconsider the variance within 90 days of the issuance of the notice of availability of the report.
- F. An order of the commission is final and bars the petitioner from petitioning for the same variance without special permission from the commission. The commission may consider, among other things, the development of new information and techniques to be sufficient justification for a second petition. If the petitioner, or his authorized representative, fails to appear at the public hearing on the variance petition, the commission shall proceed with the hearing on the basis of the petition. A variance may not be extended or renewed unless a new petition is filed and processed in accordance with the procedures established by this section.

 [7-19-68, 11-27-70, 9-3-72, 2-20-81, 11-15-96; 20.6.2.1210 NMAC Rn, 20 NMAC 6.2.I.1210, 1-15-01; A, 12-21-18]

20.6.2.1211 - 20.6.2.1219: [RESERVED]

[12-1-95; 20.6.2.1211 - 20.6.2.1219 NMAC - Rn, 20 NMAC 6.2.I.1211-1219, 1-15-01]

20.6.2.1220 PENALTIES ENFORCEMENT, COMPLIANCE ORDERS, PENALTIES, ASSURANCE OF DISCONTINUANCE.: Failure to comply with the Water Quality Act, or any regulation or standard promulgated pursuant to the Water Quality Act is a prohibited act. If the secretary determines that a person has violated or is violating a requirement of the Water Quality Act or any regulation promulgated thereunder or is exceeding any water quality standard or ground water standard contained in commission regulations, or is not complying with a condition or provision of an approved or modified abatement plan, discharge plan, or permit issued pursuant to the Water Quality Act, the secretary may issue a compliance order, assess a penalty, commence a

civil action in district court, or accept an assurance of discontinuance in accordance with NMSA 1978, Section 74-6-10 of the Water Quality Act.

[12-1-95; 20.6.2.1220 NMAC - Rn, 20 NMAC 6.2.I.1220, 1-15-01]

20.6.2.1221 - 20.6.2.1999: [RESERVED]

[12-1-95; 20.6.2.1221 - 20.6.2.1999 NMAC - Rn, 20 NMAC 6.2.I.1221-2099, 1-15-01]

20.6.2.2000 SURFACE WATER PROTECTION:

[12-1-95; 20.6.2.2000 NMAC - Rn, 20 NMAC 6.2.II, 1-15-01]

20.6.2.2001 PROCEDURES FOR CERTIFICATION OF FEDERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS:

- **A.** This section applies to the state certification of draft national pollutant discharge elimination system (NPDES) permits under Section 401 of the federal Clean Water Act. The purpose of such certification is to reasonably ensure that the permitted activities will be conducted in a manner that will comply with applicable water quality standards, including the antidegradation policy, and the statewide water quality management plan.
- **B.** After review of a draft permit, the department will either: (1) certify that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the federal Clean Water Act and with appropriate requirements of state law; (2) certify that the discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of state law upon inclusion of specified conditions in the permit and include the justification for the conditions; or (3) deny certification and include reasons for the denial. If the department does not act on the certification within the time prescribed by the federal permitting agency for such action, the authority to do so shall be waived.
- C. Pursuant to federal regulations at 40 CFR 124.10(c), the U.S. environmental protection agency provides notice of draft NPDES permits to the applicant (except for general permits); various local, state, federal, tribal and pueblo government agencies; and other interested parties, and it allows at least 30 days of public comment. To the extent practicable, the department will provide public notice that the department is reviewing a draft NPDES permit for the purpose of preparing a state certification or denial pursuant to Section 401 of the federal Clean Water Act jointly with the notice provided by the U.S. environmental protection agency. The department will also post notice on its website.
- **D.** When joint notice is impractical, the department shall provide notice that the department is reviewing a draft NPDES permit for purpose of preparing a state certification or denial pursuant to Section 401 of the federal Clean Water Act as follows:
 - (1) for general permits by:
 - (a) posting notice on the department's website;
 - **(b)** publishing notice in at least one newspaper of general circulation:
- (c) mailing or e-mailing notice to those persons on the general mailing list maintained by the department who have requested such notice; and
- (d) mailing or e-mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department; or
 - (2) for individual permits by:
 - (a) posting notice on the department's website;
 - (b) publishing notice in a newspaper of general circulation in the location of the

discharge;

- (c) mailing notice to the applicant;
- (d) mailing or e-mailing notice to those persons on the general and facility-specific mailing list maintained by the department who have requested such notice; and
- (e) mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department.
- **E.** Public notices may describe more than one permit or permit action. The notice provided under Subsections C and D of 20.6.2.2001 NMAC shall include:
 - (1) for general permits:
- (a) a statement that the department will accept written comments on the draft permit during the comment period including the address where comments may be submitted;
 - (b) a brief description of the activities that produce the discharge; and
 - (c) a description of the geographic area to be covered by the permit; or

- (2) for individual permits:
- (a) a statement that the department will accept written comments on the draft permit during the comment period including the address where comments may be submitted;
- **(b)** the name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;
 - (c) a brief description of the activities that produce the discharge; and
- $\textbf{(d)} \qquad \text{a general description of the location of the discharge and the name of the receiving water.}$
- **F.** Following the public notice provided under Subsections C or D of 20.6.2.2001 NMAC, there shall be a period of at least 30 days during which interested persons may submit written comments to the department. The 30-day comment period shall begin on the date of the public notice provided under Subsections C or D of 20.6.2.2001 NMAC. The department shall consider all pertinent comments.
- G. Following the public comment period provided under Subsection F of 20.6.2.2001 NMAC, the department shall issue a final permit certification including any conditions that the department places on the certification, or issue a statement of denial including the reasons for the denial. The final certification will generally be issued within 45 days from the date a request to grant, deny or waive certification is received by the department, unless the department in consultation with the U.S. environmental protection agency regional administrator finds that unusual circumstances require a longer time. The department shall send a copy of the final permit certification or denial to the U.S. environmental protection agency, the applicant (except for general permits), and those members of the public who submitted comments to the department.
 - (1) The permit certification shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the NPDES permit

number;

- (b) a statement that the department has examined the application or other relevant information and bases its certification upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
- (c) a statement that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards;
- (d) a statement of any conditions which the department deems necessary or desirable with respect to the discharge of the activity;
- (e) identification of any condition more stringent than that in the draft permit required to assure compliance with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of state law citing the Clean Water Act or state law upon which the condition is based;
- (f) a statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of state law, including water quality standards; and
 - (g) such other information as the department may determine to be appropriate.
- (2) With justification, including any of the reasons listed in the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(E), the department may deny permit certification. Denial of permit certification shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the NPDES permit

number:

- (b) a statement that the department has examined the application or other relevant information and bases its denial upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
 - (c) a statement of denial including the reasons for the denial; and
 - (d) such other information as the department may determine to be appropriate.
- H. Any person who is adversely affected by the certification or denial of a specific permit may appeal such certification or denial by filing a petition for review with the secretary within 30 days after the department issues the final permit certification or statement of denial. Such petition shall be in writing and shall include a concise statement of the reasons for the appeal and the relief requested. The secretary may hold a hearing on the appeal. In any such appeal hearing, the procedures of 20.1.4 NMAC shall not apply. The department shall give notice of the appeal hearing at least 30 days prior to the hearing. The notice shall state the date, time, and location of the appeal hearing and shall include the pertinent information listed in Subparagraphs (b), (c), and (d) of Paragraph (2) of Subsection E of 20.6.2.2001 NMAC. The secretary shall appoint a hearing officer to preside over the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments,

or other information on the permit certification or denial during the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments, or other information in rebuttal of that presented by another person. Reasonable time limits may be placed on oral statements, and the submission of written statements may be required. The hearing officer may question persons presenting oral testimony. Cross examination of persons presenting oral statements shall not otherwise be allowed. Within 30 days after the completion of the hearing, or such other time as the secretary may order given the complexities of the case, the hearing officer shall submit recommendations to the secretary. The secretary shall issue a final decision on the appeal within 30 days after receiving the recommendation, or such other time as the secretary may order given the complexities of the case.

I. Pursuant to the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(O), any person who is adversely affected by the secretary's final decision may file with the commission a petition for review of that decision based on the administrative record.

[20.6.2.2001 NMAC - N, 5-18-11]

20.6.2.2002 PROCEDURES FOR CERTIFICATION OF FEDERAL PERMITS FOR DISCHARGE OF DREDGED OR FILL MATERIAL:

- **A.** This section applies to the state certification of draft permits or permit applications for the discharge of dredged or fill material under Section 401 of the federal Clean Water Act. The purpose of such certification is to reasonably ensure that the permitted activities will be conducted in a manner that will comply with applicable water quality standards, including the antidegradation policy, and the statewide water quality management plan.
- **B.** After review of a draft permit or permit application, the department will either: (1) certify that the discharge will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the federal Clean Water Act and with appropriate requirements of state law; (2) certify that the discharge will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of state law upon inclusion of specified conditions in the permit and include the justification for the conditions; or (3) deny certification and include reasons for the denial. If the department does not act on the certification within the time prescribed by the federal permitting agency for such action, the authority to do so shall be waived.
- C. Pursuant to federal regulations at 33 CFR 325.3 and 33 CFR 330.5, the U.S. army corps of engineers provides notice of draft dredged or fill permits and permit applications to the applicant (except for general or nationwide permits); various local, state, federal, tribal and pueblo government agencies; and other interested parties, and it allows at least 15 days of public comment. To the extent practicable, the department will provide public notice that the department is reviewing a draft permit or permit application for the purpose of preparing a state certification or denial pursuant to Section 401 of the federal Clean Water Act jointly with the notice provided by the U.S. army corps of engineers. The department will also post notice on its website.
- **D.** When joint notice is impractical, the department shall provide notice that the department is reviewing a draft dredged or fill permit or permit application for purpose of preparing a state certification or denial pursuant to Section 401 of the federal Clean Water Act as follows:
 - (1) for general permits by:
 - (a) posting notice on the department's website;
 - (b) publishing notice in at least one newspaper of general circulation;
- (c) mailing or e-mailing notice to those persons on the general mailing list maintained by the department who have requested such notice; and
- (d) mailing or e-mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department; or
 - (2) for individual permit applications by:
 - (a) posting notice on the department's website;
 - (b) publishing notice in a newspaper of general circulation in the location of the

discharge;

- (c) mailing notice to the applicant;
- (d) mailing or e-mailing notice to those persons on the general and facility-specific mailing list maintained by the department who have requested such notice; and
- (e) mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department.

- **E.** Public notices may describe more than one permit or permit action. The notice provided under Subsections C and D of 20.6.2.2002 NMAC shall include:
 - (1) for general permits:
- (a) a statement that the department will accept written comments on the draft permit during the comment period including the address where comments may be submitted;
 - (b) a brief description of the activities that produce the discharge; and
 - (c) a description of the geographic area to be covered by the permit; or
 - (2) for individual permit applications:
- (a) a statement that the department will accept written comments on the permit application during the comment period including the address where comments may be submitted;
- **(b)** the name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;
 - (c) a brief description of the activities that produce the discharge; and
 - (d) a general description of the location of the discharge and the name of the

receiving water.

- **F.** Following the public notice provided under Subsections C or D of 20.6.2.2002 NMAC, there shall be a period of at least 30 days during which interested persons may submit written comments to the department. The 30-day comment period shall begin on the date of the public notice provided under Subsections C or D of 20.6.2.2002 NMAC. The department shall consider all pertinent comments.
- **G.** The public notice provisions in Subsection C and D of Section 20.6.2.2002 NMAC and the public comment provisions in Subsection F of Section 20.6.2.2002 NMAC shall not apply to permits issued using emergency procedures under 33 CFR 325.2(e)(4). However, even in emergency situations, reasonable efforts shall be made to receive comments from interested state and local agencies and the affected public.
- **H.** Following the public comment period provided under Subsection F of 20.6.2.2002 NMAC, the department shall issue a final permit certification including any conditions that the department places on the certification, or issue a statement of denial including the reasons for the denial. The final certification will generally be issued within 60 days from the date a request to grant, deny or waive certification is received by the department, unless the department in consultation with the U.S. army corps of engineers district engineer finds that unusual circumstances require a longer time. The department shall send a copy of the final permit certification or denial to the army corps of engineers, the applicant (except for general or nationwide permits), and those members of the public who submitted comments to the department.
 - (1) The permit certification or denial shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the permit number;
- **(b)** a statement that the department has examined the application or other relevant information and bases its certification upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
- (c) a statement that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards;
- (d) a statement of any conditions which the department deems necessary or desirable with respect to the discharge of the activity; and
 - (e) such other information as the department may determine to be appropriate.
- (2) With justification, including any of the reasons listed in the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(E), the department may deny permit certification. Denial of permit certification shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the permit number;
- **(b)** a statement that the department has examined the application or other relevant information and bases its denial upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
 - (c) a statement of denial including the reasons for the denial; and
 - (d) such other information as the department may determine to be appropriate.
- I. Any person who is adversely affected by the certification or denial of a specific permit may appeal such certification or denial by filing a petition for review with the secretary within 30 days after the department issues the final permit certification or statement of denial. Such petition shall be in writing and shall include a concise statement of the reasons for the appeal and the relief requested. The secretary may hold a hearing on the appeal. In any such appeal hearing, the procedures of 20.1.4 NMAC shall not apply. The department shall give notice of the appeal hearing at least 30 days prior to the hearing. The notice shall state the date, time, and location

of the appeal hearing and shall include the pertinent information listed in Subparagraphs (b), (c), and (d) of Paragraph (2) of Subsection E of 20.6.2.2002 NMAC. The secretary shall appoint a hearing officer to preside over the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments, or other information on the permit certification or denial during the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments, or other information in rebuttal of that presented by another person. Reasonable time limits may be placed on oral statements, and the submission of written statements may be required. The hearing officer may question persons presenting oral testimony. Cross examination of persons presenting oral statements shall not otherwise be allowed. Within 30 days after the completion of the hearing, or such other time as the secretary may order given the complexities of the case, the hearing officer shall submit recommendations to the secretary. The secretary shall issue a final decision on the appeal within 30 days after receiving the recommendation, or such other time as the secretary may order given the complexities of the case.

J. Pursuant to the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(O), any person who is adversely affected by the secretary's final decision may file with the commission a petition for review of that decision based on the administrative record.

[20.6.2.2002 NMAC - N, 5-18-11]

20.6.2.2003 PROCEDURES FOR CERTIFICATION OF OTHER FEDERAL PERMITS:

- A. This section applies to the state certification of draft federal permits, permit applications or licenses under Section 401 of the federal Clean Water Act, except for NPDES permits or permits for the discharge of dredged or fill material. For example, this section applies to certification of permits or licenses issued by the federal energy regulatory commission (FERC) and to permits or licenses issued under the Rivers and Harbors Act of 1899. The purpose of such certification is to reasonably ensure that the permitted activities will be conducted in a manner that will comply with applicable water quality standards, including the antidegradation policy, and the statewide water quality management plan.
- **B.** After review of a draft permit, permit application or license, the department will either: (1) certify that the activity will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the federal Clean Water Act and with appropriate requirements of state law; (2) certify that the activity will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of state law upon inclusion of specified conditions in the permit and include the justification for the conditions; or (3) deny certification and include reasons for the denial. If the department does not act on the certification within the time prescribed by the federal permitting agency for such action, the authority to do so shall be waived.
- **C.** To the extent practicable, the department will provide public notice that the department is reviewing a draft federal permit, permit application or license for the purpose of preparing a state certification or denial jointly with the notice provided by the federal permitting or licensing agency. The department will also post notice on its website.
- **D.** When joint notice is impractical, the department shall provide notice that the department is reviewing a draft federal permit, permit application or license for purpose of preparing a state certification or denial pursuant to Section 401 of the federal Clean Water Act as follows:
 - (1) for general permits or licenses by:
 - (a) posting notice on the department's website;
 - (b) publishing notice in at least one newspaper of general circulation;
 - (c) mailing or e-mailing notice to those persons on the general mailing list

maintained by the department who have requested such notice; and

- (d) mailing or e-mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department; or
 - (2) for individual permits or licenses by:
 - (a) posting notice on the department's website;
- (b) publishing notice in a newspaper of general circulation in the location of the permitted or licensed activity;
 - (c) mailing notice to the applicant;
- (d) mailing or e-mailing notice to those persons on the general and facility-specific mailing list maintained by the department who have requested such notice; and
- (e) mailing notice to any affected local, state, federal, tribal, or pueblo government agency, as identified by the department.

- **E.** Public notices may describe more than one license, permit or permit action. The notice provided under Subsections C and D of 20.6.2.2003 NMAC shall include:
 - (1) for general permits or licenses:
- (a) a statement that the department will accept written comments on the permit or license during the comment period including the address where comments may be submitted; and
 - (b) a brief description of the permitted or licensed activities; and
 - (c) a description of the geographic area to be covered by the permit; or
 - (2) for individual permits or licenses:
- (a) a statement that the department will accept written comments on the permit or license during the comment period including the address where comments may be submitted;
- (b) the name and address of the licensee, permittee or permit or license applicant and, if different, of the facility or activity regulated by the permit or license;
 - (c) a brief description of the permitted or licensed activities; and
- (d) a general description of the location of the permitted or licensed activities and the name of the receiving water.
- **F.** Following the public notice provided under Subsections C or D of 20.6.2.2003 NMAC, there shall be a period of at least 30 days during which interested persons may submit written comments to the department. The 30-day comment period shall begin on the date of the public notice provided under Subsections C or D of 20.6.2.2003 NMAC. The department shall consider all pertinent comments.
- **G.** Following the public comment period provided under Subsection F of 20.6.2.2003 NMAC, the department shall issue a final certification including any conditions that the department places on the certification, or issue a statement of denial including the reasons for the denial. The final certification will generally be issued within 60 days from the date a request to grant or deny certification is received by the department, unless the department in consultation with the federal permitting or licensing agency finds that unusual circumstances require a longer time. The department shall send a copy of the final certification or denial to the federal permitting or licensing agency, the applicant (except for general permits), and those members of the public who submitted comments to the department.
 - (1) The certification or denial shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the permit or license

number;

- **(b)** a statement that the department has examined the application or other relevant information and bases its certification upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
- (c) a statement that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards;
- (d) a statement of any conditions which the department deems necessary or desirable with respect to the discharge of the activity;
- (e) identification of any condition more stringent than that in the draft permit or license required to assure compliance with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of state law citing the Clean Water Act or state law upon which the condition is based;
- (f) a statement of the extent to which each condition of the draft permit or license can be made less stringent without violating the requirements of state law, including water quality standards; and
 - (g) Such other information as the department may determine to be appropriate.
- (2) With justification, including any of the reasons listed in the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(E), the department may deny certification. Denial of certification shall be in writing and shall include:
 - (a) the name of the applicant (except for general permits) and the permit or license

number;

- (b) a statement that the department has examined the application or other relevant information and bases its denial upon an evaluation of the information contained in such application or other information which is relevant to water quality considerations;
 - (c) a statement of denial including the reasons for the denial; and
 - (d) such other information as the department may determine to be appropriate.
- **H.** Any person who is adversely affected by the certification or denial of a specific permit or license may appeal such certification or denial by filing a petition for review with the secretary within 30 days after the

department issues the final certification or statement of denial. Such petition shall be in writing and shall include a concise statement of the reasons for the appeal and the relief requested. The secretary may hold a hearing on the appeal. In any such appeal hearing, the procedures of 20.1.4 NMAC shall not apply. The department shall give notice of the appeal hearing at least 30 days prior to the hearing. The notice shall state the date, time, and location of the appeal hearing and shall include the pertinent information listed in Subparagraphs (b), (c), and (d) of Paragraph (2) of Subsection E of 20.6.2.2003 NMAC. The secretary shall appoint a hearing officer to preside over the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments, or other information on the certification or denial during the appeal hearing. Any person may present oral or written statements, data, technical information, legal arguments, or other information in rebuttal of that presented by another person. Reasonable time limits may be placed on oral statements, and the submission of written statements may be required. The hearing officer may question persons presenting oral testimony. Cross examination of persons presenting oral statements shall not otherwise be allowed. Within 30 days after the completion of the hearing, or such other time as the secretary may order given the complexities of the case, the hearing officer shall submit recommendations to the secretary. The secretary shall issue a final decision on the appeal within 30 days after receiving the recommendation, or such other time as the secretary may order given the complexities of the case.

I. Pursuant to the New Mexico Water Quality Act, NMSA 1978, Section 74-6-5(O), any person who is adversely affected by the secretary's final decision may file with the commission a petition for review of that decision based on the administrative record.

[20.6.2.2003 NMAC - N, 5-18-11]

20.6.2.2004 - 20.6.2.2099: [RESERVED]

[12-1-95; 20.6.2.2001 - 20.6.2.2099 NMAC - Rn, 20 NMAC 6.2.I.1221-2099, 1-15-01; A, 5-18-11]

20.6.2.2100 APPLICABILITY: The requirements of Section 20.6.2.2101 and 20.6.2.2102 NMAC shall not apply to any discharge which is subject to a permit under the National Pollutant Discharge Elimination System of P. L. 92-500; provided that any discharger who is given written notice of National Pollutant Discharge Elimination System permit violation from the Administrator of the Environmental Protection Agency and who has not corrected the violation within thirty days of receipt of said notice shall be subject to Section 20.6.2.2101 and 20.6.2.2102 NMAC until in compliance with the National Pollution Discharge Elimination System permit conditions; provided further that nothing in this Part shall be construed as a deterrent to action under Section 74-6-11 NMSA, 1978. [8-13-76; 20.6.2.2100 NMAC - Rn, 20 NMAC 6.2.II.2100, 1-15-01]

20.6.2.2101 GENERAL REQUIREMENTS:

A. Except as otherwise provided in Sections 20.6.2.2000 through 20.6.2.2201 NMAC, no person shall cause or allow effluent to discharge to a watercourse if the effluent as indicated by:

- (1) any two consecutive daily composite samples:
- (2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);
- (3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or
- (4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:
 - (a) Bio-chemical Oxygen Demand (BOD) Less than 30 mg/l
 - (b) Chemical Oxygen Demand (COD) Less than 125 mg/l
 - (c) Settleable Solids Less than 0.5 mg/l
 - (d) Fecal Coliform Bacteria Less than 500 organisms per 100

ml

(e) pH Between 6.6 and 8.6

- **B.** Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.
 - C. Subsection A of this Section does not apply to the weight of constituents in the water diverted.
- **D.** Samples shall be examined in accordance with the most current edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.

[4-20-68, 3-14-71, 10-8-71, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2101 NMAC - Rn, 20 NMAC 6.2.II.2101, 1-15-01]

20.6.2.2102 RIO GRANDE BASIN--COMMUNITY SEWERAGE SYSTEMS:

- **A.** No person shall cause or allow effluent from a community sewerage system to discharge to a watercourse in the Rio Grande Basin between the headwaters of Elephant Butte Reservoir and Angostura Diversion Dam as described in Subsection E of this Section if the effluent, as indicated by:
 - (1) any two consecutive daily composite samples;
- (2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);
- (3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or
- (4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:

(a)	Bio-chemical Oxygen Demand (BOD)	Less than 30 mg/l
(b)	Chemical Oxygen Demand (COD)	Less than 80 mg/l
(c)	Settleable Solids	Less than 0.1 mg/l

(d) Fecal Coliform Bacteria Less than 500 organisms per 100

ml

(e) pH Between 6.6 and 8.6

- **B.** Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.
 - **C.** Subsection A of this Section does not apply to the weight of constituents in the water diverted.
- **D.** Samples shall be examined in accordance with the most current edition of Standard Methods for the Analysis of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.
- **E.** The following is a description of the Rio Grande Basin from the headwaters of Elephant Butte Reservoir to Angostura Diversion Dam as used in this Section. Begin at San Marcial USGS gauging station, which is the headwaters of Elephant Butte Reservoir Irrigation Project, thence northwest to U.S. Highway 60, nine miles + west of Magdalena; thence west along the northeast edge of the San Agustin Plains closed basin; thence north along the east side of the north plains closed basin to the Continental Divide; thence northly along the Continental Divide to the community of Regina on State Highway 96; thence southeasterly along the crest of the San Pedro Mountains to Cerro Toledo Peak; thence southwesterly along the Sierra de Los Valles ridge and the Borrego Mesa to Bodega Butte; thence southerly to Angostura Diversion Dam which is the upper reach of the Rio Grande in this basin; thence southeast to the crest and the crest of the Manzano Mountains and the Los Pinos Mountains; thence southerly along the divide that contributes to the Rio Grande to San Marcial gauging station to the point and place of beginning; excluding all waters upstream of Jemez Pueblo which flow into the Jemez River drainage and the Bluewater Lake. Counties included in the basin are:
 - (1) north portion of Socorro County;
 - (2) northeast corner of Catron County;
 - (3) east portion of Valencia County;
 - (4) west portion of Bernalillo County;
 - (5) east portion of McKinley County; and
 - (6) most of Sandoval County.

[3-14-71, 9-3-72, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2102 NMAC - Rn, 20 NMAC 6.2.II.2102, 1-15-01]

20.6.2.2103 - 20.6.2.2199: [RESERVED]

[12-1-95; 20.6.2.2103 - 20.6.2.2199 NMAC - Rn, 20 NMAC 6.2.II.2103-2199, 1-15-01]

20.6.2.2200 WATERCOURSE PROTECTION:

[12-1-95; 20.6.2.2200 NMAC - Rn, 20 NMAC 6.2.II.2200, 1-15-01]

20.6.2.2201 DISPOSAL OF REFUSE: No person shall dispose of any refuse in a natural watercourse or in a location and manner where there is a reasonable probability that the refuse will be moved into a natural watercourse by leaching or otherwise. Solids diverted from the stream and returned thereto are not subject to abatement under this Section.

[4-20-68, 9-3-72; 20.6.2.2201 NMAC - Rn, 20 NMAC 6.2.II.2201, 1-15-01]

20.6.2.2202 - 20.6.2.2999: [RESERVED]

[12-1-95; 20.6.2.2202 - 20.6.2.2999 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3000 PERMITTING AND GROUND WATER STANDARDS:

[12-1-95; 20.6.2.3000 NMAC - Rn, 20 NMAC 6.2.III, 1-15-01]

20.6.2.3001 - 20.6.2.3100: [RESERVED]

[12-1-95; 20.6.2.3001 - 20.6.2.3100 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3101 **PURPOSE**:

- A. The purpose of Sections 20.6.2.3000 through 20.6.2.3114 NMAC controlling discharges onto or below the surface of the ground is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the New Mexico Water Quality Standards. Sections 20.6.2.3000 through 20.6.2.3114 NMAC are written so that in general:
- (1) if the existing concentration of any water contaminant in ground water is in conformance with the standard of 20.6.2.3103 NMAC, degradation of the ground water up to the limit of the standard will be allowed; and
- (2) if the existing concentration of any water contaminant in ground water exceeds the standard of Section 20.6.2.3103 NMAC, no degradation of the ground water beyond the existing concentration will be allowed.
- **B.** Ground water standards are numbers that represent the pH range and maximum concentrations of water contaminants in the ground water which still allow for the present and future use of ground water resources.
- C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.

 [2-18-77; 20.6.2.3101 NMAC Rn, 20 NMAC 6.2.III.3101, 1-15-01]

20.6.2.3102: [RESERVED]

[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR

LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection E of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "methods for chemical analysis of water and waste of the U.S. environmental protection agency," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total nonfiltered concentrations of the contaminants. If the secretary determines that there is a reasonable probability of facilitated contaminant transport by colloids or organic macromolecules, or that proper filtration procedures are not being followed, the discharger may be required to test for both filtered and nonfiltered portions of inorganic contaminants to develop appropriate protocol for monitoring contaminants that have the potential to migrate through the aquifer.

A. Human Health Standards

(1) Numerical Standards

(a)	Antimony (Sb) (CAS 7440-36-0)	0.006 mg/1
(b)	Arsenic (As) (CAS 7440-38-2)	0.01 mg/l
(c)	Barium (Ba) (CAS 7440-39-3)	
(d)	Beryllium (be) (CAS 7440-41-7)	0.004 mg/l
(e)	Cadmium (Cd) (CAS 7440-43-9)	0.005 mg/l
(f)	Chromium (Cr) (CAS 7440-47-3)	0.05 mg/l

(~)	Consider (CNI) (CAS 57, 12.5)
(g)	Cyanide (CN) (CAS 57-12-5)
(h)	Fluoride (F) (CAS 16984-48-8)
(i)	Lead (Pb) (CAS 7439-92-1)
(j)	Total Mercury (Hg) (CAS 7439-97-6)
(k)	Nitrate (NO ₃ as N) (CAS 14797-55-8)
(l)	Nitrite (NO ₂ as N) (CAS 10102-44-0)
(m)	Selenium (Se) (CAS 7782-49-2)
(n)	Silver (Ag) (CAS 7440-224)
(0)	Thallium (Tl) (CAS 7440-28-0)
(p)	Uranium (U) (CAS 7440-61-1)
(q)	Radioactivity: Combined Radium-226 (CAS 13982-63-3) and
	Radium-228 (CAS 15262-20-1)
(r)	Benzene (CAS 71-43-2)
(s)	Polychlorinated biphenyls (PCB's) (CAS 1336-36-3).0.0005 mg/l
(t)	Toluene (CAS 108-88-3)
(u)	Carbon Tetrachloride (CAS 56-23-5)
(v)	1,2-dichloroethane (EDC) (CAS 107-06-2)
(w)	1,1-dichloroethylene (1,1-DCE) (CAS 75-35-4)0.007 mg/l
(x)	tetrachloroethylene (PCE) (CAS 127-18-4)0.005 mg/l
(y)	trichloroethylene (TCE) (CAS 79-01-6)0.005 mg/l
(z)	ethylbenzene (CAS 100-41-4)0.7 mg/l
(aa)	total xylenes (CAS 1330-20-7)
(bb)	methylene chloride (CAS 75-09-2)
(cc)	chloroform (CAS 67-66-3)0.1 mg/l
(dd)	1,1-dichloroethane (CAS 75-34-3)
(ee)	ethylene dibromide (EDB) (CAS 106-93-4)0.00005 mg/l
(ff)	1,1,1-trichloroethane (CAS 71-55-6)
(gg)	1,1,2-trichloroethane (CAS 79-00-5)
(hh)	1,1,2,2-tetrachloroethane (CAS 79-34-5)
(ii)	vinyl chloride (CAS 75-01-4)
	AHs: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes $\dots 0.03 \text{ mg/l}$
(kk)	benzo-a-pyrene (CAS 50-32-8)
(11)	cis-1,2-dichloroethene (CAS 156-59-2)
(mm)	trans-1,2-dichloroethene (CAS 156-60-5)0.1 mg/l
(nn)	1,2-dichloropropane (PDC) (CAS 78-87-5)
(00)	styrene (CAS 100-42-5)0.1 mg/l
(pp)	1,2-dichlorobenzene (CAS 95-50-1)
(qq)	1,4-dichlorobenzene (CAS 106-46-7)0.075 mg/l
(rr)	1,2,4-trichlorobenzene (CAS 120-82-1)0.07 mg/l
(ss)	pentachlorophenol (CAS 87-86-5)
(tt)	atrazine (CAS 1912-24-9)
Standar	rds for Toxic Pollutants. A toxic pollutant shall not be present at a

(2) Standards for Toxic Pollutants. A toxic pollutant shall not be present at a concentration shown by credible scientific data and other evidence appropriate under the Water Quality Act, currently available to the public, to have potential for causing one or more of the following effects upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains: (1) unreasonably threatens to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit; as used in this definition injuries to health include death, histopathologic change, clinical symptoms of disease, behavioral abnormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring; or (2) creates a lifetime risk of more than one cancer per 100,000 exposed persons.

(3) **Standards for Non-Aqueous Phase Liquids.** Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

В.	Other S	Standards for Domestic Water Supply	
	(1)	Chloride (Cl) (CAS 16887-00-6)	250.0 mg/l
	(2)	Copper (Cu) (CAS 7440-50-8)	1.0 mg/l
	(3)	Iron (Fe) (CAS 7439-89-6)	1.0 mg/l

(4)	Manganese (Mn) (CAS 7439-96-5)	0.2 mg/l
(5)	Phenols	0.005 mg/l
(6)	Sulfate (SO ₄) (CAS 14808-79-8)	600.0 mg/l
(7)	Total Dissolved Solids (TDS) TDS	1000.0 mg/l
(8)	Zinc (Zn) (CAS 7440-66-6)	10.0 mg/l
(9)	pH	between 6 and 9
(10)	Methyl tertiary-butyl ether (MTBE) (CAS 1634-04-4)	0.1 mg/l

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.

(1)	Aluminum (Al) (CAS 7429-90-5)	5.0 mg/l
(2)	Boron (B) (CAS 7440-42-8)	0.75 mg/l
(3)	Cobalt (Co) (CAS 7440-48-4)	_
(4)	Molybdenum (Mo) (CAS 7439-98-7)	1.0 mg/l
(5)	Nickel (Ni) (CAS 7440-02-0)	0.2 mg/l

D. For purposes of application of the amended numeric standards for arsenic, cadmium, lead, combined radium-226 & radium-228; benzene, PCBs, carbon tetrachloride, EDC, PCE, TCE, ethylbenzene, methylene chloride, EDB, 1,1,2-trichloroethane and benzo-a-pyrene, to past and current water discharges (as of July 1, 2017), the new standards will not become effective until July 1, 2020. With regard to sites for which the secretary has approved an abatement completion report as of the effective date of this rule pursuant to 20.6.2.4112 NMAC, the amended numeric standards for arsenic, cadmium, lead, combined radium-226 & radium-228; benzene, PCBs, carbon tetrachloride, EDC, PCE, TCE, ethylbenzene, methylene chloride, EDB, 1,1,2-trichloroethane and benzo-a-pyrene shall not apply unless the secretary notifies the responsible person that the site is a source of these contaminants in ground water that pose a hazard to public health.

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04; A, 12-21-18]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007.]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

- **A.** Effluent or leachate which conforms to all the standards in Subsections A, B, and C of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;
- **B.** Effluent which is regulated pursuant to 20.7.3 NMAC, "Liquid Waste Disposal and Treatment" regulations;
- **C.** Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;
- **D.** Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;
- **E.** Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

- F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall where NPDES effluent limitations are imposed, unless the secretary determines that a hazard to public health may result. For purposes of this subsection, monitoring requirements alone do not constitute effluent limitations;
 - **G.** Discharges resulting from flood control systems;

01; A, 8-1-14; A, 12-21-18]

- **H.** Leachate which results from the direct natural infiltration of precipitation through disturbed materials, unless the secretary determines that a hazard to public health may result;
- **I.** Leachate which results entirely from the direct natural infiltration of precipitation through undisturbed materials;
- **J.** Natural ground water seeping or flowing into conventional mine workings which re-enters the ground by natural gravity flow prior to pumping or transporting out of the mine and without being used in any mining process; this exemption does not apply to solution mining;
- **K.** Effluent or leachate discharges resulting from activities regulated by permit issued by the mining and minerals division of the energy, minerals and natural resources department pursuant to the Surface Mining Act, NMSA 1978, Sections 69-25A-1 to 36, provided that this exemption shall not be construed as limiting the application of appropriate ground water protection requirements by the mining and minerals division and the New Mexico Coal Surface Mining Commission; or
- **L.** Discharges resulting from activities regulated by the energy conservation and management division of the energy, minerals and natural resources department under the authority of the Geothermal Resources Development Act, NMSA 1978, Sections 71-9-1 to -11 (2016). [2-18-77, 6-26-80, 7-2-81, 12-24-87, 12-1-95; 20.6.2.3105 NMAC Rn, 20 NMAC 6.2.III.3105, 1-15-01; A, 12-1-

20.6.2.3106 APPLICATION FOR DISCHARGE PERMITS, RENEWALS, AND MODIFICATIONS:

- **A.** Any person who, before or on June 18, 1977, is discharging any of the water contaminants listed in 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall, within 120 days of receipt of written notice from the secretary that a discharge permit is required, or such longer time as the secretary shall for good cause allow, submit a discharge plan to the secretary for approval; such person may discharge without a discharge permit until 240 days after written notification by the secretary that a discharge permit is required or such longer time as the secretary shall for good cause allow.
- **B.** Any person who intends to begin, after June 18, 1977, discharging any of the water contaminants listed in 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall notify the secretary giving the information enumerated in Subsection B of 20.6.2.1201 NMAC; the secretary shall, within 60 days, notify such person if a discharge permit is required; upon submission of a discharge plan, the secretary shall review the discharge plan pursuant to 20.6.2.3108 and 20.6.2.3109 NMAC. For good cause shown the secretary may allow such person to discharge without a discharge permit for a period not to exceed 120 days.
- C. Any person who intends to modify the discharge of any of the water contaminants listed in 20.6.2.3103 NMAC or any toxic pollutant in a manner that is a discharge permit modification as defined in this part shall submit a discharge plan for modification that contains the information required in Subsection D of 20.6.2.3106 NMAC; upon submission of a discharge plan for modification, the secretary shall review the discharge plan for modification pursuant to 20.6.2.3108 and 20.6.2.3109 NMAC.
- **D.** A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with this part. At least the following information shall be included in the plan:
 - (1) quantity, quality and flow characteristics of the discharge;
- (2) location of the discharge and of any bodies of water, watercourses and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring;
- (3) depth to and TDS concentration of the ground water most likely to be affected by the discharge;
 - (4) flooding potential of the site;
- (5) location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow;
- (6) depth to and lithological description of rock at base of alluvium below the discharge site if such information is available;

- (7) any additional information that may be necessary to demonstrate that the discharge permit will not result in concentrations in excess of the standards of 20.6.2.3103 NMAC at any place of withdrawal of water for present or reasonably foreseeable future use; detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan; and
- (8) additional detailed information required for a technical evaluation of underground injection control wells as provided in 20.6.2.5000 through 20.6.2.5399 NMAC.
- **E.** An applicant for a discharge permit shall pay fees as specified in 20.6.2.3114 and 20.6.2.5302 NMAC.
- **F.** An applicant for a permit to dispose of or use septage or sludge, or within a source category designated by the commission, may be required by the secretary to file a disclosure statement as specified in 74-6-5.1 of the Water Quality Act.
- G. If the holder of a discharge permit submits an application for discharge permit renewal at least 120 days before the discharge permit expires, and the discharger is not in violation of the discharge permit on the date of its expiration, then the existing discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved. A discharge permit continued under this provision remains fully effective and enforceable. An application for discharge permit renewal must include and adequately address all of the information necessary for evaluation of a new discharge permit. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved. [2-18-77, 6-26-80, 7-2-81, 9-20-82, 8-17-91, 12-1-95; 20.6.2.3106 NMAC Rn, 20 NMAC 6.2.III.3106, 1-15-01; A, 12-1-01; A, 9-15-02; A, 8-31-15; A, 12-21-18]

20.6.2.3107 MONITORING, REPORTING, AND OTHER REQUIREMENTS:

- **A.** Each discharge plan shall provide for the following as the secretary may require:
 - (1) the installation, use, and maintenance of effluent monitoring devices;
- (2) the installation, use, and maintenance of monitoring devices for the ground water most likely to be affected by the discharge;
 - (3) monitoring in the vadose zone;

results:

- (4) continuation of monitoring after cessation of operations;
- (5) periodic submission to the secretary of results obtained pursuant to any monitoring requirements in the discharge permit and the methods used to obtain these results;
- (6) periodic reporting to the secretary of any other information that may be required as set forth in the discharge permit;
- (7) the discharger to retain for a period of at least five years any monitoring data required in the discharge permit;
 - (8) a system of monitoring and reporting to verify that the permit is achieving the expected
 - (9) procedures for detecting failure of the discharge system;
 - (10) contingency plans to cope with failure of the discharge permit or system;
- (11) a closure plan to prevent the exceedance of standards of 20.6.2.3103 NMAC in ground water after the cessation of operation which includes: a description of closure measures, maintenance and monitoring plans, post-closure maintenance and monitoring plans, financial assurance, and other measures necessary to prevent or abate such contamination; the obligation to implement the closure plan as well as the requirements of the closure plan, if any is required, survives the termination or expiration of the permit; a closure plan for any underground injection control well must also incorporate the applicable requirements of 20.6.2.5005, 20.6.2.5209, and 20.6.2.5361 NMAC.
- **B.** Sampling and analytical techniques shall conform with the following references unless otherwise specified by the secretary:
- (1) standard methods for the examination of water and wastewater, latest edition, American public health association; or
- (2) methods for chemical analysis of water and waste, and other publications of the analytical quality laboratory, EPA; or
 - (3) techniques of water resource investigations of the U.S. geological survey; or
- (4) annual book of ASTM standards; Part 31; water, latest edition, American society for testing and materials; or
- (5) federal register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations; or

- (6) national handbook of recommended methods for water-data acquisition, latest edition, prepared cooperatively by agencies of the United States government under the sponsorship of the U.S. geological survey.
- **C.** The discharger shall notify the secretary of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants.
 - **D.** Any discharger of effluent or leachate shall allow any authorized representative of the secretary to:
 - (1) inspect and copy records required by a discharge permit;
 - (2) inspect any treatment works, monitoring and analytical equipment;
 - (3) sample any effluent before or after discharge;
- (4) use monitoring systems and wells installed pursuant to a discharge permit requirement in order to collect samples from ground water or the vadose zone.
- **E.** Each discharge permit for an underground injection control well shall incorporate the applicable requirements of 20.6.2.5000 through 20.6.2.5399 NMAC. [2-18-77, 9-20-82, 11-17-83, 12-1-95; 20.6.2.3107 NMAC Rn, 20 NMAC 6.2.III.3107, 1-15-01; A, 12-1-01; A, 8-31-15; A, 12-21-18]

20.6.2.3108 PUBLIC NOTICE AND PARTICIPATION:

- **A.** Within 15 days of receipt of an application for a discharge permit, modification or renewal, the department shall review the application for administrative completeness. To be deemed administratively complete, an application shall provide all of the information required by Paragraphs (1) through (5) of Subsection F of 20.6.2.3108 NMAC and shall indicate, for department approval, the proposed locations and newspaper for providing notice required by Paragraphs (1) and (4) of Subsection B or Paragraph (2) of Subsection C of 20.6.2.3108 NMAC. The department shall notify the applicant in writing when the application is deemed administratively complete. If the department determines that the application is not administratively complete, the department shall notify the applicant of the deficiencies in writing within 30 days of receipt of the application and state what additional information is necessary.
- **B.** Within 30 days of the department deeming an application for discharge permit or discharge permit modification administratively complete, the applicant shall provide notice, in accordance with the requirements of Subsection F of 20.6.2.3108 NMAC, to the general public in the locale of the proposed discharge in a form provided by the department by each of the methods listed below:
- (1) for each 640 contiguous acres or less of a discharge site, prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, at a place conspicuous to the public, approved by the department, at or near the proposed facility for 30 days; one additional notice, in a form approved by and may be provided by the department, shall be posted at a place located off the discharge site, at a place conspicuous to the public and approved by the department; the department may require a second posting location for more than 640 contiguous acres or when the discharge site is not located on contiguous properties;
- (2) providing written notice of the discharge by mail or electronic mail, to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located; if there are no properties other than properties owned by the discharger within a 1/3 mile distance from the boundary of property where the discharge site is located, the applicant shall provide notice to owners of record of the next nearest adjacent properties not owned by the discharger;
- (3) providing notice by certified mail, return receipt requested, to the owner of the discharge site if the applicant is not the owner; and
- (4) publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches not in the classified or legal advertisements section, in a newspaper of general circulation in the location of the proposed discharge.
- **C.** Within 30 days of the department deeming an application for discharge permit renewal administratively complete, the applicant shall provide notice, in accordance with the requirements of Subsection F of 20.6.2.3108 NMAC, to the general public in the locale of the proposed discharge in a form provided by the department by each of the methods listed below:
- (1) providing notice by certified mail to the owner of the discharge site if the applicant is not the owner; and
- (2) publishing a synopsis of the notice, in English and in Spanish, in a display ad at least two inches by three inches, not in the classified or legal advertisements section, in a newspaper of general circulation in the location of the discharge.

- **D.** Within 15 days of completion of the public notice requirements in Subsections B or C of 20.6.2.3108 NMAC, the applicant shall submit to the department proof of notice, including an affidavit of mailing(s) and the list of property owner(s), proof of publication, and an affidavit of posting, as appropriate.
- **E.** Within 30 days of determining an application for a discharge permit, modification or renewal is administratively complete, the department shall post a notice on its website and shall mail notice to any affected local, state, federal, tribal or pueblo governmental agency, political subdivisions, ditch associations and land grants, as identified by the department. The department shall also mail or e-mail notice to those persons on a general and facility-specific list maintained by the department who have requested notice of discharge permit applications. The notice shall include the information listed in Subsection F of 20.6.2.3108 NMAC.
 - **F.** The notice provided under Subsection B, C and E of 20.6.2.3108 NMAC shall include:
 - (1) the name and address of the proposed discharger;
- (2) the location of the discharge, including a street address, if available, and sufficient information to locate the facility with respect to surrounding landmarks;
- a brief description of the activities that produce the discharge described in the application;
 - (4) a brief description of the expected quality and volume of the discharge;
- (5) the depth to and total dissolved solids concentration of the ground water most likely to be affected by the discharge;
- (6) the address and phone number within the department by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices; and
- (7) a statement that the department will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices.
- G. All persons who submit comments or statements of interest to the department or previously participated in a public hearing and who provide a mail or e-mail address shall be placed on a facility-specific mailing list and the department shall send those persons the public notice issued pursuant to Subsection J of 20.6.2.3108 NMAC, and notice of any public meeting or hearing scheduled on the application. All persons who contact the department to inquire about a specific facility shall be informed of the opportunity to be placed on the facility-specific mailing list.
- **H.** Within 60 days after the department makes its administrative completeness determination and all required technical information is available, the department shall make available a draft permit or a notice of intent to deny an application for a discharge permit, modification or renewal. The draft permit shall include all proposed effluent limitations or other conditions on proposed discharge, and all proposed monitoring, recordkeeping, and reporting requirements. A draft permit for a permit modification shall only include those permit conditions proposed to be modified.
- I. The department shall prepare a fact sheet for every draft permit for a discharge at a federal facility, except for discharges comprised solely of domestic liquid waste, and for other draft permits as determined by the Secretary. The fact sheet shall include:
 - (1) the information in Paragraphs 1 4 of Subsection F of 20.6.2.3108 NMAC;
 - (2) the information in Subsection J of 20.6.2.3108 NMAC; and
- (3) a brief summary of the basis for the draft permit conditions, including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record.
- J. The department shall mail by certified mail a copy of the draft permit and fact sheet or notice of intent to deny to the applicant and shall provide notice of the draft permit or the notice of intent to deny by:
 - (1) posting on the department's website;
- (2) publishing notice in a newspaper of general circulation in this state and a newspaper of general circulation in the location of the facility;
 - (3) mailing or e-mailing to those persons on a facility-specific mailing list;
- (4) mailing to any affected local, state, or federal governmental agency, ditch associations and land grants, as identified by the department; and
- (5) mailing to the governor, chairperson, or president of each Indian tribe, pueblo or nation within the state of New Mexico, as identified by the department.
- **K.** The public notice issued under Subsection H shall include the information in Subsection F of 20.6.2.3108 NMAC and the following information:
- a brief description of the procedures to be followed by the secretary in making a final determination;

- (2) a statement of the comment period and description of the procedures for a person to request a hearing on the application; and
- (3) the address, telephone number, and email address at which interested persons may obtain a copy of the draft permit and fact sheet or the notice of intent to deny.
- **L.** In the event that the draft permit or notice of intent to deny is available for review within 30 days of deeming the application administratively complete, the department may combine the public notice procedures of Subsections E and H of 20.6.2.3108 NMAC.
- **M.** Following the public notice of the draft permit or notice of intent to deny, and prior to a final decision by the secretary, there shall be a period of at least 30 days during which written comments may be submitted to the department and/or a public hearing may be requested in writing. The 30-day comment period shall begin on the date of publication of notice in the newspaper. All comments will be considered by the department. Requests for a hearing shall be in writing and shall set forth the reasons why a hearing should be held. A public hearing shall be held if the secretary determines there is substantial public interest. The department shall notify the applicant and any person requesting a hearing of the decision whether to hold a hearing and the reasons therefore in writing.
- N. If a hearing is held, pursuant to Subsection M of 20.6.2.3108 NMAC, notice of the hearing shall be given by the department at least 30 days prior to the hearing in accordance with Subsection H of 20.6.2.3108 NMAC. The notice shall include the information identified in Subsection F of 20.6.2.3108 NMAC in addition to the time and place of the hearing and a brief description of the hearing procedures. The hearing shall be held pursuant to 20.6.2.3110 NMAC.

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3108 NMAC - Rn, 20 NMAC 6.2.III.3108, 1-15-01; A, 12-1-01; A, 9-15-02; A, 7-16-06; A, 12-21-18]

20.6.2.3109 SECRETARY APPROVAL, DISAPPROVAL, MODIFICATION OR TERMINATION OF DISCHARGE PERMITS, AND REQUIREMENT FOR ABATEMENT PLANS:

- A. The department shall evaluate the application for a discharge permit, modification or renewal based on information contained in the department's administrative record. The department may request from the discharger, either before or after the issuance of any public notice, additional information necessary for the evaluation of the application. The administrative record shall consist of the application, any additional information required by the department, any information submitted by the discharger or the general public, other information considered by the department, the proposed approval or disapproval of an application for a discharge permit, modification or renewal prepared pursuant to Subsection H of 20.6.2.3108 NMAC, and, if a public hearing is held, all of the documents filed with the hearing clerk, all exhibits offered into evidence at the hearing, the written transcript or tape recording of the hearing, any hearing officer report, and any post hearing submissions.
- **B.** The secretary shall, within 30 days after the administrative record is complete and all required information is available, approve, approve with conditions or disapprove the proposed discharge permit, modification or renewal based on the administrative record. The Secretary shall issue a response to comments which shall specify which provisions, if any, in the draft permit were changed and the reasons for the change, and shall briefly describe and respond to all significant comments on the draft permit raised during the public comment period or at any hearing. The secretary shall notify the applicant or permittee by certified mail of the action taken and the reasons for such action and shall include a copy of the response to comments. Notice shall also be given by mail or email to persons who participated in the permitting action.
- **C.** Provided that the other requirements of this part are met and the proposed discharge plan, modification or renewal demonstrates that neither a hazard to public health nor undue risk to property will result, the secretary shall approve the proposed discharge plan, modification or renewal if the following requirements are met:
- (1) ground water that has a TDS concentration of 10,000 mg/l or less will not be affected by the discharge; or
- (2) the person proposing to discharge demonstrates that approval of the proposed discharge plan, modification or renewal will not result in either concentrations in excess of the standards of 20.6.2.3103 NMAC at any place of withdrawal of water for present or reasonably foreseeable future use, except for contaminants in the water diverted as provided in Subsection E of 20.6.2.3109 NMAC; or
- (3) the proposed discharge plan conforms to either Subparagraph (a) or (b) below and Subparagraph (c) below:
- (a) municipal, other domestic discharges, and discharges from sewerage systems handling only animal wastes: the effluent is entirely domestic, is entirely from a sewerage system handling only animal wastes or is from a municipality and conforms to the following:

- (i) the discharge is from an impoundment or a leach field existing on February 18, 1977 which receives less than 10,000 gallons per day and the secretary has not found that the discharge may cause a hazard to public health; or
- (ii) the discharger has demonstrated that the total nitrogen in effluent that enters the subsurface from a leach field or surface impoundment will not exceed 200 pounds per acre per year and that the effluent will meet the standards of 20.6.2.3103 NMAC except for nitrates and except for contaminants in the water diverted as provided in Subsection E of 20.6.2.3109 NMAC; or
- (iii) the total nitrogen in effluent that is applied to a crop which is harvested shall not exceed by more than 25 percent the maximum amount of nitrogen reasonably expected to be taken up by the crop and the effluent shall meet the standards of 20.6.2.3103 NMAC except for nitrates and except for contaminants in the water diverted as provided in Subsection E of 20.6.2.3109 NMAC;
 - (b) discharges from industrial, mining or manufacturing operations:
- (i) the discharger has demonstrated that the amount of effluent that enters the subsurface from a surface impoundment will not exceed 0.5 acre-feet per acre per year; or
- (ii) the discharger has demonstrated that the total nitrogen in effluent that enters the subsurface from a leach field or surface impoundment shall not exceed 200 pounds per acre per year and the effluent shall meet the standards of 20.6.2.3103 NMAC except for nitrate and contaminants in the water diverted as provided in Subsection E of 20.6.2.3109 NMAC; or
- (iii) the total nitrogen in effluent that is applied to a crop that is harvested shall not exceed by more than 25 percent the maximum amount of nitrogen reasonably expected to be taken up by the crop and the effluent shall meet the standards of 20.6.2.3103 NMAC except for nitrate and contaminants in the water diverted as provided in Subsection D of 20.6.2.3109 NMAC;
 - (c) all discharges:
- (i) the monitoring system proposed in the discharge plan includes adequate provision for sampling of effluent and adequate flow monitoring so that the amount being discharged onto or below the surface of the ground can be determined;
- (ii) the monitoring data is reported to the secretary at a frequency determined by the secretary.
- **D.** The secretary shall allow the following unless he determines that a hazard to public health may result:
- (1) the weight of water contaminants in water diverted from any source may be discharged provided that the discharge is to the aquifer from which the water was diverted or to an aquifer containing a greater concentration of the contaminants than contained in the water diverted; and provided further that contaminants added as a result of the means of diversion shall not be considered to be part of the weight of water contaminants in the water diverted;
- (2) the water contaminants leached from undisturbed natural materials may be discharged provided that:
- (a) the contaminants were not leached as a product or incidentally pursuant to a solution mining operation; and
- (b) the contaminants were not leached as a result of direct discharge into the vadose zone from municipal or industrial facilities used for the storage, disposal, or treatment of effluent;
- (3) the water contaminants leached from undisturbed natural materials as a result of discharge into ground water from lakes used as a source of cooling water.
- **E.** If data submitted pursuant to any monitoring requirements specified in the discharge permit or other information available to the secretary indicates that this part is being or may be violated or that the standards of 20.6.2.3103 NMAC are being or will be exceeded in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the water quality standards for interstate and intrastate streams in New Mexico are being or may be violated in surface water, due to the discharge, except as provided in Subsection D of 20.6.2.3109 NMAC.
- (1) The secretary may require a discharge permit modification within the shortest reasonable time so as to achieve compliance with this part and to provide that any exceeding of standards in ground water at any place of withdrawal for present or reasonably foreseeable future use, or in surface water, due to the discharge except as provided in Subsection E of 20.6.2.3109 NMAC will be abated or prevented. If the secretary requires a discharge permit modification to abate water pollution:

- (a) the abatement shall be consistent with the requirements and provisions of 20.6.2.4101, 20.6.2.4103, Subsections C and E of 20.6.2.4106, 20.6.2.4107, 20.6.2.4108 and 20.6.2.4112 NMAC; and
- (b) the discharger may request of the secretary approval to carry out the abatement under 20.6.2.4000 through 20.6.2.4115 NMAC, in lieu of modifying the discharge permit; the discharger shall make the request in writing and shall include the reasons for the request.
- (2) The secretary may terminate a discharge permit when a discharger fails to modify the permit in accordance with Paragraph (1) of Subsection E of 20.6.2.3109 NMAC.
- (3) The secretary may require modification, or may terminate a discharge permit for a Class I well, a Class III well or other type of well specified in Subsection A of 20.6.2.5101 NMAC, pursuant to the requirements of Subsection I of 20.6.2.5101 NMAC.
- (4) If a discharge permit is terminated, the secretary shall notify the permittee by certified mail of the action taken and the reasons for that action. Notice of the termination shall also be given by mail or electronic mail to persons who participated in the permitting action and to those persons on the facility-specific list maintained by the department.
- **F.** If a discharge permit expires or is terminated for any reason and the standards of 20.6.2.3103 NMAC are being or will be exceeded in ground water, or that the water quality standards for interstate and intrastate streams in New Mexico are being or may be violated, the secretary may require the discharger to submit an abatement plan pursuant to 20.6.2.4104 and Subsection A of 20.6.2.4106 NMAC.
- **G.** At the request of the discharger, a discharge permit may be modified in accordance with 20.6.2.3000 through 20.6.2.3114 NMAC.
 - **H.** The secretary shall not approve a proposed discharge plan, modification, or renewal for:
- (1) any discharge for which the discharger has not provided a site and method for flow measurement and sampling;
 - (2) any discharge that will cause any stream standard to be violated;
 - (3) the discharge of any water contaminant which may result in a hazard to public health; or
- (4) a period longer than five years, except that for new discharges, the term of the discharge permit approval shall commence on the date the discharge begins, but in no event shall the term of the approval exceed seven years from the date the permit was issued; for those permits expiring more than five years from the date of issuance, the discharger shall give prior written notification to the department of the date the discharge is to commence; the term of the permit shall not exceed five years from that date.

[2-18-77, 6-26-80, 9-20-82, 7-2-81, 3-3-86, 12-1-95, 11-15-96; 20.6.2.3109 NMAC - Rn, 20 NMAC 6.2.III.3109, 1-15-01; A, 12-1-01; A, 9-15-02; A, 7-16-06; A, 8-31-15; A, 12-21-18]

20.6.2.3110 PUBLIC HEARING PARTICIPATION:

- **A.** The secretary may appoint an impartial hearing officer to preside over the hearing. The hearing officer may be a department employee other than an employee of the bureau evaluating the application.
- **B.** The hearing shall be at a place in the area affected by the facility for which the discharge permit proposal, modification or renewal is sought.
- C. Any person who wishes to present technical evidence at the hearing shall, no later than ten (10) days prior to the hearing, file with the department, and if filed by a person who is not the applicant, serve on the applicant, a statement of intent to present evidence. A person who does not file a statement of intent to present evidence may present a general non-technical statement in support of or in opposition to the proposed discharge plan, modification or renewal. The statement of intent to present technical evidence shall include:
 - (1) the name of the person filing the statement;
- (2) indication of whether the person filing the statement supports or opposes the proposed discharge plan proposal, modification or renewal;
 - (3) the name of each witness;
 - (4) an estimate of the length of the direct testimony of each witness;
 - (5) a list of exhibits, if any, to be offered into evidence at the hearing; and
 - (6) a summary or outline of the anticipated direct testimony of each witness.
- **D.** At the hearing, the New Mexico Rules of Civil Procedure, SCRA 1986, 1-001 to 1-102 and the New Mexico Rules of Evidence, SCRA 1986, 11-101 to 11-1102 shall not apply. At the discretion of the hearing officer, the rules may be used as guidance. Any reference to the Rules of Civil Procedure and the Rules of Evidence shall not be construed to extend or otherwise modify the authority and jurisdiction of the department under the Act.

- **E.** The hearing officer shall conduct a fair and impartial proceeding, assure that the facts are fully elicited, and avoid delay. The hearing officer shall have authority to take all measures necessary for the maintenance of order and for the efficient, fair and impartial adjudication of issues arising in the proceedings.
- **F.** At the hearing, all persons shall be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing.
- **G.** Unless otherwise allowed by the hearing officer, testimony shall be presented in the following order:
- (1) testimony by and examination of the applicant or permittee proving the facts relied upon to justify the proposed discharge plan, renewal or modification and meeting the requirements of the regulations;
- (2) testimony by and examination of technical witnesses supporting or opposing approval, approval subject to conditions, or disapproval of the proposed discharge plan, renewal or modification, in any reasonable order;
 - (3) testimony by the general public; and
 - (4) rebuttal testimony, if appropriate.
- **H.** The secretary may provide translation service at a public hearing conducted in a locale where the Department can reasonably expect to receive testimony from non-English speaking people.
- I. If determined useful by the hearing officer, within thirty (30) days after conclusion of the hearing, or within such time as may be fixed by the hearing officer, the hearing officer may allow proposed findings of fact and conclusions of law and closing argument. All such submissions, if allowed, shall be in writing, shall be served upon the applicant or permittee, the department and all persons who request copies in advance in writing, and shall contain adequate references to the record and authorities relied on. No new evidence shall be presented unless specifically allowed by the hearing officer.
- **J.** The department shall make an audio recording of the hearing. If the applicant or permittee, or a participant requests a written transcript or certified copy of the audio recording, the requestor shall pay the cost of the transcription or audio copying.
- **K.** The hearing officer shall issue a report within thirty (30) days after the close of the hearing record. The report may include findings of fact, conclusions regarding all material issues of law or discretion, as well as reasons therefore. The report shall be served on the applicant or permittee, the department, and all persons who request copies in advance in writing. The report will be available for public inspection at the department's office in Santa Fe and at the field office closest to the point of the proposed discharge.
- L. The secretary shall issue a decision in the matter no later than thirty (30) days of receipt of the hearing report. The decision shall be served and made available for inspection pursuant to Subsection K of this section.
- **M.** Any person who testifies at the hearing or submits a written statement for the record will be considered a participant for purposes of Subsection 20.6.2.3113 NMAC and NMSA 1978, Section 74-6-5.N. [2-18-77, 12-1-95, 11-15-96; 20.6.2.3110 NMAC Rn, 20 NMAC 6.2.III.3110, 1-15-01; A, 12-1-01]
- **20.6.2.3111 TRANSFER OF DISCHARGE PERMIT:** No purported transfer of any discharge permit shall be effective to create, alter or extinguish any right or responsibility of any person subject to this Part, unless the following transfer requirements are met:
- **A.** Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.
- **B.** Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit.
- **C.** Until both ownership and possession of the facility have been transferred to the transferee, the transferor shall continue to be responsible for any discharge from the facility.
- **D.** Upon assuming either ownership or possession of the facility, the transferee shall have the same rights and responsibilities under the discharge permit as were applicable to the transferor.
- **E.** Nothing in this section or in this part shall be construed to relieve any person of responsibility or liability for any act or omission which occurred while that person owned, controlled or was in possession of the facility.

20.6.2.3112 APPEALS OF SECRETARY'S DECISIONS:

- **A.** If the secretary approves, approves subject to conditions, or disapproves a proposed discharge plan, renewal or modification, or modifies or terminates a discharge permit, appeal therefrom shall be in accordance with the provisions of Sections 74-6-5(N), (O) and (P), NMSA 1978. The filing of an appeal does not act as a stay of any provision of the Act, the regulations, or any permit issued pursuant to the Act, unless otherwise ordered by the secretary or the commission.
- **B.** If the secretary determines that a discharger is not exempt from obtaining a discharge permit, or that the material to be discharged contains any toxic pollutant listed in 20.6.2.7 NMAC, which is not included in the numerical standards of Paragraph (1) of Subsection A of 20.6.2.3103 NMAC, then the discharger may appeal such determination by filing with the commission's secretary a notice of appeal to the commission within thirty days after receiving the secretary's written determination, and the appeal therefrom and any action of the commission thereon shall be in accordance with the provisions of Sections 74-6-5(O), (P), (O), (R) and (S) NMSA 1978.
- C. Proceedings before the commission shall be conducted in accordance with the commission's adjudicatory procedures, 20 NMAC 1.3. [2-18-77, 7-2-81, 12-1-95, 11-15-96; 20.6.2.3112 NMAC Rn, 20 NMAC 6.2.III.3112, 1-15-01; A, 12-1-01; A, 7-16-06; A, 12-21-18]
- **20.6.2.3113 APPEALS OF COMMISSION DECISIONS:** An applicant, permittee or a person who participated in a permitting action and who is adversely affected by such action may appeal the decision of the commission in accordance with the provisions of Section 74-6-7(A), NMSA 1978.

 [2-18-77, 12-1-95, 11-15-96; 20.6.2.3113 NMAC Rn, 20 NMAC 6.2.III.3113, 1-15-01; A, 12-1-01]

20.6.2.3114 FEES:

- **A.** FEE AMOUNT AND SCHEDULE OF PAYMENT Every facility submitting a discharge permit application for approval or renewal shall pay the permit fees specified in Table 1 of this section and shall pay a filing fee as specified in Table 2 of this section to the Water Quality Management Fund. Every facility submitting a request for temporary permission to discharge pursuant to Subsection B of Section 20.6.2.3106 NMAC, or financial assurance pursuant to Paragraph 11 of Subsection A of Section 20.6.2.3107 NMAC shall pay the fees specified in Table 2 of this section to the Water Quality Management Fund.
- **B.** Facilities applying for discharge permits which are subsequently withdrawn or denied shall pay one-half of the permit fee at the time of denial or withdrawal.
- **C.** Every facility submitting an application for discharge permit modification will be assessed a filing fee plus one-half of the permit fee. Applications for both renewal and modification will pay the filing fee plus the permit fee.
- **D.** If the secretary requires a discharge permit modification as a component of an enforcement action, the facility shall pay the applicable discharge permit modification fee. If the secretary requires a discharge permit modification outside the context of an enforcement action, the facility shall not be assessed a fee.
- **E.** The secretary may waive or reduce fees for discharge permit modifications or renewals which require little or no cost for investigation or issuance.
- **F.** Facilities shall pay the filing fee at the time of discharge permit application. The filing fee is nonrefundable. The required permit fees may be paid in a single payment at the time of discharge permit approval or in equal installments over the term of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of discharge permit approval. Subsequent installment payments shall be remitted yearly thereafter. The discharge permit or discharge permit application review of any facility shall be suspended or terminated if the facility fails to submit an installment payment by its due date.
- **G.** Every three years beginning in 2004, the department shall review the fees specified in Table 1 and 2 of this section and shall provide a report to the commission. The department shall revise the fees as necessary in accordance with Section 74-6-5(J), NMSA 1978.

20.6.2.3114 TABLE 1 (gpd=gallons per day)	Permit Fee
Agriculture <10,000 gpd	\$ 1,150
Agriculture 10,000 to 49,999 gpd	\$ 2,300
Agriculture 50,000 to 99,999 gpd	\$ 3,450

Agriculture 100,000 gpd or greater	\$ 4,600
Domestic Waste <10,000 gpd	\$ 1,150
Domestic Waste 10,000 to 49,999 gpd	\$ 2,300
Domestic Waste 50,000 to 99,999 gpd	\$ 3,450
Domestic Waste 100,000 to 999,999 gpd	\$ 4,600
Domestic Waste 1,000,000 to 9,999,999 gpd	\$ 7,000
Domestic Waste 10,000,000 gpd or greater	\$ 9,200
Food Processing <10,000 gpd	\$ 1,150
Food Processing 10,000 to 49,999 gpd	\$ 2,300
Food Processing 50,000 to 99,999 gpd	\$ 3,450
Food Processing 100,000 to 999,999 gpd	\$ 4,600
Food Processing 1,000,000 or greater	\$ 7,000
Grease/Septage surface disposal <10,000 gpd	\$ 1,725
Grease/Septage surface disposal 10,000 gpd or greater	\$ 3,450
Industrial <10,000 gpd; or <10,000 yd ³ of contaminated	\$ 1,725
solids	,
Industrial 10,000 to 99,999 gpd; or 10,000 to 99,999 yd ³	\$ 3,450
of contaminated solids	
Industrial 100,000 to 999,999 gpd; or 100,000 to 999,999	\$ 6,900
yd ³ of contaminated solids or greater	
Industrial 1,000,000 gpd or greater; or 1,000,000 yd ³ of	\$10,350
contaminated solids or greater	
Discharge of remediation system effluent - remediation	\$ 1,600
plan approved under separate regulatory authority	Ф. 2.250
Mining dewatering	\$ 3,250
Mining leach dump	\$13,000
Mining tailings	\$13,000
Mining waste rock	\$13,000
Mining in-situ leach (except salt) and old stope leaching	\$13,000
Mining other (mines with minimal environmental impact,	\$ 4,750
post closure operation and maintenance, evaporation	
lagoons and land application at uranium mines)	Φ 400
Gas Compressor Stations 0 to 1000 Horsepower	\$ 400
Gas Compressor Stations >1001 Horsepower	\$ 1,700
Gas Processing Plants	\$ 4,000
Injection Wells: Class I (non-hazardous)	\$ 4,500
Injection Wells: Class III and Geothermal	\$ 1,700
Oil and Gas Service Companies	\$ 1,700
Refineries	\$ 8,400
Crude Pump Station	\$ 1,200
Underground Gas Storage	\$ 1,700
Abatement of ground water and vadose zone	\$ 2,600
contamination	
General permit	\$ 600

20.6.2.3114 Table 2

	Fee Amount
Filing fee	\$100

Temporary permission	\$50
Financial assurance: approval of instrument	greater of \$250 or .01%
Financial assurance: annual review	greater of \$100 or .001%

[8-17-91, 12-1-95; 20.6.2.3114, Rn & A, 20 NMAC 6.2.III.3114, 01-01-01; A, 12-21-18]

20.6.2.3115 - 20.6.2.3999: [RESERVED]

[12-1-95; 20.6.2.3115 - 20.6.2.3999 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4000 PREVENTION AND ABATEMENT OF WATER POLLUTION:

[12-1-95; 20.6.2.4000 NMAC - Rn, 20 NMAC 6.2.IV, 1-15-01]

20.6.2.4001 - 20.6.2.4100: [RESERVED]

[12-1-95; 20.6.2.4001 - 20.6.2.4100 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4101 PURPOSE:

- A. The purposes of Sections 20.6.2.4000 through 20.6.2.4115 NMAC are to:
- (1) Abate pollution of subsurface water so that all ground water of the State of New Mexico which has a background concentration of 10,000 mg/L or less TDS, is either remediated or protected for use as domestic and agricultural water supply, and to remediate or protect those segments of surface waters which are gaining because of subsurface water inflow, for uses designated in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC); and
- (2) Abate surface water pollution so that all surface waters of the State of New Mexico are remediated or protected for designated or attainable uses as defined in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).
- **B.** If the background concentration of any water contaminant exceeds the standard or requirement of Subsections A, B, and C of Section 20.6.2.4103 NMAC, pollution shall be abated by the responsible person to the background concentration.
- C. The standards and requirements set forth in Section 20.6.2.4103 NMAC are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.

[12-1-95; 20.6.2.4101 NMAC - Rn, 20 NMAC 6.2.IV.4101, 1-15-01; A, 12-21-18]

20.6.2.4102: [RESERVED]

[12-1-95; 20.6.2.4102 NMAC - Rn, 20 NMAC 6.2.IV.4102, 1-15-01]

20.6.2.4103 ABATEMENT STANDARDS AND REQUIREMENTS:

- **A.** The vadose zone shall be abated as follows:
- (1) water contaminants in the vadose zone shall not be capable of contaminating ground water or surface water, in excess of the standards in Subsections B and C below, through leaching, percolation or as the water table elevation fluctuates; and
- (2) any constituent listed in 20.6.2.3103 NMAC or any toxic pollutant in the vadose zone shall be abated so that it is not capable of endangering human health due to inhalation of vapors that may accumulate in structures, utility infrastructure, or construction excavations.
- **B.** Ground water pollution at any place of withdrawal for present or reasonably foreseeable future use, where the TDS concentration is 10,000 mg/L or less, shall be abated to meet the standards of Subsections A, B, and C of Section 20.6.2.3103 NMAC.
- **C.** Surface water pollution shall be abated to conform to the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).
- **D.** Subsurface water and surface water abatement shall not be considered complete until a minimum of eight (8) consecutive sampling events collected from all compliance sampling stations approved by the secretary, with a minimum of ninety (90) days between sampling events spanning a time period no greater than four (4) years, meet the abatement standards of Subsections A, B, and C of this section. Abatement of water contaminants measured in solid-matrix samples of the vadose zone shall be considered complete after one-time sampling from compliance stations approved by the secretary.

- **E.** Alternative Abatement Standards: If the person abating water pollution pursuant to an approved abatement plan, or pursuant to the exemptions of 20.6.2.4105 NMAC, is unable to fully meet an abatement standard set forth in Subsections A and C of this section, the person may file a petition with the commission seeking approval of an alternative abatement standard.
- (1) A petition for an alternative abatement standard shall demonstrate at least one of the following criteria:
- (a) compliance with the standard set forth in Subsections A and B of this section would not be feasible by the maximum use of commercially accepted abatement technology;
- (b) compliance with the standard set forth in Subsections A and B of this section would not be feasible by the maximum use of technology within the economic capability of the person;
- (c) there is no reasonable relationship between the economic and social costs and benefits of attainment of the standard set forth in Subsections A and B of this section; or
- (d) compliance with the standard set forth in Subsections A and B of this section is technically infeasible following the maximum use of commercially accepted abatement technology, as demonstrated by a statistically valid extrapolation of the decrease in concentration of any water contaminant over a twenty (20) year period, such that projected future reductions during that time would be less than 20 percent of the concentration at the time technical infeasibility is proposed. Technical infeasibility proposals that involved the use of experimental abatement technology shall be considered at the discretion of the commission. A statistically valid decrease cannot be demonstrated by fewer than eight (8) consecutive sampling events. Sampling events demonstrating a statistically valid decrease shall be collected with a minimum of ninety (90) days between sampling events and shall not span a time period greater than four (4) years.
- (2) A petition for alternative abatement standards shall specify, in addition to the information required by Subsection A of 20.6.2.1210 NMAC the following:
 - (a) the water contaminant for which the alternative abatement standard is proposed;
 - **(b)** the alternative abatement standard proposed;
 - (c) the three-dimensional body of water pollution for which approval is sought;
 - (d) a summary of all actions taken to abate water pollution to standards; and
- (e) other information as deemed necessary, which may include a transport, fate and risk assessment in accordance with accepted methods.
- (3) The commission may approve an alternative abatement standard if the petitioner demonstrates that:
 - (a) at least one of the criteria set forth in Paragraph 1 of Subsection E of this Section

has been met;

(b) the proposed alternative abatement standard is technically achievable and cost

benefit justifiable; and

- (c) compliance with the proposed alternative abatement standard will not create a present or future hazard to public health or undue damage to property.
- (4) An alternative abatement standard shall only be granted after a public hearing, as required by NMSA 1978, Section 74-6-4(H) of the water Quality Act.
- (5) The commission shall review petitions for alternative abatement standards in accordance with the procedures for review of variance petitions provided in the commission's adjudicatory procedures, 20.1.3 NMAC.
- **F.** For a site where abatement activities include post-completion monitoring, maintenance of engineering controls, remediation systems, affirmation of non-residential use, or port-closure care, institutional controls such as well drilling restrictions under 19.27.5 NMAC, deed restrictions, easements or other legal restrictions binding on successors in interest to the site may be required by the secretary. [12-1-95, 11-15-96; 20.6.2.4103 NMAC Rn, 20 NMAC 6.2.IV.4103, 1-15-01; A, 12-21-18]

20.6.2.4104 ABATEMENT PLAN REQUIRED:

- A. Unless otherwise provided by this Part, all responsible persons who are abating, or who are required to abate, water pollution in excess of the standards and requirements set forth in Section 20.6.2.4103 NMAC of this Part shall do so pursuant to an abatement plan approved by the secretary. When an abatement plan has been approved, all actions leading to and including abatement shall be consistent with the terms and conditions of the abatement plan.
- **B.** In the event of a transfer of the ownership, control or possession of a facility for which an abatement plan is required or approved, where the transferor is a responsible person, the transferee also shall be

considered a responsible person for the duration of the abatement plan, and may jointly share the responsibility to conduct the actions required by this Part with other responsible persons. The transferor shall notify the transferee in writing, at least thirty (30) days prior to the transfer, that an abatement plan has been required or approved for the facility, and shall deliver or send by certified mail to the secretary a copy of such notification together with a certificate or other proof that such notification has in fact been received by the transferee. The transferor and transferee may agree to a designated responsible person who shall assume the responsibility to conduct the actions required by this Part. The responsible persons shall notify the secretary in writing if a designated responsible person is agreed upon. If the secretary determines that the designated responsible person has failed to conduct the actions required by this Part, the secretary shall notify all responsible persons of this failure in writing and allow them thirty (30) days, or longer for good cause shown, to conduct the required actions before issuing a compliance order pursuant to Section 20.6.2.1220 NMAC.

- C. The secretary may require the responsible person(s) to submit a financial assurance plan which covers the estimated costs to conduct the actions required by the abatement plan. Such a financial assurance plan shall be consistent with any financial assurance requirements adopted by the commission.
- **D.** The Secretary may require an oversight funding agreement with the responsible person for abatement plans which compensates the department for reasonable costs associated with the oversight of activities. [12-1-95; 20.6.2.4104 NMAC Rn, 20 NMAC 6.2.IV.4104, 1-15-01; A, 12-21-18]

20.6.2.4105 EXEMPTIONS FROM ABATEMENT PLAN REQUIREMENTS:

- **A.** Except as provided in Subsection B of this Section, Sections 20.6.2.4104 and 20.6.2.4106 NMAC do not apply to a person who is abating water pollution:
- (1) from a storage tank, under the authority of the Petroleum Storage Tank Regulations (20.5 NMAC) adopted by the New Mexico Environmental Improvement Board, or in accordance with the New Mexico Ground Water Protection Act;
- under the authority of the U.S. Environmental Protection Agency pursuant to either the federal Comprehensive Environmental Response, Compensation and Liability Act, and amendments, or the Resource Conservation and Recovery Act;
- (3) under the authority of the secretary pursuant to the Hazardous Waste Management Regulations (20.4.1 NMAC) adopted by the New Mexico Environmental Improvement Board;
- (4) under the authority of the U.S. Nuclear Regulatory Commission or the U.S. Department of Energy pursuant to the Atomic Energy Act;
- (5) from a solid waste landfill, under the authority of the secretary pursuant to the Solid Waste Management Regulations (20.9.1 NMAC) adopted by the N.M. Environmental Improvement Board;
- under the authority of a ground water discharge plan approved by the secretary, provided that such abatement is consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC:
- (7) under the authority of a Letter of Understanding, Settlement Agreement or Administrative Order on Consent signed by the secretary prior to December 1, 1995, provided that abatement is being performed in full compliance with the terms of the Letter of Understanding, Settlement Agreement or Administrative Order on Consent; and
- (8) on an emergency basis, or while abatement plan approval is pending, or in a manner that will result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within one hundred and eighty (180) days after notice is required to be given pursuant to Paragraph (1) of Subsection A of Section 20.6.2.1203 NMAC, provided that the delegated agency does not object to the abatement action pursuant to Paragraphs (6) and (7) of Subsection A of Section 20.6.2.1203 NMAC.
- **B.** If the secretary determines that abatement of water pollution subject to Subsection A of this section will not meet the standards of Subsections <u>A</u>, <u>B</u>, and C of Section 20.6.2.4103 NMAC, or that additional action is necessary to protect health, welfare, environment or property, the secretary may notify a responsible person, by certified mail, to submit an abatement plan pursuant to Section 20.6.2.4104 and Subsection A of Section 20.6.2.4106 NMAC. The notification shall state the reasons for the secretary's determination. In any appeal of the secretary's determination under this Section, the secretary shall have the burden of proof.
 - C. Sections 20.6.2.4104 and 20.6.2.4106 NMAC do not apply to the following activities:
- (1) Discharges subject to an effective and enforceable National Pollutant Discharge Elimination System (NPDES) permit;

- (2) Land application of ground water contaminated with nitrogen originating from human or animal waste and not otherwise exceeding the standards of Subsection A of Section 20.6.2.3103 NMAC, provided that it is done in compliance with a discharge plan approved by the secretary;
- (3) Abatement of water pollution resulting from the withdrawal and decontamination or blending of polluted water for use as a public or private drinking-water supply, by any person other than a responsible person, unless the secretary determines that a hazard to public health may result; and
- (4) Reasonable operation and maintenance of irrigation and flood control facilities. [12-1-95; 20.6.2.4105 NMAC Rn, 20 NMAC 6.2.IV.4105, 1-15-01; A, 10-15-03; A, 12-21-18]

20.6.2.4106 ABATEMENT PLAN PROPOSAL:

A. Except as provided for in Section 20.6.2.4105 NMAC, a responsible person shall, within sixty (60) days of receipt of written notice from the secretary that an abatement plan is required, submit an abatement plan proposal to the secretary for approval. For good cause shown, the secretary may allow for a total of one hundred and twenty (120) days to prepare and submit the abatement plan proposal.

B. Voluntary Abatement:

- (1) Any person wishing to abate water pollution in excess of the standards and requirements set forth in Section 20.6.2.4103 NMAC may submit a Stage 1 abatement plan proposal to the secretary for approval. Following approval by the secretary of a final site investigation report prepared pursuant to Stage 1 of an abatement plan, any person may submit a Stage 2 abatement plan proposal to the secretary for approval.
- (2) Following approval of a Stage 1 or Stage 2 abatement plan proposal under Paragraph (1) of Subsection B of this Section, the person submitting the approved plan shall be a responsible person under Sections 20.6.2.4000 through 20.6.2.4115 NMAC for the purpose of performing the approved Stage 1 or Stage 2 abatement plan. Nothing in this Section shall preclude the secretary from applying Paragraph (9) of Subsection A of Section 20.6.2.1203 NMAC to a responsible person if applicable.
- **C. Stage 1 Abatement Plan**: The purpose of Stage 1 of the abatement plan shall be to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option. Stage 1 of the abatement plan may include, but not necessarily be limited to, the following information depending on the media affected, and as reasonably needed to select and implement an expeditious abatement option:
- (1) Descriptions of the site, including a site map, and of site history including the nature of the discharge that caused the water pollution, and a summary of previous investigations;
 - (2) Site investigation workplan to define:
- (a) site geology and hydrogeology, the vertical and horizontal extent and magnitude of vadose-zone and ground water contamination, subsurface hydraulic parameters including hydraulic conductivity, transmissivity, storativity, and rate and direction of contaminant migration, inventory of water wells inside and within one (1) mile from the perimeter of the three-dimensional body where the standards set forth in Subsection B of Section 20.6.2.4103 NMAC are exceeded, and location and number of such wells actually or potentially affected by the pollution; and
- (b) surface water hydrology, seasonal stream flow characteristics, ground water/surface water relationships, the vertical and horizontal extent and magnitude of contamination and impacts to surface water and stream sediments. The magnitude of contamination and impacts on surface water may be, in part, defined by conducting a biological assessment of fish, benthic macroinvertebrates and other wildlife populations. Seasonal variations should be accounted for when conducting these assessments.
- (3) Monitoring program, including sampling stations and frequencies, for the duration of the abatement plan that may be modified, after approval by the secretary, as additional sampling stations are created;
- (4) Quality assurance plan, consistent with the sampling and analytical techniques listed in Subsection B of Section 20.6.2.3107 NMAC and with Section 20.6.4.10 NMAC of the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC), for all work to be conducted pursuant to the abatement plan;
 - (5) Site health and safety plan for all work to be performed pursuant to the abatement plan;
- (6) A schedule for all Stage 1 abatement plan activities, including the submission of summary quarterly progress reports, and the submission, for approval by the secretary, of a detailed final site investigation report; and
- (7) Any additional information that may reasonably be required to design and perform an adequate site investigation.

- **D.** Stage 2 Abatement Plan: Any responsible person shall submit a Stage 2 abatement plan proposal to the secretary for approval within sixty (60) days after approval by the secretary of the final site investigation report prepared pursuant to Stage 1 of the abatement plan. The secretary may grant approval for an extension of time to submit a State 2 abatement plan for good cause shown.
- **E.** The purpose of Stage 2 of the abatement plan shall be to select and design, if necessary, an abatement option that, when implemented, will result in attainment of the abatement standards and requirements set forth in Section 20.6.2.4103 NMAC, including post-closure maintenance activities. Stage 2 of the abatement plan should include, at a minimum, the following information:
 - (1) Brief description of the current situation at the site;
 - (2) Development and assessment of abatement options;
 - (3) Description, justification and design, if necessary, of preferred abatement option;
- (4) Modification, if necessary, of the monitoring program approved pursuant to Stage 1 of the abatement plan, including the designation of pre and post abatement-completion sampling stations and sampling frequencies to be used to demonstrate compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC;
- (5) Site maintenance activities, if needed, proposed to be performed after termination of abatement activities:
- (6) A schedule for the duration of abatement activities, including the submission of summary quarterly progress reports;
- (7) A public notification proposal designed to satisfy the requirements of Subsections B and C of Sections 20.6.2.4108 and 20.6.2.4108 NMAC; and
- (8) Any additional information that may be reasonably required to select, describe, justify and design an effective abatement option.

[12-1-95; 20.6.2.4106 NMAC - Rn, 20 NMAC 6.2.IV.4106, 1-15-01; A, 12-21-18]

20.6.2.4107 OTHER REQUIREMENTS:

- **A.** Any responsible person shall allow any authorized representative of the secretary to:
 - (1) upon presentation of proper credentials, enter the facility at reasonable times;
 - (2) inspect and copy records required by an abatement plan;
 - inspect any treatment works, monitoring and analytical equipment;
- (4) sample any wastes, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;
- (5) use monitoring systems and wells under such responsible person's control in order to collect samples of any media listed in Paragraph (4) of Subsection A of this section; and
- (6) gain access to off-site property not owned or controlled by such responsible person, but accessible to such responsible person through a third-party access agreement, provided that it is allowed by the agreement.
- **B.** Any responsible person shall provide the secretary, or a representative of the secretary, with at least four (4) working days advance notice of any sampling to be performed pursuant to an abatement plan, or any well plugging, abandonment or destruction at any facility where an abatement plan has been required.
- within the perimeter of the 3-dimensional body where the standards set forth in Subsection B of Section 20.6.2.4103 NMAC are exceeded, at any facility where an abatement plan has been required, shall propose such action by certified mail to the secretary for approval, unless such approval is required from the State Engineer. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from the secretary, unless written approval or disapproval is not received by the responsible person within thirty (30) days of the date of receipt of the proposal.

[12-1-95; 20.6.2.4107 NMAC - Rn, 20 NMAC 6.2.IV.4107, 1-15-01]

20.6.2.4108 PUBLIC NOTICE AND PARTICIPATION:

- **A.** Within thirty (30) days of filing of a Stage 1 abatement plan proposal, the secretary shall issue a news release summarizing:
 - (1) the source, extent, magnitude and significance of water pollution, as known at that time;
 - (2) the proposed Stage 1 abatement plan investigation; and

- (3) the name and telephone number of an agency contact who can provide additional information.
- **B.** Any person proposing a Stage 2 abatement plan, a significant modification to a Stage 2 abatement plan, or an alternative abatement standard shall provide notice of the proposal to the following persons:
- (1) the public, who shall be notified through publication of a notice in newspapers of general circulation in this state and in the county where the abatement will occur or where the water body that would be affected by a proposed alternative abatement standard is located, and, in areas with large percentages of non-English speaking people, through the mailing of the public notice in English to a bilingual radio station serving the area where the abatement will occur with a request that it be aired as a public service announcement in the predominant non-English language of the area;
- (2) those persons, as identified by the secretary, who have requested notification, who shall be notified by mail or email;
- (3) the New Mexico Trustee for Natural Resources, and any other local, state or federal governmental agency affected, as identified by the secretary, which shall be notified by certified mail;
- (4) owners and residents of surface property located inside, and within one (1) mile from, the perimeter of the geographic area where the standards and requirements set forth in Section 20.6.2.4103 NMAC are exceeded who shall be notified by a means approved by the secretary; and
- (5) the Governor or President of each Indian Tribe, Pueblo or Nation within the state of New Mexico, as identified by the secretary, who shall be notified by mail or email.
- C. The public notice proposal for a Stage 2 abatement plan proposal or significant modification of a Stage 2 abatement plan shall be submitted to the secretary for approval with a proposed Stage 2 abatement plan, or significant modification of a Stage 2 abatement plan, and shall include:
 - (1) name and address of the responsible person;
 - (2) location of the proposed abatement;
 - (3) brief description of the nature of the water pollution and of the proposed abatement

action;

- (4) brief description of the procedures followed by the secretary in making a final determination:
 - (5) statement on the comment period;
- statement that a copy of the abatement plan can be viewed by the public at the department's main office or at the department field office for the area in which the discharge occurred;
- (7) statement that written comments on the abatement plan, and requests for a public meeting or hearing that include the reasons why a meeting or hearing should be held, will be accepted for consideration if sent to the secretary within sixty (60) days after the date of public notice; and
 - (8) address and phone number at which interested persons may obtain further information.
- **D.** The public notice proposal for a proposed alternative abatement standard shall be submitted to the secretary for approval thirty (30) days prior to the filing of a petition for alternative abatement standards, and shall include:
 - (1) name and address of the responsible person;
 - (2) location of the proposed alternative abatement standards;
- (3) brief description of the nature of the water pollution and of the proposed alternative abatement standards:
- (4) brief description of the procedures followed by the commission in making a final determination on a petition for alternate abatement standards;
- (5) statement that a copy of the petition for alternate abatement standards petition can be viewed by the public at the department's main office or at the department field office for the area in which the affected water body is occurring;
- (6) statement on how the public can request to be placed on a facility-specific mailing list for notification of any hearing conducted on the petition for alternate abatement standards pursuant to 20.1.3 NMAC; and
 - (7) address and phone number at which interested persons may obtain further information.
- **E.** Within thirty (30) days of the secretary's approval of a Stage 2 abatement plan public notice proposal, any responsible person shall provide to the secretary proof of public notice to the persons listed in Subsection B of 20.6.2.4108 NMAC.
- **F.** For a proposed Stage 2 abatement plan or significant modification of a Stage 2 abatement plan, a public meeting or hearing may be held if the secretary determines there is significant public interest. Notice of the

time and place of the meeting or hearing shall be given at least thirty (30) days prior to the meeting or hearing pursuant to Subsections A and B above. The secretary may appoint a meeting facilitator or hearing officer. The secretary may require the responsible person to prepare for approval by the secretary a fact sheet, to be distributed at the public meeting or hearing and afterwards upon request, written in English and Spanish, describing site history, the nature and extent of water pollution, and the proposed abatement. The record of the meeting or hearing, requested under this Section, consists of a tape recorded or transcribed session, provided that the cost of a court recorder shall be paid by the person requesting the transcript. If requested by the secretary, the responsible person will provide a translator approved by the secretary at a public meeting or hearing conducted in a locale where testimony from non-English speaking people can reasonably be expected. At the meeting or hearing, all interested persons shall be given a reasonable chance to submit data, views or arguments orally or in writing, and to ask questions of the secretary or the secretary's designee and of the responsible person, or their authorized representatives.

G. An alternative abatement standard shall only be granted after a public hearing before the commission, as required by NMSA 1978, Section 74-6-4(H) of the Water Quality Act. The commission shall review petitions for alternative abatement standards in accordance with the procedures for review of variance petitions provided in the commission's adjudicatory procedures, 20.1.3 NMAC. [12-1-95; 20.6.2.4108 NMAC - Rn, 20 NMAC 6.2.IV.4108, 1-15-01; A, 12-21-18]

20.6.2.4109 SECRETARY APPROVAL OR NOTICE OF DEFICIENCY OF SUBMITTALS:

- **A.** The secretary shall, within sixty (60) days of receiving a Stage 1 abatement plan proposal, a site investigation report, or an abatement completion report, approve the document, or notify the responsible person of the document's deficiency, based upon the information available.
- **B.** The secretary shall, within thirty (30) days of receiving a fact sheet, or Stage 2 abatement plan public notice proposal, approve or notify the responsible person of the document's deficiency, based upon the information available.
- C. If no public meeting or hearing is held pursuant to Subsection E of Section 20.6.2.4108 NMAC, then the secretary shall, within 120 days of receiving a Stage 2 abatement plan proposal, approve the plan, or notify the responsible person of the plan's deficiency, based upon the information available.
- **D.** If a public meeting or hearing is held pursuant to Subsection E of Section 20.6.2.4108, then the secretary shall, within sixty (60) days of receipt of all required information, approve Stage 2 of the abatement plan proposal, or notify the responsible person of the plan's deficiency, based upon the information contained in the plan and information submitted at the meeting or hearing.
- **E.** If the secretary notifies a responsible person of any deficiencies in a site investigation report, or in a Stage 1 or Stage 2 abatement plan proposal, the responsible person shall submit a modified document to cure the deficiencies specified by the secretary within thirty (30) days of receipt of the notice of deficiency. The responsible person shall be in violation of Sections 20.6.2.4000 through 20.6.2.4115 NMAC if he fails to submit a modified document within the required time, or if the modified document does not make a good faith effort to cure the deficiencies specified by the secretary.
- **F.** Provided that the other requirements of this Part are met and provided further that Stage 2 of the abatement plan, if implemented, will result in the standards and requirements set forth in Section 20.6.2.4103 NMAC being met within a schedule that is reasonable given the particular circumstances of the site, the secretary shall approve the plan.

[12-1-95; 20.6.2.4109 NMAC - Rn, 20 NMAC 6.2.IV.4109, 1-15-01; A, 12-21-18]

20.6.2.4110 INVESTIGATION AND ABATEMENT: Any responsible person who receives approval for Stage 1 and/or Stage 2 of an abatement plan shall conduct all investigation, abatement, monitoring and reporting activity in full compliance with Sections 20.6.2.4000 through 20.6.2.4115 NMAC and according to the terms and schedules contained in the approved abatement plans.

[12-1-95; 20.6.2.4110 NMAC - Rn, 20 NMAC 6.2.IV.4110, 1-15-01]

20.6.2.4111 ABATEMENT PLAN MODIFICATION:

- **A.** Any approved abatement plan may be modified, at the written request of the responsible person, in accordance with Sections 20.6.2.4000 through 20.6.2.4115 NMAC, and with written approval of the secretary.
- **B.** If data submitted pursuant to any monitoring requirements specified in the approved abatement plan or other information available to the secretary indicates that the abatement action is ineffective, or is creating unreasonable injury to or interference with health, welfare, environment or property, the secretary may require a

responsible person to modify an abatement plan within the shortest reasonable time so as to effectively abate water pollution which exceeds the standards and requirements set forth in Section 20.6.2.4103 NMAC, and to abate and prevent unreasonable injury to or interference with health, welfare, environment or property. [12-1-95; 20.6.2.4111 NMAC - Rn, 20 NMAC 6.2.IV.4111, 1-15-01]

20.6.2.4112 COMPLETION AND TERMINATION:

- A. Abatement shall be considered complete when the standards and requirements set forth in Section 20.6.2.4103 NMAC are met. At that time, the responsible person shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC, to the secretary for approval. The abatement completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.
- **B.** Provided that the other requirements of this Part are met and provided further that the standards and requirements set forth in Section 20.6.2.4103 NMAC have been met, the secretary shall approve the abatement completion report. When the secretary approves the abatement completion report, he shall also notify the responsible person in writing that the abatement plan is terminated. [12-1-95; 20.6.2.4112 NMAC Rn, 20 NMAC 6.2.IV.4112, 1-15-01]

20.6.2.4113 DISPUTE RESOLUTION: In the event of any technical dispute regarding the requirements of Paragraph (9) of Subsection A and Subsection E of Section 20.6.2.1203, Sections 20.6.2.4103, 20.6.2.4105, 20.6.2.4106, 20.6.2.4111 or 20.6.2.4112 NMAC, including notices of deficiency, the responsible person may notify the secretary by certified mail that a dispute has arisen, and desires to invoke the dispute resolution provisions of this Section, provided that such notification must be made within thirty (30) days after receipt by the responsible person of the decision of the secretary that causes the dispute. Upon such notification, all deadlines affected by the technical dispute shall be extended for a thirty (30) day negotiation period, or for a maximum of sixty (60) days if approved by the secretary for good cause shown. During this negotiation period, the secretary or his/her designee and the responsible person shall meet at least once. Such meeting(s) may be facilitated by a mutually agreed upon third party, but the third party shall assume no power or authority granted or delegated to the secretary by the Water Quality Act or by the commission. If the dispute remains unresolved after the negotiation period, the decision of secretary shall be final.

[12-1-95; 20.6.2.4113 NMAC - Rn, 20 NMAC 6.2.IV.4113, 1-15-01]

20.6.2.4114 APPEALS FROM SECRETARY'S DECISIONS:

- **A.** If the secretary determines that an abatement plan is required pursuant to Paragraph (9) of Subsection A of 20.6.2.1203, Subsection F of 20.6.2.3109, or Subsection B of 20.6.2.4105 NMAC, approves or provides notice of deficiency of a proposed abatement plan, or abatement completion report, or modifies or terminates an approved abatement plan, he shall provide written notice of such action by certified mail to the responsible person and any person who participated in the action.
- **B.** Any person who participated in the action before the secretary and who is adversely affected by the action listed in Subsection A of 20.6.2.4114 NMAC may file a petition requesting a review before the commission.
- C. The petition shall be made in writing to the commission and shall be filed with the commission's secretary within thirty (30) days after receiving notice of the secretary's action. The petition shall specify the portions of the action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered to the secretary, and to the applicant or permittee if the petitioner is not the applicant or permittee, and attach a copy of the action for which review is sought. Unless a timely petition for hearing is made, the secretary's action is final.
- **D.** The proceedings before the commission shall be conducted as provided in the commission's adjudicatory procedures, 20 NMAC 1.3.
 - **E.** The cost of the court reporter for the hearing shall be paid by the petitioner.
- **F.** The appeal provisions do not relieve the owner, operator or responsible person of their obligations to comply with any federal or state laws or regulations.

[12-1-95, 11-15-96; 20.6.2.4114 NMAC - Rn, 20 NMAC 6.2.IV.4114, 1-15-01; A, 7-16-06; A, 12-21-18]

20.6.2.4115 COURT REVIEW OF COMMISSION DECISIONS: Court review of commission decisions shall be as provided by law.

[12-1-95; 20.6.2.4115 NMAC - Rn, 20 NMAC 6.2.IV.4115, 1-15-01]

20.6.2.4116 - 20.6.2.4999: [RESERVED]

[12-1-95; 20.6.2.4116 - 20.6.2.4999 NMAC - Rn, 20 NMAC 6.2.IV.4116-5100, 1-15-01]

20.6.2.5000 UNDERGROUND INJECTION CONTROL:

[12-1-95; 20.6.2.5000 NMAC - Rn, 20 NMAC 6.2.V, 1-15-01]

20.6.2.5001 PURPOSE: The purpose of 20.6.2.5000 through 20.6.2.5399 NMAC controlling discharges from underground injection control wells is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow for uses designated in the New Mexico water quality standards. 20.6.2.5000 through 20.6.2.5399 NMAC include notification requirements, and requirements for discharges directly into the subsurface through underground injection control wells.

[20.6.2.5001 NMAC - N, 12-1-01; A, 8-31-15]

20.6.2.5002 UNDERGROUND INJECTION CONTROL WELL CLASSIFICATIONS:

- **A.** Underground injection control wells include the following.
- (1) Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.
- (2) Any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste.
- (3) Any subsurface distribution system, cesspool or other well which is used for the injection of wastes.
 - **B.** Underground injection control wells are classified as follows:
- (1) Class I wells inject fluids beneath the lowermost formation that contains 10,000 milligrams per liter or less TDS. Class I hazardous or radioactive waste injection wells inject fluids containing any hazardous or radioactive waste as defined in 74-4-3 and 74-4A-4 NMSA 1978 or 20.4.1.200 NMAC (incorporating 40 C.F.R. Section 261.3), including any combination of these wastes. Class I non-hazardous waste injection wells inject non-hazardous and non-radioactive fluids, and they inject naturally-occurring radioactive material (NORM) as provided by 20.3.1.1407 NMAC.
 - (2) Class II wells inject fluids associated with oil and gas recovery;
- (3) Class III wells inject fluids for extraction of minerals or other natural resources, including sulfur, uranium, metals, salts or potash by in situ extraction. This classification includes only in situ production from ore bodies that have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.
- (4) Class IV wells inject fluids containing any radioactive or hazardous waste as defined in 74-4-3 and 74-4A-4 NMSA 1978, including any combination of these wastes, above or into a formation that contains 10,000 mg/l or less TDS.
- (5) Class V wells inject a variety of fluids and are those wells not included in Class I, II, III or IV. Types of Class V wells include, but are not limited to, the following:
 - (a) domestic liquid waste injection wells:
- (i) domestic liquid waste disposal wells used to inject liquid waste volumes greater than that regulated by 20.7.3 NMAC through subsurface fluid distribution systems or vertical wells;
- (ii) septic system wells used to emplace liquid waste volumes greater than that regulated by 20.7.3 NMAC into the subsurface, which are comprised of a septic tank and subsurface fluid distribution system;
- (iii) large capacity cesspools used to inject liquid waste volumes greater than that regulated by 20.7.3 NMAC, including drywells that sometimes have an open bottom or perforated sides; (b) industrial waste injection wells:
- (i) air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling;
 - (ii) dry wells used for the injection of wastes into a subsurface formation;
- (iii) injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electrical power;

(iv) stormwater drainage wells used to inject storm runoff from the surface

into the subsurface;

washing activities;

(v) motor vehicle waste disposal wells that receive or have received fluids from vehicular repair or maintenance activities;

(vi) car wash waste disposal wells used to inject fluids from motor vehicle

(c) mining injection wells:

- (i) stopes leaching wells used for solution mining of conventional mines;
- (ii) brine injection wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts;

(iii) backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines whether water injected is a radioactive waste or not;

(iv) injection wells used for in situ recovery of lignite, coal, tar sands, and

oil shale;

(d) ground water management injection wells:

(i) ground water remediation injection wells used to inject contaminated ground water that has been treated to ground water quality standards;

(ii) in situ ground water remediation wells used to inject a fluid that facilitates vadose zone or ground water remediation.

(iii) recharge wells used to replenish the water in an aquifer, including use to reclaim or improve the quality of existing ground water;

(iv) barrier wells used to inject fluids into ground water to prevent the intrusion of saline or contaminated water into ground water of better quality;

(v) subsidence control wells (not used for purposes of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;

(vi) wells used in experimental technologies;

(e) agricultural injection wells - drainage wells used to inject fluids into ground water to prevent the intrusion of saline or contaminated water into ground water of better quality. [20.6.2.5002 NMAC - N, 12-1-01; A, 8-1-14; A, 8-31-15; A, 12-21-18]

20.6.2.5003 NOTIFICATION AND GENERAL OPERATION REQUIREMENTS FOR ALL UNDERGROUND INJECTION CONTROL WELLS: All operators of underground injection control wells, except those wells regulated under the Oil and Gas Act, the Geothermal Resources Development_Act, and the Surface Mining Act, shall:

- **A.** for existing underground injection control wells, submit to the secretary the information enumerated in Subsection C of 20.6.2.1201 NMAC of this part; provided, however, that if the information in Subsection C of 20.6.2.1201 NMAC has been previously submitted to the secretary and acknowledged by him, the information need not be resubmitted; and
 - **B.** operate and continue to operate in conformance with 20.6.2.1 through 20.6.2.5399 NMAC;
- C. for new underground injection control wells, submit to the secretary the information enumerated in Subsection C of 20.6.2.1201 NMAC of this part at least 120 days prior to well construction. [9-20-82, 12-1-95; 20.6.2.5300 NMAC Rn, 20 NMAC 6.2.V.5300, 1-15-01; 20.6.2.5003 NMAC Rn, 20.6.2.5300 NMAC, 12-1-01; A, 12-1-01; A, 9-15-02; A, 8-31-15; A, 12-21-18]

20.6.2.5004 PROHIBITED UNDERGROUND INJECTION CONTROL ACTIVITIES AND WELLS:

- **A.** No person shall perform the following underground injection activities nor operate the following underground injection control wells.
- (1) The injection of fluids into a motor vehicle waste disposal well is prohibited. Motor vehicle waste disposal wells are prohibited. Any person operating a new motor vehicle waste disposal well (for which construction began after April 5, 2000) must close the well immediately. Any person operating an existing motor vehicle waste disposal well must cease injection immediately and must close the well by December 31, 2002, except as provided in this subsection.
- (2) The injection of fluids into a large capacity cesspool is prohibited. Large capacity cesspools are prohibited. Any person operating a new large capacity cesspool (for which construction began after

April 5, 2000) must close the cesspool immediately. Any person operating an existing large capacity cesspool must cease injection immediately and must close the cesspool by December 31, 2002.

- (3) The injection of any hazardous or radioactive waste into a well is prohibited, except as provided in 20.6.2.5300 through 20.6.2.5399 NMAC or this subsection.
- (a) Class I radioactive waste injection wells are prohibited, except naturally-occurring radioactive material (NORM) regulated under 20.3.1.1407 NMAC is allowed as a Class I non-hazardous waste injection well pursuant to Paragraph (1) of Subsection B of 20.6.2.5002 NMAC.
- (b) Class IV wells are prohibited, except for wells re-injecting treated ground water into the same formation from which it was drawn as part of a removal or remedial action if the injection has prior approval from the environmental protection agency (EPA) or the department under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA).
- (4) Barrier wells, drainage wells, recharge wells, return flow wells, and motor vehicle waste disposal wells are prohibited, except when the discharger can demonstrate that the discharge will not adversely affect the health of persons, and
- (a) the injection fluid does not contain a constituent or exhibit a physical parameter (which could include pH, redox condition or temperature) which may cause an exceedance at any place of present or reasonable foreseeable future use of any primary state drinking water maximum contaminant level as specified in the water supply regulations, "Drinking Water" (20.7.10 NMAC), adopted by the environmental improvement board under the Environmental Improvement Act or the standard of 20.6.2.3103 NMAC, whichever is more stringent;
- **(b)** the discharger can demonstrate that the injection will result in an overall or net improvement in water quality as determined by the secretary.
- **B.** Closure of prohibited underground injection control wells shall be in accordance with 20.6.2.5005 and 20.6.2.5209 NMAC.

[20.6.2.5004 NMAC - N, 12-1-01; A, 8-31-15; A, 12-21-18]

20.6.2.5005 PRE-CLOSURE NOTIFICATION AND CLOSURE REQUIREMENTS:

- **A.** Any person proposing to close a Class I, III, IV or V underground injection control well must submit pre-closure notification to the department at least 30 days prior to closure. Pre-closure notification must include the following information:
 - (1) Name of facility.
 - (2) Address of facility.
 - (3) Name of Owner/Operator.
 - (4) Address of Owner/Operator.
 - (5) Contact Person.
 - (6) Phone Number.
 - (7) Type of Well(s).
 - (8) Number of Well(s).
 - (9) Well Construction (e.g. drywell, improved sinkhole, septic tank, leachfield, cesspool,

other...).

NMAC.

- (10) Type of Discharge.
- (11) Average Flow (gallons per day).
- (12) Year of Well Construction.
- (13) Proposed Well Closure Activities (e.g. sample fluids/sediment, appropriate disposal of remaining fluids/sediments, remove well and any contaminated soil, clean out well, install permanent plug, conversion to other type well, ground water and vadose zone investigation, other).
 - (14) Proposed Date of Well Closure.
 - (15) Name of Preparer.
 - (16) Date
 - (17) Well plugging plan as submitted to the Office of the State Engineer pursuant to 19.27.4
- **B.** Proposed well closure activities must be approved by the department prior to implementation. [20.6.2.5005 NMAC N, 12-1-01; A; 12-21-18]
- **20.6.2.5006 DISCHARGE PERMIT REQUIREMENTS FOR CLASS V INJECTION WELLS:** Class V injection wells must meet the requirements of Sections 20.6.2.3000 through 20.6.2.3999 NMAC and Sections

20.6.2.5000 through 20.6.2.5006 NMAC. Class V injection wells or surface impoundments constructed as recharge basins used to replenish the water in an aquifer, including use to reclaim or improve the quality of existing water must additionally provide documentation of compliance with 19.25.8 NMAC (Underground Storage and Recovery) and shall not be subject to the exemptions of 20.6.2.3105 NMAC. [20.6.2.5006 NMAC - N, 12-1-01; A, 12-21-18]

20.6.2.5007 - 20.6.2.5100: [RESERVED]

[12-1-95; 20.6.2.5001 - 20.6.2.5100 NMAC - Rn, 20 NMAC 6.2.IV.4116-5100, 1-15-01; 20.6.2.5007 -20.6.2.5100 NMAC - Rn 20.6.2.5001 - 20.6.2.5100 NMAC, 12-1-01]

20.6.2.5101 DISCHARGE PERMIT AND OTHER REQUIREMENTS FOR CLASS I WELLS AND CLASS III WELLS:

- A. Class I wells and Class III wells must meet the requirements of 20.6.2.5000 through 20.6.2.5399 NMAC in addition to other applicable requirements of the commission regulations. The secretary may also require that some Class IV and Class V wells comply with the requirements for Class I wells in 20.6.2.5000 through 20.6.2.5399 NMAC if the secretary determines that the additional requirements are necessary to prevent the movement of water contaminants from a specified injection zone into ground water having 10,000 mg/l or less III well may be approved which allows for movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to 20.6.2.5103 NMAC, or pursuant to a temporary designation as provided in Paragraph (2) of Subsection C of 20.6.2.5101 NMAC.
- **B.** Operation of a Class I well or Class III well must be pursuant to a discharge permit meeting the requirements of 20.6.2.3000 through 20.6.2.3999 NMAC and 20.6.2.5000 through 20.6.2.5399 NMAC.
- **C.** Discharge permits for Class I wells, or Class III wells affecting ground water of 10,000 mg/l or less TDS submitted for secretary approval shall:
- (1) receive an aquifer designation if required in 20.6.2.5103 NMAC prior to discharge permit issuance; or
- (2) for Class III wells only, address the methods or techniques to be used to restore ground water so that upon final termination of operations including restoration efforts, ground water at any place of withdrawal for present or reasonably foreseeable future use will not contain either concentrations in excess of the standards of 20.6.2.3103 NMAC or any toxic pollutant; issuance of a discharge permit or project discharge permit for Class III wells that provides for restoration of ground water in accordance with the requirements of this subsection shall substitute for the aquifer designation provisions of 20.6.2.5103 NMAC; the approval shall constitute a temporary aquifer designation for a mineral bearing or producing aquifer, or portion thereof, to allow injection as provided for in the discharge permit; such temporary designation shall expire upon final termination of operations including restoration efforts.
- **D.** The exemptions from the discharge permit requirement listed in 20.6.2.3105 NMAC do not apply to underground injection control wells except as provided below:
- (1) wells regulated by the energy conservation management division of the energy, minerals and natural resources department under the "Geothermal Resources Development Act";
- (2) wells regulated by the mining and minerals division of the energy, minerals and natural resources department under the "Surface Mining Act";
- (3) wells for the disposal of effluent from systems which are regulated under the "Liquid Waste Disposal and Treatment" regulations (20.7.3 NMAC) adopted by the environmental improvement board under the "Environmental Improvement Act".
 - **E.** Project permits for Class III wells.
 - (1) The secretary may consider a project discharge permit for Class III wells, if the wells are:
 - (a) within the same well field, facility site or similar unit;
 - **(b)** within the same aquifer and ore deposit;
 - (c) of similar construction;
 - (d) of the same purpose; and
 - (e) operated by a single owner or operator.
- (2) A project discharge permit does not allow the discharger to commence injection in any individual operational area until the secretary approves an application for injection in that operational area (operational area approval).
 - (3) A project discharge permit shall:

- (a) specify the approximate locations and number of wells for which operational area approvals are or will be sought with approximate time frames for operation and restoration (if restoration is required) of each area; and
- (b) provide the information required under the following sections of this part, except for such additional site-specific information as needed to evaluate applications for individual operational area approvals: Subsection C of 20.6.2.3106, 20.6.2.3107, 20.6.2.5204 through 20.6.2.5209, and Subsection B of 20.6.2.5210 NMAC.
 - (4) Applications for individual operational area approval shall include the following:
 - (a) site-specific information demonstrating that the requirements of this part are

met; and

- (b) information required under 20.6.2.5202 through 20.6.2.5210 NMAC and not previously provided pursuant to Subparagraph (b) of Paragraph (3) of Subsection E of this section.
- (5) Applications for project discharge permits and for operational area approval shall be processed in accordance with the same procedures provided for discharge permits under 20.6.2.3000 through 20.6.2.3114 NMAC, allowing for public notice on the project discharge permit and on each application for operational area approval pursuant to 20.6.2.3108 NMAC with opportunity for public hearing prior to approval or disapproval.
- (6) The discharger shall comply with additional requirements that may be imposed by the secretary pursuant to this part on wells in each new operational area.
- F. If the holder of a discharge permit for a Class I well, or Class III well submits an application for discharge permit renewal at least 120 days before discharge permit expiration, and the discharge is in compliance with his discharge permit on the date of its expiration, then the existing discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved. An application for discharge permit renewal must include and adequately address all of the information necessary for evaluation of a new discharge permit. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved.
- **G.** Discharge permit signatory requirements: No discharge permit for a Class I well or Class III well may be issued unless:
 - (1) the application for a discharge permit has been signed as follows:
- (a) for a corporation: by a principal executive officer of at least the level of vice-president, or a representative who performs similar policy-making functions for the corporation who has authority to sign for the corporation; or
 - (b) for a partnership or sole proprietorship: by a general partner or the proprietor,

respectively; or

- (c) for a municipality, state, federal, or other public agency: by either a principal executive officer who has authority to sign for the agency, or a ranking elected official; and
- (2) all reports required by Class I hazardous waste injection well permits and other information requested by the director pursuant to a Class I hazardous waste injection well permit shall be signed by a person described in Paragraph (1) of this subsection, or by a duly authorized representative of that person; a person is a duly authorized representative only if:
 - (a) the authorization is made in writing by a person described in Paragraph (1) of

this subsection:

(3)

- (b) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

 (c) the written authorization is submitted to the director.
 - Changes to authorization. If an authorization under Paragraph (2) of this subsection is no different individual or position has responsibility for the overall operation of the facility, a
- longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Paragraph (2) of this subsection must be submitted to the director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (4) The signature on an application, report or other information requested by the director must be directly preceded by the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information

is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

- **H.** Transfer of Class I non-hazardous waste injection well and Class III well discharge permits.
- (1) The transfer provisions of 20.6.2.3111 NMAC do not apply to a discharge permit for a Class I non-hazardous waste injection well or Class III well.
- (2) A Class I non-hazardous waste injection well or Class III well discharge permit may be transferred if:
 - (a) the secretary receives written notice 30 days prior to the transfer date; and
- **(b)** the secretary does not object prior to the proposed transfer date; the secretary may require modification of the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.
- (3) The written notice required by Subparagraph (a) of Paragraph (2) of Subsection H above shall:
- (a) have been signed by the discharger and the succeeding discharger, including an acknowledgement that the succeeding discharger shall be responsible for compliance with the discharge permit upon taking possession of the facility; and
 - (b) set a specific date for transfer of discharge permit responsibility, coverage and
- (c) include information relating to the succeeding discharger's financial responsibility required by Paragraph (17) of Subsection B of 20.6.2.5210 NMAC.
- I. Modification or termination of a discharge permit for a Class I well or Class III well: If data submitted pursuant to any monitoring requirements specified in the discharge permit or other information available to the secretary indicate that this part are being or may be violated, the secretary may require modification or, if it is determined by the secretary that the modification may not be adequate, may terminate a discharge permit for a Class I well, or Class III well or well field, that was approved pursuant to the requirements of this under 20.6.2.5000 through 20.6.2.5399 NMAC for the following causes:
 - (1) noncompliance by the discharger with any condition of the discharge permit; or
- (2) the discharger's failure in the discharge permit application or during the discharge permit review process to disclose fully all relevant facts, or the discharger's misrepresentation of any relevant facts at any time; or
- (3) a determination that the permitted activity may cause a hazard to public health or undue risk to property and can only be regulated to acceptable levels by discharge permit modification or termination. [9-20-82, 12-1-95, 11-15-96; 20.6.2.5101 NMAC Rn, 20 NMAC 6.2.V.5101, 1-15-01; A, 12-1-01; A, 9-15-02; A, 8-1-14; A, 8-31-15; A, 12-21-18]

20.6.2.5102 PRE-CONSTRUCTION REQUIREMENTS FOR CLASS I WELLS AND CLASS III WELLS:

A. Discharge permit requirement for Class I wells.

liability; and

- (1) Prior to construction of a Class I well or conversion of an existing well to a Class I well, an approved discharge permit is required that incorporates the requirements of 20.6.2.5000 through 20.6.2.5399 NMAC, except Subsection C of 20.6.2.5210 NMAC. As a condition of discharge permit issuance, the operation of the Class I well under the discharge permit will not be authorized until the secretary has:
- (a) reviewed the information submitted for his consideration pursuant to Subsection C of 20.6.2.5210 NMAC; and
- **(b)** determined that the information submitted demonstrates that the operation will be in compliance with this part and the discharge permit.
- (2) If conditions encountered during construction represent a substantial change which could adversely impact ground water quality from those anticipated in the discharge permit, the secretary shall require a discharge permit modification or may terminate the discharge permit pursuant to Subsection I of 20.6.2.5101 NMAC, and the secretary shall public notice and allow for comments and hearing in accordance with 20.6.2.3108 NMAC.
 - **B.** Notification requirement for Class III wells.
- (1) The discharger shall notify the secretary in writing prior to the commencement of drilling or construction of wells which are expected to be used for in situ extraction, unless the discharger has previously received a discharge permit or project discharge permit for the Class III well operation.

- (a) Any person proposing to drill or construct a new Class III well or well field, or convert an existing well to a Class III well, shall file plans, specifications and pertinent documents regarding such construction or conversion, with the ground water quality bureau of the environment department.
- (b) Plans, specifications, and pertinent documents required by this section, if pertaining to carbon dioxide facilities, or facilities for the exploration, production, refinement or pipeline transmission of oil and natural gas, shall be filed instead with the oil conservation division of the energy, minerals and natural resources department.
- (c) Plans, specifications and pertinent documents required to be filed under this section must be filed 90 days prior to the planned commencement of construction or conversion.
 - (d) The following plans, specifications and pertinent documents shall be provided
 - (i) information required in Subsection C of 20.6.2.3106 NMAC;
- (ii) a map showing the Class III wells which are to be constructed; the map must also show, in so far as is known or is reasonably available from the public records, the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads, that are within the expected area of review (20.6.2.5202 NMAC) of the Class III well or well field perimeter;
- (iii) maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within one mile of the site, the position of such ground water within this area relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation;
- (iv) maps and cross-sections detailing the geology and geologic structure of the local area, including faults, if known or suspected;
- (v) the proposed formation testing program to obtain an analysis or description, whichever the secretary requires, of the chemical, physical, and radiological characteristics of, and other information on, the receiving formation;
 - (vi) the proposed stimulation program;
 - (vii) the proposed injection procedure;
 - (viii) schematic or other appropriate drawings of the surface and subsurface

construction details of the well;

with the notification:

- (ix) proposed construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;
- (x) information, as described in Paragraph (17) of Subsection B of 20.6.2.5210 NMAC, showing the ability of the discharger to undertake measures necessary to prevent ground water contamination; and
- (xi) a plugging and abandonment plan showing that the requirements of Subsections B, C and D of 20.6.2.5209 NMAC will be met.
- (2) Prior to construction, the discharger shall have received written notice from the secretary that the information submitted under item 10 of Subparagraph (d) of Paragraph (1) of Subsection B of 20.6.2.5102 NMAC is acceptable. Within 30 days of submission of the above information the secretary shall notify the discharger that the information submitted is acceptable or unacceptable.
- (3) Prior to construction, the secretary shall review said plans, specifications and pertinent documents and shall comment upon their adequacy of design for the intended purpose and their compliance with pertinent sections of this part. Review of plans, specifications and pertinent documents shall be based on the criteria contained in 20.6.2.5205, Subsection E of 20.6.2.5209, and Subparagraph (d) of Paragraph (1) of Subsection B of 20.6.2.5102 NMAC.
- (4) Within 30 days of receipt, the secretary shall issue public notice, consistent with Subsection B of 20.6.2.3108 NMAC, that notification was submitted pursuant to Subsection B of 20.6.2.5102 NMAC. The secretary shall allow a period of at least 30 days during which comments may be submitted. The public notice shall include:
 - (a) name and address of the proposed discharger;
 - **(b)** location of the discharge;
 - (c) brief description of the proposed activities;
 - (d) statement of the public comment period; and
 - (e) address and telephone number at which interested persons may obtain further

information.

- (5) The secretary shall comment in writing upon the plans and specifications within 60 days of their receipt by the secretary.
- (6) Within 30 days after completion, the discharger shall submit written notice to the secretary that the construction or conversion was completed in accordance with submitted plans and specifications, or shall submit as-built plans detailing changes from the originally submitted plans and specifications.
- (7) In the event a discharge permit application is not submitted or approved, all wells which may cause ground water contamination shall be plugged and abandoned by the applicant pursuant to the plugging and abandonment plan submitted in the notification; these measures shall be consistent with any comments made by the secretary in his review. If the wells are not to be permanently abandoned and the discharger demonstrates that plugging at this time is unnecessary to prevent ground water contamination, plugging pursuant to the notification is not required. Financial responsibility established pursuant to 20.6.2.5000 through 20.6.2.5299 NMAC will remain in effect until the discharger permanently abandons and plugs the wells in accordance with the plugging and abandonment plan.

[9-20-82, 12-24-87, 12-1-95; 20.6.2.5102 NMAC - Rn, 20 NMAC 6.2.V.5102, 1-15-01; A, 12-1-01; A, 8-31-15; A, 12-21-18]

20.6.2.5103 DESIGNATED AQUIFERS FOR CLASS I WELLS AND CLASS III WELLS:

- **A.** Any person may file a written petition with the secretary seeking commission consideration of certain aquifers or portions of aquifers as "designated aquifers". The purpose of aquifer designation is:
- (1) for Class I wells, to allow as a result of injection, the addition of water contaminants into ground water, which before initiation of injection has a concentration between 5,000 and 10,000 mg/l TDS; or
- (2) for Class III wells, to allow as a result of injection, the addition of water contaminants into ground water, which before initiation of injection has a concentration between 5,000 and 10,000 mg/l TDS, and not provide for restoration or complete restoration of that ground water pursuant to Paragraph (2) of Subsection C of 20.6.2.5101 NMAC.
- **B.** The applicant shall identify (by narrative description, illustrations, maps or other means) and describe such aquifers, in geologic and geometric terms (such as vertical and lateral limits and gradient) which are clear and definite.
- **C.** An aquifer or portion of an aquifer may be considered for aquifer designation under Subsection A of this section, if the applicant demonstrates that the following criteria are met:
 - (1) it is not currently used as a domestic or agricultural water supply; and
- (2) there is no reasonable relationship between the economic and social costs of failure to designate and benefits to be obtained from its use as a domestic or agricultural water supply because:
- (a) it is situated at a depth or location which makes recovery of water for drinking or agricultural purposes economically or technologically impractical at present and in the reasonably foreseeable future; or
- **(b)** it is already so contaminated that it would be economically or technologically impractical to render that water fit for human consumption or agricultural use at present and in the reasonably foreseeable future.
- **D.** The petition shall state the extent to which injection would add water contaminants to ground water and why the proposed aquifer designation should be approved. For Class III wells, the applicant shall state whether and to what extent restoration will be carried out.
- **E.** The secretary shall either transmit the petition to the commission within 60 recommending that a public hearing be held, or refuse to transmit the petition and notify the applicant in writing citing reasons for such refusal.
- **F.** If the secretary transmits the petition to the commission, the commission shall review the petition and determine to either grant or deny a public hearing on the petition. If the commission grants a public hearing, it shall issue a public notice, including the following information:
 - (1) name and address of the applicant;
- (2) location, depth, TDS, areal extent, general description and common name or other identification of the aquifer for which designation is sought;
- (3) nature of injection and extent to which the injection will add water contaminants to ground water; and
- (4) address and telephone number at which interested persons may obtain further information.

- **G.** If the secretary refuses to transmit the petition to the commission, then the applicant may appeal the secretary's disapproval of the proposed aquifer designation to the commission within 30 days, and address the issue of whether the proposed aquifer designation meets the criteria of Subsections A, B, C, and D of this section.
- **H.** If the commission grants a public hearing, the hearing shall be held in accordance with the provisions of Section 74-6-6 NMSA 1978.
- **I.** If the commission does not grant a public hearing on the petition, the aquifer designation shall not be approved.
- **J.** After public hearing and consideration of all facts and circumstances included in Section 74-6-4(D) NMSA 1978, the commission may authorize the secretary to approve a proposed designated aquifer if the commission determines that the criteria of Subsections A, B, C, and D of this section are met.
- **K.** Approval of a designated aquifer petition does not alleviate the applicant from complying with other sections of 20.6.2.5000 through 20.6.2.5399 NMAC, or of the responsibility for protection, pursuant to this part, of other nondesignated aquifers containing ground water having 10,000 mg/l or less TDS.
- L. Persons other than the petitioner may add water contaminants as a result of injection into an aquifer designated for injection, provided the person receives a discharge permit pursuant to the requirements of 20.6.2.5000 through 20.6.2.5399 NMAC. Persons, other than the original petitioner or his designee, requesting addition of water contaminants as a result of injection into aquifers previously designated only for injection with partial restoration shall file a petition with the commission pursuant to the requirements of Subsections A, B, C, and D of this section.

[9-20-82, 12-1-95; 20.6.2.5103 NMAC - Rn, 20 NMAC 6.2.V.5103, 1-15-01; A, 12-1-01; A, 8-31-15]

20.6.2.5104 WAIVER OF REQUIREMENT BY SECRETARY FOR CLASS I WELLS AND CLASS III WELLS:

- **A.** Where a Class I well or a Class III well or well field, does not penetrate, or inject into or above, and which will not affect, ground water having 10,000 mg/l of less TDS, the secretary may:
- (1) issue a discharge permit for a well or well field with less stringent requirements for area of review, construction, mechanical integrity, operation, monitoring, and reporting than required by 20.6.2.5000 through 20.6.2.5399 NMAC; or
- (2) for Class III wells only, issue a discharge permit pursuant to the requirements of 20.6.2.3000 through 20.6.2.3114 NMAC.
- **B.** Authorization of a reduction in requirements under Subsection A of this section shall be granted only if injection will not result in an increased risk of movement of fluids into ground water having 10,000 mg/l or less TDS, except for fluid movement approved pursuant to 20.6.2.5103 NMAC.

[9-20-82, 12-1-95; 20.6.2.5104 NMAC - Rn & A, 20 NMAC 6.2.V.5104, 1-15-01; A, 12-1-01; A, 8-31-15]

20.6.2.5105 - 20.6.2.5199: [RESERVED]

[12-1-95; 20.6.2.5105 - 20.6.2.5199 NMAC - Rn, 20 NMAC 6.2.V.5105-5199, 1-15-01]

20.6.2.5200 TECHNICAL CRITERIA AND PERFORMANCE STANDARDS FOR CLASS I WELLS AND CLASS III WELLS:

[12-1-95; 20.6.2.5200 NMAC - Rn, 20 NMAC 6.2.V.5200, 1-15-01; A, 12-1-01; A, 8-31-15]

20.6.2.5201 PURPOSE: 20.6.2.5200 through 20.6.2.5210 NMAC provide the technical criteria and performance standards for Class I wells and Class III wells. (20.6.2.5300 through 20.6.2.5399 NMAC provide certain additional technical and performance standards for Class I hazardous waste injection wells.) [9-20-82; 20.6.2.5201 NMAC - Rn, 20 NMAC 6.2.V.5201, 1-15-01; A, 12-1-01; A, 8-31-15; A, 12-21-18]

20.6.2.5202 AREA OF REVIEW:

- **A.** The area of review is the area surrounding a Class I non-hazardous waste injection well or Class III well or the area within and surrounding a well field that is to be examined to identify possible fluid conduits, including the location of all known wells and fractures which may penetrate the injection zone.
- **B.** The area of review for each Class I non-hazardous waste injection well, or each Class III well or well field shall be an area which extends:
 - (1) two and one half (2 1/2) miles from the well, or well field; or

- (2) one-quarter (1/4) mile from a well or well field where the area of review is calculated to be zero pursuant to Paragraph (3) of Subsection B below, or where the well field production at all times exceeds injection to produce a net withdrawal; or
- (3) a suitable distance, not less than one-quarter (1/4) mile, proposed by the discharger and approved by the secretary, based upon a mathematical calculation to determine the area of review; computations to determine the area of review may be based upon the parameters listed below and should be calculated for an injection time period equal to the expected life of the Class I non-hazardous waste injection well, or Class III well or well field; the following modified Theis equation illustrates one form which the mathematical model may take to compute the area of review; the discharger must demonstrate that any equation or simulation used to compute the area of review applies to the hydrogeologic conditions in the area of review.

$$r = \left(\frac{2.25 K H t}{S 10^x}\right)^{1/2}$$

Where:

 $4BKH (H_w - H_{bo})x S_pG_b$

r = Radius of the area of review for a Class I non-hazardous waste injection well or Class III well (length)

K = Hydraulic conductivity of the injection zone (length/time)

H = Thickness of the injection zone (length)

t = Time of injection (time)

S = Storage coefficient (dimensionless)

Q = Injection rate (volume/time)

 H_{bo} = Observed original hydrostatic head of injection zone (length) measured from the base of the lowest aquifer containing ground water of 10,000 mg/l or less TDS

 $H_{\rm w}=$ Hydrostatic head of underground source of drinking water (length) measured from the base of the lowest aquifer containing ground water of 10,000 mg/l or less TDS

 S_pG_b = Specific gravity of fluid in the injection zone (dimensionless)

B = 3.142 (dimensionless)

- (4) The above equation is based on the following assumptions:
 - (a) the injection zone is homogenous and isotropic;
 - **(b)** the injection zone has infinite areal extent;
- (c) the Class I non-hazardous waste injection well or Class III well penetrates the entire thickness of the injection zone;
- (d) the well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and
- (e) the emplacement of fluid into the injection zone creates an instantaneous increase in pressure.

C. The secretary shall require submittal by the discharger of information regarding the area of review including the information to be considered by the secretary in Subsection B of Section 20.6.2.5210 NMAC. [9-20-82, 12-1-95; 20.6.2.5202 NMAC - Rn, 20 NMAC 6.2.V.5202, 1-15-01; A, 12-1-01; A, 12-21-18]

20.6.2.5203 CORRECTIVE ACTION FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

- A. Persons applying for approval of a Class I non-hazardous waste injection well, or a Class III well or well field shall identify the location of all known wells, drill holes, shafts, stopes and other conduits within the area of review which may penetrate the injection zone, in so far as is known or is reasonably available from the public records. For such wells or other conduits which are improperly sealed, completed, or abandoned, or otherwise provide a pathway for the migration of contaminants, the discharger shall address in the proposed discharge plan such steps or modifications (corrective action) as are necessary to prevent movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.
- **B.** Prior to operation, or continued operation of a well for which corrective action is required pursuant to Subsections A or D of Section 20.6.2.5203 NMAC, the discharger must demonstrate that:
 - (1) all required corrective action has been taken; or
- (2) injection pressure is to be limited so that pressure in the injection zone does not cause fluid movement through any well or other conduit within the area of review into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC; this pressure limitation may be removed after all required corrective action has been taken.
- **C.** In determining the adequacy of corrective action proposed in the discharge permit application, the following factors will be considered by the secretary:
 - (1) chemical nature and volume of the injected fluid;
 - (2) chemical nature of native fluids and by-products of injection;
 - (3) geology and hydrology;
 - (4) history of the injection and production operation;
 - (5) completion and plugging records;
 - (6) abandonment procedures in effect at the time a well, drill hole, or shaft was abandoned;

and

- (7) hydraulic connections with waters having 10,000 mg/l or less TDS
- **D.** In the event that, after approval for a Class I non-hazardous waste injection well or Class III well has been granted, additional information is submitted or it is discovered that a well or other conduit within the applicable area of review might allow movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC, the secretary may require action in accordance with Subsection I of Section 20.6.2.5101 and Subsection B Section 20.6.2.5203 NMAC. [9-20-82, 12-1-95; 20.6.2.5203 NMAC Rn, 20 NMAC 6.2.V.5203, 1-15-01; A, 12-1-01]

20.6.2.5204 MECHANICAL INTEGRITY FOR CLASS I WELLS AND CLASS III WELLS:

- **A.** A Class I well or Class III well has mechanical integrity if there is no detectable leak in the casing, tubing or packer which the secretary considers to be significant at maximum operating temperature and pressure; and no detectable conduit for fluid movement out of the injection zone through the well bore or vertical channels adjacent to the well bore which the secretary considers to be significant.
- **B.** Prior to well injection and at least once every five years or more frequently as the secretary may require for good cause during the life of the well, the discharger must demonstrate that a Class I well or Class III well has mechanical integrity. The demonstration shall be made through use of the following tests:
 - (1) for evaluation of leaks:
- (a) monitoring of annulus pressure (after an initial pressure test with liquid or gas before operation commences); or
 - **(b)** pressure test with liquid or gas;
 - (2) for determination of conduits for fluid movement:
 - (a) the results of a temperature or noise log; or
- (b) where the nature of the casing used for Class III wells precludes use of these logs, cementing records and an appropriate monitoring program as the secretary may require which will demonstrate the presence of adequate cement to prevent such movement;
 - (3) other appropriate tests as the secretary may require.

- C. The secretary may consider the use by the discharger of equivalent alternative test methods to determine mechanical integrity. The discharger shall submit information on the proposed test and all technical data supporting its use. The secretary may approve the request if it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. For Class III wells this demonstration may be made by submission of adequate monitoring data after the initial mechanical integrity tests.
- **D.** In conducting and evaluating the tests enumerated in this section or others to be allowed by the secretary, the discharger and the secretary shall apply methods and standards generally accepted in the affected industry. When the discharger reports the results of mechanical integrity tests to the secretary, he shall include a description of the test(s), the method(s) used, and the test results. In making an evaluation, the secretary's review shall include monitoring and other test data submitted since the previous evaluation.

 [9-20-82, 12-1-95; 20.6.2.5204 NMAC Rn, 20 NMAC 6.2.V.5204, 1-15-01; A, 12-1-01; A, 8-31-15]

20.6.2.5205 CONSTRUCTION REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

- **A.** General Construction Requirements Applicable to Class I non-hazardous waste injection wells and Class III wells.
- (1) Construction of all Class I non-hazardous waste injection wells and all new Class III wells shall include casing and cementing. Prior to well injection, the discharger shall demonstrate that the construction and operation of:
- (a) Class I non-hazardous waste injection wells will not cause or allow movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC;
- (b) Class III wells will not cause or allow movement of fluids out of the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.
- (2) The construction of each newly drilled well shall be designed for the proposed life expectancy of the well.
- (3) In determining if the discharger has met the construction requirements of this section and has demonstrated adequate construction, the secretary shall consider the following factors:
 - (a) depth to the injection zone;
- (b) injection pressure, external pressure, annular pressure, axial loading, and other stresses that may cause well failure;
 - (c) hole size;
- (d) size and grade of all casing strings, including wall thickness, diameter, nominal weight, length, joint specification, and construction material;
 - (e) type and grade of cement:
 - (f) rate, temperature, and volume of injected fluid;
- (g) chemical and physical characteristics of the injected fluid, including corrosiveness, density, and temperature;
- (h) chemical and physical characteristics of the formation fluids including pressure and temperature;
- (i) chemical and physical characteristics of the receiving formation and confining zones including lithology and stratigraphy, and fracture pressure; and
- **(j) d**epth, thickness and chemical characteristics of penetrated formations which may contain ground water.
- (4) To demonstrate adequate construction, appropriate logs and other tests shall be conducted during the drilling and construction of new Class I non-hazardous waste injection wells or Class III wells or during work-over of existing wells in preparation for reactivation or for change to injection use. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the secretary for review prior to well injection. The logs and tests appropriate to each type of injection well shall be based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses.
- (a) The discharger shall demonstrate through use of sufficiently frequent deviation checks, or another equivalent method, that a Class I non-hazardous waste injection well or Class III well drilled

using a pilot hole then enlarged by reaming or another method, does not allow a vertical avenue for fluid migration in the form of diverging holes created during drilling.

- **(b)** The secretary may require use by the discharger of the following logs to assist in characterizing the formations penetrated and to demonstrate the integrity of the confining zones and the lack of vertical avenues for fluid migration:
- (i) for casing intended to protect ground water having 10,000 mg/l or less TDS: resistivity, spontaneous potential, and caliper logs before the casing is installed; and a cement bond, or temperature log after the casing is set and cemented.
- (ii) for intermediate and long strings of casing intended to facilitate injection: resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed; and fracture finder or spectral logs; and a cement bond or temperature log after the casing is set and cemented.
- (5) In addition to the requirements of Section 20.6.2.5102 NMAC, the discharger shall provide notice prior to commencement of drilling, cementing and casing, well logging, mechanical integrity tests, and any well work-over to allow opportunity for on-site inspection by the secretary or his representative.
 - **B.** Additional construction requirements for Class I non-hazardous waste injection wells.
- (1) All Class I non-hazardous waste injection wells shall be sited in such a manner that they inject into a formation which is beneath the lowermost formation containing, within one quarter mile of the well bore, ground water having 10,000 mg/l TDS or less except as approved pursuant to Section 20.6.2.5103 NMAC.
- (2) All Class I non-hazardous waste injection wells shall be cased and cemented by circulating cement to the surface.
- (3) All Class I non-hazardous waste injection wells, except those municipal wells injecting noncorrosive wastes, shall inject fluids through tubing with a packer set in the annulus immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer, and fluid seal shall be designed for the expected length of service.
- (a) The use of other alternatives to a packer may be allowed with the written approval of the secretary. To obtain approval, the operator shall submit a written request to the secretary which shall set forth the proposed alternative and all technical data supporting its use. The secretary may approve the request if the alternative method will reliably provide a comparable level of protection to ground water. The secretary may approve an alternative method solely for an individual well or for general use.
- **(b)** In determining the adequacy of the specifications proposed by the discharger for tubing and packer, or a packer alternative, the secretary shall consider the following factors:
 - (i) depth of setting;
 - (ii) characteristics of injection fluid (chemical nature or characteristics,

corrosiveness, and density);

- (iii) injection pressure;
- (iv) annular pressure:
- (v) rate, temperature and volume of injected fluid; and
- (vi) size of casing.
- **C.** Additional construction requirements for Class III wells.
- (1) Where injection is into a formation containing ground water having 10,000 mg/l or less TDS, monitoring wells shall be completed into the injection zone and into the first formation above the injection zone containing ground water having 10,000 mg/l or less TDS which could be affected by the extraction operation. If ground water having 10,000 mg/l or less TDS below the injection zone could be affected by the extraction operation, monitoring of such ground water may be required. These wells shall be of sufficient number, located and constructed so as to detect any excursion of injection fluids, process byproducts, or formation fluids outside the extraction area or injection zone. The requirement for monitoring wells in aquifers designated pursuant to Section 20.6.2.5103 NMAC may be waived by the secretary, provided that the absence of monitoring wells does not result in an increased risk of movement of fluids into protected ground waters having 10,000 mg/l or less TDS.
- (2) Where injection is into a formation which does not contain ground water having 10,000 mg/l or less TDS, no monitoring wells are necessary in the injection zone. However, monitoring wells may be necessary in adjoining zones with ground water having 10,000 mg/l or less TDS that could be affected by the extraction operation.
- (3) In an area that the secretary determines is subject to subsidence or collapse, the required monitoring wells may be required to be located outside the physical influence of that area.
- (4) In determining the adequacy of monitoring well location, number, construction and frequency of monitoring proposed by the discharger, the secretary shall consider the following factors:

- (a) the local geology and hydrology;
- (b) the operating pressures and whether a negative pressure gradient to the monitor

well is being maintained;

(c) the nature and volume of injected fluid, formation water, and process by-

products; and

(d) the number and spacing of Class III wells in the well field.

[9-20-82, 12-1-95; 20.6.2.5205 NMAC - Rn, 20 NMAC 6.2.V.5205, 1-15-01; A, 12-1-01]

20.6.2.5206 OPERATING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

- **A.** General operating requirements applicable to Class I non-hazardous waste injection wells and Class III wells.
- (1) The maximum injection pressure at the wellhead shall not initiate new fractures or propagate existing fractures in the confining zone, or cause the movement of injection or formation fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.
- (2) Injection between the outermost casing and the well bore is prohibited in a zone other than the authorized injection zone.
 - **B.** Additional operating requirements for Class I non-hazardous waste injection wells.
- (1) Except during well stimulation, the maximum injection pressure shall not initiate new fractures or propagate existing fractures in the injection zone.
- (2) Unless an alternative to a packer has been approved under Subparagraph (c) of Paragraph (3) of Subsection B of Section 20.6.2.5205 NMAC, the annulus between the tubing and the long string of casing shall be filled with a fluid approved by the secretary and a pressure, also approved by the secretary shall be maintained on the annulus.
- **C.** Additional operating requirements for Class III wells: Initiation of new fractures or propagation of existing fractures in the injection zone will not be approved by the secretary as part of a discharge permit unless it is done during well stimulation and the discharger demonstrates:
- (1) that such fracturing will not cause movement of fluids out of the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC; and
- (2) that the provisions of Subsection D of Section 20.6.2.3109 and Subsection C of Section 20.6.2.5101 NMAC for protection of ground water are met. [9-20-82, 12-1-95; 20.6.2.5206 NMAC Rn, 20 NMAC 6.2.V.5206, 1-15-01; A, 12-1-01; A, 12-21-18]

20.6.2.5207 MONITORING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

- **A.** The discharger shall demonstrate mechanical integrity for each Class I non-hazardous waste injection well or Class III well at least once every five years during the life of the well pursuant to Section 20.6.2.5204 NMAC.
 - **B.** Additional monitoring requirements for Class I non-hazardous waste injection wells.
- (1) The discharger shall provide analysis of the injected fluids at least quarterly or, if necessary, more frequently to yield data representative of their characteristics.
- (2) Continuous monitoring devices shall be used to provide a record of injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.
- (3) The discharger shall provide wells within the area of review as required by the discharge permit to be used by the discharger to monitor pressure in, and possible fluid movement into, ground water having 10,000 mg/l or less TDS except for such ground waters designated pursuant to Section 20.6.2.5103 NMAC. This Section does not require monitoring wells for Class I non-hazardous waste injection wells unless monitoring wells are necessary due to possible flow paths within the area of review.
 - **C.** Additional monitoring requirements for Class III wells.
- (1) The discharger shall provide an analysis or description, whichever the secretary requires, of the injected fluids at least quarterly or, if necessary, more frequently to yield representative data.
 - (2) The discharger shall perform:
- (a) appropriate monitoring of injected and produced fluid volumes by whichever of the following methods the secretary requires:

(i) recording injection pressure and either flow rate or volume every two

weeks; or

- (ii) metering and daily recording of fluid volumes;
- **(b)** monitoring every two weeks, or more frequently as the secretary determines, of the monitor wells, required in Subsection C of Section 20.6.2.5205 NMAC for:
 - (i) water chemistry parameters used to detect any migration from the

injection zone;

- (ii) fluid levels adjacent to the injection zone; and
- (c) other necessary monitoring as the secretary for good cause may require to detect movement of fluids from the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.
- (3) With the approval of the secretary, all Class III wells may be monitored on a well field basis by manifold monitoring rather than on an individual well basis. Manifold monitoring to determine the quality, pressure, and flow rate of the injected fluid may be approved in cases of facilities consisting of more than one Class III well, operating with a common manifold, provided that the discharger demonstrates that manifold monitoring is comparable to individual well monitoring.

[9-20-82, 12-1-95; 20.6.2.5207 NMAC - Rn, 20 NMAC 6.2.V.5207, 1-15-01; A, 12-1-01]

20.6.2.5208 REPORTING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

- **A.** Reporting requirements for Class I non-hazardous waste injection wells.
- (1) If a Class I non-hazardous waste injection well is found to be discharging or is suspected of discharging fluids into a zone or zones other than the permitted or authorized injection zone, the discharger shall within 24 hours notify the secretary of the circumstances and action taken. The discharger shall provide subsequent written reports as required by the secretary.
 - (2) The discharger shall provide reports quarterly to the secretary on:
 - (a) the physical, chemical and other relevant characteristics of injection fluids;
- **(b)** monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure; and
 - (c) the results of monitoring prescribed under Subsection B of Section 20.6.2.5207

NMAC.

results of:

- (3) The discharger shall report, no later than the first quarterly report after completion, the
 - (a) periodic tests of mechanical integrity as required in Sections 20.6.2.5204 and
- 20.6.2.5207 NMAC;

 (b) any other test of the Class I non-hazardous waste injection well conducted by the discharger if required by the secretary;
 - (c) any well work-over; and
 - (d) any changes within the area of review which might impact subsurface

conditions.

- **B.** Reporting requirements for Class III wells.
- (1) The discharger shall notify the secretary within 48 hours of the detection or suspected detection of a leachate excursion, and provide subsequent reports as required by the secretary.
 - (2) The discharger shall provide to the secretary:
 - (a) reports on required monitoring quarterly, or more frequently as required by the

secretary; and

- (b) results of mechanical integrity testing as required in Sections 20.6.2.5204 and 20.6.2.5207 NMAC and any other periodic tests required by the secretary; these results are to be reported no later than the first regular report after the completion of the test.
- (3) Where manifold monitoring is permitted, monitoring results may be reported on a well field basis, rather than individual well basis.
 - **C.** Report signatory requirements.
- (1) All reports submitted pursuant to this section shall be signed and certified as provided in Subsection G of Section 20.6.2.5101 NMAC, or by a duly authorized representative.
 - (2) For a person to be a duly authorized representative, authorization must:

- (a) be made in writing by a signatory described in Paragraph (1) of Subsection G of Section 20.6.2.5101 NMAC;
- (b) specify either an individual or a position having responsibility for the overall operation of that regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, or position of equivalent responsibility; and
- (c) have been submitted to the secretary. [9-20-82, 12-1-95; 20.6.2.5208 NMAC Rn, 20 NMAC 6.2.V.5208, 1-15-01; A, 12-1-01]

20.6.2.5209 PLUGGING AND ABANDONMENT FOR CLASS I WELLS AND CLASS III WELLS:

- A. The discharger shall submit as part of the discharge permit application, a plan for plugging and abandonment of a Class I well or a Class III well that meets the requirements of Subsection D of 20.6.2.3109, Subsection C of 20.6.2.5101, and 20.6.2.5005 NMAC for protection of ground water. If requested, a revised or updated abandonment plan shall be submitted for approval prior to closure. The obligation to implement the plugging and abandonment plan as well as the requirements of the plan survives the termination or expiration of the permit.
- **B.** Prior to abandonment of a well used in a Class I well or Class III well operation, the well shall be plugged in a manner which will not allow the movement of fluids through the well bore out of the injection zone or between other zones of ground water. Cement plugs shall be used unless a comparable method has been approved by the secretary for the plugging of Class III wells at that site.
- C. Prior to placement of the plugs, the well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method approved by the secretary.
 - **D.** Placement of the plugs shall be accomplished by one of the following:
 - (1) the balance method; or
 - (2) the dump bailer method; or
 - (3) the two-plug method; or
 - (4) an equivalent method with the approval of the secretary.
- **E.** The following shall be considered by the secretary in determining the adequacy of a plugging and abandonment plan:
 - (1) the type and number of plugs to be used;
 - (2) the placement of each plug, including the elevation of the top and bottom;
 - (3) the type, grade and quantity of cementing slurry to be used;
 - (4) the method of placement of the plugs;
 - (5) the procedure to be used to plug and abandon the well; and
 - (6) such other factors that may affect the adequacy of the plan.
- **F.** The discharger shall retain all records concerning the nature and composition of injected fluids until five years after completion of any plugging and abandonment procedures. [9-20-82, 12-1-95; 20.6.2.5209 NMAC Rn, 20 NMAC 6.2.V.5209, 1-15-01; A, 12-1-01; A, 8-31-15; A, 12-21-18]

20.6.2.5210 INFORMATION TO BE CONSIDERED BY THE SECRETARY FOR CLASS I WELLS AND CLASS III WELLS:

- **A.** This section sets forth the information to be considered by the secretary in authorizing construction and use of a Class I well or Class III well or well field. Certain maps, cross-sections, tabulations of all wells within the area of review, and other data may be included in the discharge permit application submittal by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved.
- **B.** Prior to the issuance of a discharge permit or project discharge permit allowing construction of a new Class I well, operation of an existing Class I well, or operation of a new or existing Class III well or well field, or conversion of any well to injection use, the secretary shall consider the following:
 - (1) information required in Subsection C of 20.6.2.3106 NMAC;
- (2) a map showing the Class I well, or Class III well or well fields, for which approval is sought and the applicable area of review; within the area of review, the map must show, in so far as is known or is reasonably available from the public records, the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads;
- a tabulation of data on all wells within the area of review which may penetrate into the proposed injection zone; such data shall include, as available, a description of each well's type, the distance and

direction to the injection well or well field, construction, date drilled, location, depth, record of plugging or completion, and any additional information the secretary may require:

- (4) for wells within the area of review which penetrate the injection zone, but are not properly completed or plugged, the corrective action proposed to be taken under 20.6.2.5203 NMAC;
- maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within the area of review, the position of such ground water within the area of review relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation;
- (6) maps and cross-sections detailing the geology and geologic structure of the local area, including faults, if known or suspected;
 - (7) generalized maps and cross-sections illustrating the regional geologic setting;
 - (8) proposed operating data, including:
 - (a) average and maximum daily flow rate and volume of the fluid to be injected;
 - **(b)** average and maximum injection pressure;
- (c) source of injection fluids and an analysis or description, whichever the secretary requires, of their chemical, physical, radiological and biological characteristics;
- results of the formation testing program to obtain an analysis or description, whichever the secretary requires, of the chemical, physical, and radiological characteristics of, and other information on, the receiving formation, provided that the secretary may issue a conditional approval of a discharge permit if he finds that further formation testing is necessary for final approval;
- (10) expected pressure changes, native fluid displacement, and direction of movement of the injected fluid;
 - (11) proposed stimulation program;
 - (12) proposed or actual injection procedure;
- (13) schematic or other appropriate drawings of the surface and subsurface construction details of the well;
- (14) construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;
- (15) contingency plans to cope with all shut-ins or well failures so as to prevent movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to 20.6.2.5103 NMAC;
- (16) plans, including maps, for meeting the monitoring requirements of 20.6.2.5207 NMAC; and
- the ability of the discharger to undertake measures necessary to prevent contamination of ground water having 10,000 mg/l or less TDS after the cessation of operation, including the proper closing, plugging and abandonment of a well, ground water restoration if applicable, and any post-operational monitoring as may be needed; methods by which the discharger shall demonstrate the ability to undertake these measures shall include submission of a surety bond or other adequate assurances, such as financial statements or other materials acceptable to the secretary, such as: (1) a surety bond; (2) a trust fund with a New Mexico bank in the name of the state of New Mexico, with the state as beneficiary; (3) a non-renewable letter of credit made out to the state of New Mexico; (4) liability insurance specifically covering the contingencies listed in this paragraph; or (5) a performance bond, generally in conjunction with another type of financial assurance; such bond or materials shall be approved and executed prior to discharge permit issuance and shall become effective upon commencement of construction; if an adequate bond is posted by the discharger to a federal or another state agency, and this bond covers all of the measures referred to above, the secretary shall consider this bond as satisfying the bonding requirements of 20.6.2.5000 through 20.6.2.5299 NMAC wholly or in part, depending upon the extent to which such bond is adequate to ensure that the discharger will fully perform the measures required hereinabove.
- **C.** Prior to the secretary's approval that allows the operation of a new or existing Class I well or Class III well or well field, the secretary shall consider the following:
 - (1) update of pertinent information required under Subsection B of 20.6.2.5210 NMAC;
 - (2) all available logging and testing program data on the well;
 - (3) the demonstration of mechanical integrity pursuant to 20.6.2.5204 NMAC;
 - (4) the anticipated maximum pressure and flow rate at which the permittee will operate;
 - (5) the results of the formation testing program;
- (6) the physical, chemical, and biological interactions between the injected fluids and fluids in the injection zone, and minerals in both the injection zone and the confining zone; and

(7) the status of corrective action on defective wells in the area of review. [9-20-82, 12-24-87, 12-1-95; 20.6.2.5210 NMAC - Rn, 20 NMAC 6.2.V.5210, 1-15-01; A, 12-1-01; A, 8-31-15]

20.6.2.5211 - 20.6.2.5299: [RESERVED]

[12-1-95; 20.6.2.5211 - 20.6.2.5299 NMAC - Rn, 20 NMAC 6.2.V.5211-5299, 1-15-01]

20.6.2.5300 REQUIREMENTS FOR CLASS I HAZARDOUS WASTE INJECTION WELLS:

- A. Except as otherwise provided for in 20.6.2.5300 through 20.6.2.5399 NMAC, Class I hazardous waste wells are subject to the minimum permit requirements for all Class I wells in 20.6.2.5000 through 20.6.2.5299 NMAC, in addition to the requirements of 20.6.2.5300 through 20.6.2.5399 NMAC. To the extent any requirement in 20.6.2.5300 through 20.6.2.5399 NMAC conflicts with a requirement of 20.6.2.5000 through 20.6.2.5299 NMAC, Class I hazardous waste injection wells must comply with 20.6.2.5300 through 20.6.2.5399 NMAC.
- **B.** Class I hazardous waste injection wells are only authorized for use by petroleum refineries for the waste generated by the refinery ("generator").
- C. The New Mexico energy, minerals and natural resources department, oil conservation division will administer and oversee all permitting of Class I hazardous waste wells pursuant to 20.6.2.5300 through 20.6.2.5399 NMAC.

[20.6.2.5300 NMAC - N, 8-31-15]

20.6.2.5301 DEFINITIONS: As used in 20.6.2.5300 through 20.6.2.5399 NMAC:

- **A.** "**cone of influence**" means that area around the well within which increased injection zone pressures caused by injection into the hazardous waste injection well would be sufficient to drive fluids into groundwater of the state of New Mexico;
- **B.** "director" means the director of the New Mexico energy, minerals and natural resources department, oil conservation division or his/her designee;
- **C.** "**existing well**" means a Class I hazardous waste injection well which has become a Class I hazardous waste injection well as a result of a change in the definition of the injected waste which would render the waste hazardous under 20.4.1.200 NMAC (incorporating 40 C.F.R. Section 261.3);
- **D.** "ground water of the state of New Mexico" means, consistent with 20.6.2.5001 NMAC, an aquifer that contains ground water having a TDS concentration of 10,000 mg/l or less;
- **E.** "injection interval" means that part of the injection zone in which the well is screened, or in which the waste is otherwise directly emplaced;
 - **F.** "new well" means any Class I hazardous waste injection well which is not an existing well;
- **G.** "**transmissive fault or fracture**" is a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations. [20.6.2.5301 NMAC N, 8-31-15]

20.6.2.5302 FEES FOR CLASS I HAZARDOUS WASTE INJECTION WELLS: For the purposes of Class I hazardous waste wells, this section shall apply to the exclusion of 20.6.2.3114 NMAC.

- **A.** *Filing Fee.* Every facility submitting a discharge permit application for approval of a Class I hazardous waste injection well shall pay a filing fee of \$100 to the water quality management fund at the time the permit application is submitted. The filing fee is nonrefundable.
 - **B.** Permit fee.
- (1) Every facility submitting a discharge permit application for approval of a Class I hazardous waste injection well shall pay a permit fee of \$30,000 to the water quality management fund. The permit fee may be paid in a single payment at the time of permit approval or in equal installments over the term of the permit. Installment payments shall be remitted yearly, with the first installment due on the date of permit approval. Subsequent installments shall be remitted yearly thereafter. The permit or permit application review of any facility shall be suspended or terminated if the facility fails to submit an installment payment by its due date.
- (2) Facilities applying for permits which are subsequently withdrawn or denied shall pay one-half of the permit fee at the time of denial or withdrawal.
- **C.** Annual administration fee. Every facility that receives a Class I hazardous waste injection well permit shall pay an annual administrative fee of \$20,000 to the water quality management fund. The initial administrative fee shall be remitted one year after commencement of disposal operations pursuant to the permit. Subsequent administrative fees shall be remitted annually thereafter.

D. Renewal fee.

- (1) Every facility submitting a discharge permit application for renewal of a Class I hazardous waste injection well shall pay a renewal fee of \$10,000 to the water quality management fund. The renewal fee may be paid in a single payment at the time of permit renewal or in equal installments over the term of the permit. Installment payments shall be remitted yearly, with the first installment due on the date of permit renewal. Subsequent installments shall be remitted yearly thereafter. The permit or permit renewal review of any facility shall be suspended or terminated if the facility fails to submit an installment payment by its due date.
- (2) The director may waive or reduce fees for discharge permit renewals which require little or no cost for investigation or issuance.

E. *Modification fees.*

- (1) Every facility submitting an application for a discharge permit modification of a Class I hazardous waste injection well will be assessed a filing fee plus a modification fee of \$10,000 to the water quality management fund.
- (2) Every facility submitting an application for other changes to a Class I hazardous waste injection well discharge permit will be assessed a filing fee plus a minor modification fee of \$1,000 to the water quality management fund.
 - (3) Applications for both renewal and modification shall pay a filing fee plus renewal fee.
- (4) If the director requires a discharge permit change as a component of an enforcement action, the facility shall pay the applicable modification fee. If the director requires a discharge permit change outside the context of an enforcement action, the facility shall not be assessed a fee.
- (5) The director may waive or reduce fees for discharge permit changes which require little or no cost for investigation or issuance.

F. Financial assurance fees.

- (1) Facilities with approved Class I hazardous waste injection well permits shall pay the financial assurance fees specified in Table 2 of 20.6.2.3114 NMAC.
- (2) Facilities relying on the corporate guarantee for financial assurance shall pay an additional fee of \$5,000 to the water quality management fund.

 [20.6.2.5302 NMAC N, 8-31-15]
- **20.6.2.5303 CONVERSION OF EXISTING INJECTION WELLS:** An existing Class I non-hazardous waste injection well may be converted to a Class I hazardous waste injection well provided the well meets the modeling, design, compatibility, and other requirements set forth in 20.6.2.5300 through 20.6.2.5399 NMAC and the permittee receives a Class I hazardous waste permit pursuant to those sections.

 [20.6.2.5303 NMAC N, 8-31-15]

20.6.2.5304 - 20.6.2.5309: [RESERVED]

20.6.2.5310 REQUIREMENTS FOR WELLS INJECTING HAZARDOUS WASTE REQUIRED TO BE ACCOMPANIED BY A MANIFEST:

- **A.** Applicability. The regulations in this section apply to all generators of hazardous waste, and to the owners or operators of all hazardous waste management facilities, using any class of well to inject hazardous wastes accompanied by a manifest. (See also Subparagraph (b) of Paragraph (3) of Subsection A of 20.6.2.5004 NMAC.)
- **B.** *Authorization.* The owner or operator of any well that is used to inject hazardous waste required to be accompanied by a manifest or delivery document shall apply for authorization to inject as specified in 20.6.2.5102 NMAC within six months after the approval or promulgation of the state UIC program.
- **C.** Requirements. In addition to complying with the applicable requirements of this part, the owner or operator of each facility meeting the requirements of Subsection B of this section, shall comply with the following.
- (1) *Notification.* The owner or operator shall comply with the notification requirements of 42 U.S.C. Section 6930.
- (2) *Identification number*. The owner or operator shall comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR Section 264.11).
- (3) *Manifest system.* The owner or operator shall comply with the applicable recordkeeping and reporting requirements for manifested wastes in 20.4.1.500 NMAC (incorporating 40 CFR Section 264.71).
- (4) *Manifest discrepancies*. The owner or operator shall comply with 20.4.1.500 NMAC (incorporating 40 CFR Section 264.72).

- (5) Operating record. The owner or operator shall comply with 20.4.1.500 NMAC (incorporating 40 CFR Sections 264.73(a), (b)(1), and (b)(2)).
- (6) *Annual report.* The owner or operator shall comply with 20.4.1.500 NMAC (incorporating 40 CFR Section 264.75).
- (7) *Unmanifested waste report*. The owner or operator shall comply with 20.4.1.500 NMAC (incorporating 40 CFR Section 264.75).
- (8) *Personnel training*. The owner or operator shall comply with the applicable personnel training requirements of 20.4.1.500 NMAC (incorporating 40 CFR Section 264.16).
- (9) Certification of closure. When abandonment is completed, the owner or operator must submit to the director certification by the owner or operator and certification by an independent registered professional engineer that the facility has been closed in accordance with the specifications in 20.6.2.5209 NMAC. [20.6.2.5310 NMAC N, 8-31-15]

20.6.2.5311 - 20.6.2.5319: [RESERVED]

20.6.2.5320 ADOPTION OF 40 CFR PART 144, SUBPART F (FINANCIAL RESPONSIBILITY: CLASS I HAZARDOUS WASTE INJECTION WELLS): Except as otherwise provided, the regulations of the United States environmental protection agency set forth in 40 CFR Part 144, Subpart F are hereby incorporated by reference.

[20.6.2.5320 NMAC - N, 8-31-15]

- **20.6.2.5321 MODIFICATIONS, EXCEPTIONS, AND OMISSIONS:** Except as otherwise provided, the following modifications, exceptions, and omissions are made to the incorporated federal regulations.
- A. The following term defined in 40 CFR Section 144.61 has the meaning set forth herein, in lieu of the meaning set forth in 40 CFR Section 144.61: "plugging and abandonment plan" means the plan for plugging and abandonment prepared in accordance with the requirements of 20.6.2.5341 NMAC.
- **B.** The following terms not defined in 40 CFR Part 144, Subsection F have the meanings set forth herein when the terms are used in this part:
- (1) "administrator," "regional administrator" and other similar variations means the director of the New Mexico energy, minerals and natural resources department, oil conservation division or his/her designee;
- (2) "United States environmental protection agency" or "EPA" means New Mexico energy, minerals and natural resources department, oil conservation division or OCD, except when used in 40 CFR Section 144.70(f).
 - C. The following provisions of 40 CFR Part 144, Subpart F are modified in 20.6.2.5321 NMAC:
- (1) cross references to 40 CFR Part 144 shall be replaced by cross references to 20.6.2.5300 through 20.6.2.5399 NMAC;
- (2) the cross reference to Sections 144.28 and 144.51 in Section 144.62(a) shall be replaced by a cross reference to 20.6.2.5341 NMAC;
- (3) the cross references to 40 CFR Parts 264, Subpart H and 265, Subpart H shall be modified to include cross references to 40 CFR Parts 264, Subpart H and 265, Subpart H and 20.4.1.500 and 20.4.1.600 NMAC;
- (4) references to EPA identification numbers in financial assurance documents shall be replaced by references to API well numbers (US well numbers);
- (5) the first sentence of 40 CFR Section 144.63(f)(1) shall be replaced with the following sentence: "An owner or operator may satisfy the requirements of this section by obtaining a guarantee from a corporate parent that meets the requirements of 40 CFR Section 144.63(f)(10), including the guarantor meeting the requirements for the owner or operator under the financial test specified in this paragraph.";
- trust agreements prepared in accordance with 40 CFR Section 144.70(a) must state that they will be administered, construed, and enforced according to the laws of New Mexico;
- (7) surety companies issuing bonds prepared in accordance with 40 CFR Section 144, Subpart F must be registered with the New Mexico office of superintendent of insurance;
 - **D.** The following provisions of 40 CFR Part 144, Subpart F are omitted from 20.6.2.5320 NMAC:
 - (1) Section 144.65;
 - (2) Section 144.66;
 - (3) the third sentence in 40 CFR Section 144.63(h).

[20.6.2.5321 NMAC - N, 8-31-15]

20.6.2.5322 - 20.6.2.5340 [RESERVED]

- **20.6.2.5341 CONDITIONS APPLICABLE TO ALL PERMITS:** The following conditions apply to all Class I hazardous permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit.
- **A.** Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the New Mexico Water Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; except that the permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in a variance issued under 20.6.2.1210 NMAC.
- **B.** *Duty to reapply.* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a permit renewal pursuant to Subsection F of 20.6.2.3106 NMAC.
- **C.** *Need to halt or reduce activity not a defense.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- **D.** *Duty to mitigate.* The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.
- **E.** Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.
- **F.** *Permit actions.* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- **G.** *Property rights.* This permit does not convey any property rights of any sort, or any exclusive privilege.
- **H.** *Duty to provide information.* The permittee shall furnish to the director, within a time specified, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the director, upon request, copies of records required to be kept by this permit.
- I. Duty to provide notice. Public notice, when required, shall be provided as set forth in 20.6.2.3108 NMAC except that the following notice shall be provided in lieu of the notice required by Paragraph (2) of Subsection B of 20.6.2.3108 NMAC: a written notice must be sent by certified mail, return receipt requested, to all surface and mineral owners of record within a ½ mile radius of the proposed well or wells.
- **J.** *Inspection and entry.* The permittee shall allow the director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
- (1) enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the 20.6.2.5300 through 20.6.2.5399 NMAC, any substances or parameters at any location.
 - **K.** *Monitoring and records.*
- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (2) The permittee shall retain records of all monitoring information, including the following:

- (a) calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application; this period may be extended by request of the director at any time; and
- (b) the nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under 20.6.2.5351 through 20.6.2.5363 NMAC; the director may require the owner or operator to deliver the records to the director at the conclusion of the retention period.
 - (3) Records of monitoring information shall include:
 - (a) the date, exact place, and time of sampling or measurements;
 - (b) the individual(s) who performed the sampling or measurements;
 - (c) the date(s) analyses were performed;
 - (d) the individual(s) who performed the analyses;
 - (e) the analytical techniques or methods used; and
 - (f) the results of such analyses.
- **L.** *Signatory requirement.* All applications, reports, or information submitted to the director shall be signed and certified. (See Subsection G of 20.6.2.5101 NMAC.)
 - **M.** Reporting requirements.
- (1) Planned changes. The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (3) *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (4) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.
- (5) Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment, including:
- (a) any monitoring or other information which indicates that any contaminant may cause an endangerment to ground water of the state of New Mexico; or
- (b) any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between ground water of the state of New Mexico; any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances; a written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances; the written submission shall contain a description of the noncompliance and its cause; the area affected by the noncompliance, including any ground water of the state of New Mexico; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; the date and time the permittee became aware of the noncompliance; and steps taken or planned to reduce, remediate, eliminate, and prevent reoccurrence of the noncompliance.
- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs (3), (4), and (5) of Subsection M of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph (5) of Subsection M of this section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the director, it shall promptly submit such facts or information.
- **N.** Requirements prior to commencing injection. A new injection well may not commence injection until construction is complete; and
 - (1) the permittee has submitted notice of completion of construction to the director; and
- (2) the director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or the permittee has not received notice from the director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in Paragraph (1) of Subsection N of this section, in which case prior inspection or review is waived and the permittee may commence injection; the director shall include in his notice a reasonable time period in which he shall inspect the well.

- **O.** The permittee shall notify the director at such times as the permit requires before conversion or abandonment of the well.
 - **P.** The permittee shall meet the requirements of 20.6.2.5209 NMAC.
- Q. Plugging and abandonment report. Within 60 days after plugging a well or at the time of the next quarterly report (whichever is less) the owner or operator shall submit a report to the director. If the quarterly report is due less than 15 days before completion of plugging, then the report shall be submitted within 60 days. The report shall be certified as accurate by the person who performed the plugging operation. Such report shall consist of either:
- a statement that the well was plugged in accordance with the plan previously submitted to the director; or
- (2) where actual plugging differed from the plan previously submitted, and updated version of the plan on the form supplied by the director, specifying the differences.
 - **R.** *Duty to establish and maintain mechanical integrity.*
 - (1) The permittee shall meet the requirements of 20.6.2.5204 NMAC.
- (2) When the director determines that a Class I hazardous well lacks mechanical integrity pursuant to 20.6.2.5204 NMAC, the director shall give written notice of the director's determination to the owner or operator. Unless the director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the director's determination. The director may allow plugging of the well pursuant to the requirements of 20.6.2.5209 NMAC or require the permittee to perform such additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between ground water of the state of New Mexico caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the director that the owner or operator has demonstrated mechanical integrity pursuant to 20.6.2.5204 and 20.6.2.5358 NMAC.
- (3) The director may allow the owner or operator of a well which lacks mechanical integrity pursuant to Subsection A of 20.6.2.5204 NMAC to continue or resume injection, if the owner or operator has made a satisfactory demonstration that there is no movement of fluid into or between groundwater of the state of New Mexico.
- S. Transfer of a permit. The operator shall not transfer a permit without the director's prior written approval. A request for transfer of a permit shall identify officers, directors and owners of 25% or greater in the transferee. Unless the director otherwise orders, public notice or hearing are not required for the transfer request's approval. If the director denies the transfer request, it shall notify the operator and the proposed transferee of the denial by certified mail, return receipt requested, and either the operator or the proposed transferee may request a hearing with 10 days after receipt of the notice. Until the director approves the transfer and the required financial assurance is in place, the director shall not release the transferor's financial assurance.

 [20.6.2.5341 NMAC N, 8-31-15]

20.6.2.5342 ESTABLISHING PERMIT CONDITIONS:

- **A.** In addition to conditions required in 20.6.2.5341 NMAC, the director shall establish conditions, as required on a case-by-case basis under Subsection I of 20.6.2.3109 NMAC, Subsection A of 20.6.2.5343 NMAC, and 20.6.2.5344 NMAC. Permits for owners or operators of hazardous waste injection wells shall also include conditions meeting the requirements of 20.6.2.5310 NMAC, Paragraphs (1) and (2) of Subsection A of this section, and 20.6.2.5351 through 20.6.2.5363 NMAC.
 - (1) Financial responsibility.
- (a) The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the director until:
- (i) the well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to Subsection P of 20.6.2.5341 NMAC, and 20.6.2.5209 NMAC, and submitted a plugging and abandonment report pursuant to Subsection Q of 20.6.2.5341 NMAC; or
- (ii) the well has been converted in compliance with the requirements of Subsection O of 20.6.2.5341 NMAC; or
- (iii) the transferor of a permit has received notice from the director that the transfer has been approved and that the transferee's required financial assurance is in place.
- **(b)** The owner or operator of a well injecting hazardous waste must comply with the financial responsibility requirements of 20.6.2.5320 NMAC.

- (2) Additional conditions. The director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into ground water of the state of New Mexico.
 - **B.** Applicable requirements.
- (1) In addition to conditions required in all permits the director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of this part.
- (2) An applicable requirement is a state statutory or regulatory requirement which takes effect prior to final administrative disposition of the permit. An applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit.
- (3) New or renewed permits, and to the extent allowed under 20.6.2.3109 NMAC modified or terminated permits, shall incorporate each of the applicable requirements referenced in 20.6.2.5342 NMAC.
- **C.** *Incorporation.* All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

[20.6.2.5342 NMAC - N, 8-31-15]

20.6.2.5343 SCHEDULE OF COMPLIANCE:

- **A.** *General.* The permit may, when appropriate, specify a schedule of compliance leading to compliance with this part.
- (1) *Time for compliance*. Any schedules of compliance shall require compliance as soon as possible, and in no case later than three years after the effective date of the permit.
- (2) Interim dates. Except as provided in Subparagraph (b) of Paragraph (1) of Subsection B of this section, if a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.
 - (a) The time between interim dates shall not exceed one year.
- (b) If the time necessary for completion of any interim requirement is more than one year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.
- (3) Reporting. The permit shall be written to require that if Paragraph (1) of Subsection A of this section is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.
- **B.** Alternative schedules of compliance. A permit applicant or permittee may cease conducting regulated activities (by plugging and abandonment) rather than continue to operate and meet permit requirements as follows.
- (1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:
- (a) the permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or
- (b) the permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.
- (2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.
- (3) If the permittee is undecided whether to cease conducting regulated activities, the director may issue or modify a permit to contain two schedules as follows:
- (a) both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;
 - (b) one schedule shall lead to timely compliance with applicable requirements;
- (c) the second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;
- (d) each permit containing two schedules shall include a requirement that after the permittee has made a final decision under Subparagraph (a) of Paragraph (3) of Subsection B of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the director, such as a resolution of the board of directors of a corporation.

[20.6.2.5343 NMAC - N, 8-31-15]

20.6.2.5344 REQUIREMENTS FOR RECORDING AND REPORTING OF MONITORING RESULTS: All permits shall specify:

- **A.** requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);
- **B.** required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including when appropriate, continuous monitoring;
- **C.** applicable reporting requirements based upon the impact of the regulated activity and as specified in 20.6.2.5359 NMAC; reporting shall be no less frequent than specified in the above regulations. [20.6.2.5344 NMAC N, 8-31-15]

20.6.2.5345 - 20.6.2.5350: [RESERVED]

20.6.2.5351 APPLICABILITY: 20.6.2.5351 through 20.6.2.5363 NMAC establish criteria and standards for underground injection control programs to regulate Class I hazardous waste injection wells. Unless otherwise noted, these sections supplement the requirements of 20.6.2.5000 through 20.6.2.5299 NMAC and apply instead of any inconsistent requirements for Class I non-hazardous waste injection wells.

[20.6.2.5351 NMAC - N, 8-31-15]

20.6.2.5352 MINIMUM CRITERIA FOR SITING:

- A. All Class I hazardous waste injection wells shall be sited such that they inject into a formation that is beneath the lowermost formation containing within one quarter mile of the well bore groundwater of the state of New Mexico.
- **B.** The siting of Class I hazardous waste injection wells shall be limited to areas that are geologically suitable. The director shall determine geologic suitability based upon:
- (1) an analysis of the structural and stratigraphic geology, the hydrogeology, and the seismicity of the region;
- an analysis of the local geology and hydrogeology of the well site, including, at a minimum, detailed information regarding stratigraphy, structure and rock properties, aquifer hydrodynamics and mineral resources; and
- (3) a determination that the geology of the area can be described confidently and that limits of waste fate and transport can be accurately predicted through the use of models.
 - **C.** Class I hazardous waste injection wells shall be sited such that:
- (1) the injection zone has sufficient permeability, porosity, thickness and areal extent to prevent migration of fluids into ground water of the state of New Mexico; and
 - (2) the confining zone:
- (a) is laterally continuous and free of transecting, transmissive faults or fractures over an area sufficient to prevent the movement of fluids into ground water of the state of New Mexico; and
- **(b)** contains at least one formation of sufficient thickness and with lithologic and stress characteristics capable of preventing vertical propagation of fractures.
 - **D.** The owner or operator shall demonstrate to the satisfaction of the director that:
- (1) the confining zone is separated from the base of the lowermost ground water of the state of New Mexico by at least one sequence of permeable and less permeable strata that will provide an added layer of protection for ground water of the state of New Mexico in the event of fluid movement in an unlocated borehole or transmissive fault; or
- (2) within the area of review, the piezometric surface of the fluid in the injection zone is less than the piezometric surface of the lowermost groundwater of the state of New Mexico, considering density effects, injection pressures and any significant pumping in the overlying ground water of the state of New Mexico; or
 - (3) there is no ground water of the state of New Mexico present.
- (4) The director may approve a site which does not meet the requirements in Paragraphs (1), (2), or (3) of Subsections D of this section if the owner or operator can demonstrate to the director that because of

the geology, nature of the waste, or other considerations, abandoned boreholes or other conduits would not cause endangerment of ground water of the state of New Mexico.

[20.6.2.5352 NMAC - N, 8-31-15]

20.6.2.5353 AREA OF REVIEW: For the purposes of Class I hazardous waste wells, this section shall apply to the exclusion of 20.6.2.5202 NMAC. The area of review for Class I hazardous waste injection wells shall be a two-mile radius around the well bore. The director may specify a larger area of review based on the calculated cone of influence of the well.

[20.6.2.5353 NMAC - N, 8-31-15]

- **20.6.2.5354 CORRECTIVE ACTION FOR WELLS IN THE AREA OF REVIEW:** For the purposes of Class I hazardous waste wells, this section shall apply to the exclusion of 20.6.2.5203 NMAC.
- **A.** The owner or operator of a Class I hazardous waste well shall as part of the permit application submit a plan to the director outlining the protocol used to:
- (1) identify all wells penetrating the confining zone or injection zone within the area of review; and
 - (2) determine whether wells are adequately completed or plugged.
- **B.** The owner or operator of a Class I hazardous waste well shall identify the location of all wells within the area of review that penetrate the injection zone or the confining zone and shall submit as required in Subsection A of 20.6.2.5360 NMAC:
- (1) a tabulation of all wells within the area of review that penetrate the injection zone or the confining zone; and
 - a description of each well or type of well and any records of its plugging or completion.
- C. For wells that the director determines are improperly plugged, completed, or abandoned, or for which plugging or completion information is unavailable, the applicant shall also submit a plan consisting of such steps or modification as are necessary to prevent movement of fluids into or between groundwater of the state of New Mexico. Where the plan is adequate, the director shall incorporate it into the permit as a condition. Where the director's review of an application indicates that the permittee's plan is inadequate (based at a minimum on the factors in Subsection E of this section), the director shall:
 - (1) require the applicant to revise the plan;
 - (2) prescribe a plan for corrective action as a condition of the permit; or
 - (3) deny the application.
 - **D.** Requirements.
- (1) Existing injection wells. Any permit issued for an existing Class I hazardous waste injection well requiring corrective action other than pressure limitations shall include a compliance schedule requiring any corrective action accepted or prescribed under Subsection C of this section. Any such compliance schedule shall provide for compliance no later than two years following issuance of the permit and shall require observance of appropriate pressure limitations under Paragraph (3) of Subsection D until all other corrective action measures have been implemented.
- (2) New injection wells. No owner or operator of a new Class I hazardous waste injection well may begin injection until all corrective actions required under this section have been taken.
- (3) The director may require pressure limitations in lieu of plugging. If pressure limitations are used in lieu of plugging, the director shall require as a permit condition that injection pressure be so limited that pressure in the injection zone at the site of any improperly completed or abandoned well within the area of review would not be sufficient to drive fluids into or between groundwater of the state of New Mexico. This pressure limitation shall satisfy the corrective action requirement. Alternatively, such injection pressure limitation may be made part of a compliance schedule and may be required to be maintained until all other required corrective actions have been implemented.
- **E.** In determining the adequacy of corrective action proposed by the applicant under Subsection C of this section and in determining the additional steps needed to prevent fluid movement into and between groundwater of the state of New Mexico, the following criteria and factors shall be considered by the director:
 - (1) nature and volume of injected fluid;
 - (2) nature of native fluids or byproducts of injection;
 - (3) geology;
 - (4) hydrology;
 - (5) history of the injection operation;

- (6) completion and plugging records;
- (7) closure procedures in effect at the time the well was closed;
- (8) hydraulic connections with groundwater of the state of New Mexico;
- (9) reliability of the procedures used to identify abandoned wells; and
- (10) any other factors which might affect the movement of fluids into or between ground water of the state of New Mexico.

[20.6.2.5354 NMAC - N, 8-31-15]

and

20.6.2.5355 CONSTRUCTION REQUIREMENTS:

- **A.** *General.* All existing and new Class I hazardous waste injection wells shall be constructed and completed to:
- (1) prevent the movement of fluids into or between ground water of the state of New Mexico or into any unauthorized zones;
 - (2) permit the use of appropriate testing devices and workover tools; and
- (3) permit continuous monitoring of injection tubing and long string casing as required pursuant to Subsection F of 20.6.2.5357 NMAC.
- **B.** Compatibility. All well materials must be compatible with fluids with which the materials may be expected to come into contact. A well shall be deemed to have compatibility as long as the materials used in the construction of the well meet or exceed standards developed for such materials by the American petroleum institute, ASTM, or comparable standards acceptable to the director.
 - **C.** Casing and cementing of new wells.
- (1) Casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well, including the post-closure care period. The casing and cementing program shall be designed to prevent the movement of fluids into or between ground water of the state of New Mexico, and to prevent potential leaks of fluids from the well. In determining and specifying casing and cementing requirements, the director shall consider the following information as required by 20.6.2.5360 NMAC:
 - (a) depth to the injection zone;
 - (b) injection pressure, external pressure, internal pressure and axial loading;
 - (c) hole size;
- (d) size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification and construction material);
 - (e) corrosiveness of injected fluid, formation fluids and temperature;
 - **(f)** lithology of injection and confining zones;
 - (g) type or grade of cement; and
 - (h) quantity and chemical composition of the injected fluid.
- (2) One surface casing string shall, at a minimum, extend into the confining bed below the lowest formation that contains ground water of the state of New Mexico and be cemented by circulating cement from the base of the casing to the surface, using a minimum of 120% of the calculated annual volume. The director may require more than 120% when the geology or other circumstances warrant it.
- (3) At least one long string casing, using a sufficient number of centralizers, shall extend to the injection zone and shall be cemented by circulating cement to the surface in one or more stages:
 - (a) of sufficient quantity and quality to withstand the maximum operating pressure;
- **(b)** in a quantity no less than 120% of the calculated volume necessary to fill the annular space; the director may require more than 120% when the geology or other circumstances warrant it.
- (4) Circulation of cement may be accomplished by staging. The director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement is continuous and does not allow fluid movement behind the well bore.
- (5) Casings, including any casing connections, must be rated to have sufficient structural strength to withstand, for the design life of the well:
- (a) the maximum burst and collapse pressures which may be experienced during the construction, operation and closure of the well; and
- (b) the maximum tensile stress which may be experienced at any point along the length of the casing during the construction, operation, and closure of the well.

- (6) At a minimum, cement and cement additives must be of sufficient quality and quantity to maintain integrity over the design life of the well.
 - **D.** *Tubing and packer.*
- (1) All Class I hazardous waste injection wells shall inject fluids through tubing with a packer set at a point specified by the director.
- (2) In determining and specifying requirements for tubing and packer, the following factors shall be considered:
 - (a) depth of setting;
 - (b) characteristics of injection fluid (chemical content, corrosiveness, temperature

and density);

- (c) injection pressure;
- (d) annular pressure;
- (e) rate (intermittent or continuous), temperature and volume of injected fluid;
- (f) size of casing; and
- (g) tubing tensile, burst, and collapse strengths.
- (3) The director may approve the use of a fluid seal if he determines that the following conditions are met:
 - (a) the operator demonstrates that the seal will provide a level of protection

comparable to a packer;

- (b) the operator demonstrates that the staff is, and will remain, adequately trained to operate and maintain the well and to identify and interpret variations in parameters of concern;
 - (c) the permit contains specific limitations on variations in annular pressure and loss

of annular fluid;

- (d) the design and construction of the well allows continuous monitoring of the annular pressure and mass balance of annular fluid; and
- (e) a secondary system is used to monitor the interface between the annulus fluid and the injection fluid and the permit contains requirements for testing the system every three months and recording the results.

[20.6.2.5355 NMAC - N, 8-31-15]

20.6.2.5356 LOGGING, SAMPLING, AND TESTING PRIOR TO NEW WELL OPERATION:

- **A.** During the drilling and construction of a new Class I hazardous waste injection well, appropriate logs and tests shall be run to determine or verify the depth, thickness, porosity, permeability, and rock type of, and the salinity of any entrained fluids in, all relevant geologic units to assure conformance with performance standards in 20.6.2.5355 NMAC, and to establish accurate baseline data against which future measurements may be compared. A descriptive report interpreting results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the director. At a minimum, such logs and tests shall include:
- deviation checks during drilling on all holes constructed by drilling pilot holes which are enlarged by reaming or another method; such checks shall be at sufficiently frequent intervals to determine the location of the borehole and to assure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and
- (2) such other logs and tests as may be needed after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional information that may arise from time to time as the construction of the well progresses; at a minimum, the following logs shall be required in the following situations:
 - (a) upon installation of the surface casing:
 - (i) resistivity, spontaneous potential, and caliper logs before the casing is

installed; and

(ii) a cement bond and variable density log, and a temperature log after the

casing is set and cemented;

- **(b)** upon installation of the long string casing:
- (i) resistivity, spontaneous potential, porosity, caliper, gamma ray, and fracture finder logs before the casing is installed; and
- (ii) a cement bond and variable density log, and a temperature log after the casing is set and cemented;

- (c) the director may allow the use of an alternative to the above logs when an alternative will provide equivalent or better information; and
 - a mechanical integrity test consisting of:
 - (a) a pressure test with liquid or gas;
 - **(b)** a radioactive tracer survey;
 - (c) a temperature or noise log;
 - (d) a casing inspection log, if required by the director; and
 - (e) any other test required by the director.
- **B.** Whole cores or sidewall cores of the confining and injection zones and formation fluid samples from the injection zone shall be taken. The director may accept cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The director may require the owner or operator to core other formations in the borehole.
- C. The fluid temperature, pH, conductivity, pressure and the static fluid level of the injection zone must be recorded.
- **D.** At a minimum, the following information concerning the injection and confining zones shall be determined or calculated for Class I hazardous waste injection wells:
 - (1) fracture pressure;
 - (2) other physical and chemical characteristics of the injection and confining zones; and
 - physical and chemical characteristics of the formation fluids in the injection zone.
- **E.** Upon completion, but prior to operation, the owner or operator shall conduct the following tests to verify hydrogeologic characteristics of the injection zone:
 - (1) a pump test; or
 - (2) injectivity tests.
- **F.** The director shall have the opportunity to witness all logging and testing required by 20.6.2.5351 through 20.6.2.5363 NMAC. The owner or operator shall submit a schedule of such activities to the director 30 days prior to conducting the first test.

[20.6.2.5356 NMAC - N, 8-31-15]

20.6.2.5357 OPERATING REQUIREMENTS:

- **A.** Except during stimulation, the owner or operator shall assure that injection pressure at the wellhead does not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone. The owner or operator shall assure that the injection pressure does not initiate fractures or propagate existing fractures in the confining zone, nor cause the movement of injection or formation fluids into ground water of the state of New Mexico.
- **B.** Injection between the outermost casing protecting ground water of the state of New Mexico and the well bore is prohibited.
- C. The owner or operator shall maintain an annulus pressure that exceeds the operating injection pressure, unless the director determines that such a requirement might harm the integrity of the well. The fluid in the annulus shall be noncorrosive, or shall contain a corrosion inhibitor.
 - **D.** The owner or operator shall maintain mechanical integrity of the injection well at all times.
- **E.** Permit requirements for owners or operators of hazardous waste wells which inject wastes which have the potential to react with the injection formation to generate gases shall include:
 - (1) conditions limiting the temperature, pH or acidity of the injected waste; and
- (2) procedures necessary to assure that pressure imbalances which might cause a backflow or blowout do not occur.
- **F.** The owner or operator shall install and use continuous recording devices to monitor: the injection pressure; the flow rate, volume, and temperature of injected fluids; and the pressure on the annulus between the tubing and the long string casing, and shall install and use:
- (1) automatic alarm and automatic shut-off systems, designed to sound and shut-in the well when pressures and flow rates or other parameters approved by the director exceed a range or gradient specified in the permit; or
- automatic alarms, designed to sound when the pressures and flow rates or other parameters approved by the director exceed a rate or gradient specified in the permit, in cases where the owner or operator certifies that a trained operator will be on-site at all times when the well is operating.

- **G.** If an automatic alarm or shutdown is triggered, the owner or operator shall immediately investigate and identify as expeditiously as possible the cause of the alarm or shutoff. If, upon such investigation, the well appears to be lacking mechanical integrity, or if monitoring required under Subsection F of this section otherwise indicates that the well may be lacking mechanical integrity, the owner or operator shall:
- (1) cease injection of waste fluids unless authorized by the director to continue or resume injection;
 - (2) take all necessary steps to determine the presence or absence of a leak; and
 - (3) notify the director within 24 hours after the alarm or shutdown.
- **H.** If a loss of mechanical integrity is discovered pursuant to Subsection G of this section or during periodic mechanical integrity testing, the owner or operator shall:
 - (1) immediately cease injection of waste fluids;
- (2) take all steps reasonably necessary to determine whether there may have been a release of hazardous wastes or hazardous waste constituents into any unauthorized zone;
 - (3) notify the director within 24 hours after loss of mechanical integrity is discovered;
 - (4) notify the director when injection can be expected to resume; and
- (5) restore and demonstrate mechanical integrity to the satisfaction of the director prior to resuming injection of waste fluids.
- **I.** Whenever the owner or operator obtains evidence that there may have been a release of injected wastes into an unauthorized zone:
 - (1) the owner or operator shall immediately case injection of waste fluids, and:
 - (a) notify the director within 24 hours of obtaining such evidence;
 - (b) take all necessary steps to identify and characterize the extent of any release;
 - (c) comply with any remediation plan specified by the director;
 - (d) implement any remediation plan approved by the director; and
- (e) where such release is into ground water of the state of New Mexico currently serving as a water supply, place a notice in a newspaper of general circulation.
- (2) The director may allow the operator to resume injection prior to completing cleanup action if the owner or operator demonstrates that the injection operation will not endanger groundwater of the state of New Mexico.
- **J.** The owner or operator shall notify the director and obtain his approval prior to conducting any well workover.

[20.6.2.5357 NMAC - N, 8-31-15]

waste to be analyzed.

20.6.2.5358 TESTING AND MONITORING REQUIREMENTS: Testing and monitoring requirements shall at a minimum include.

- **A.** Monitoring of the injected wastes.
- (1) The owner or operator shall develop and follow an approved written waste analysis plan that describes the procedures to be carried out to obtain a detailed chemical and physical analysis of a representative sample of the waste, including the quality assurance procedures used. At a minimum, the plan shall specify:
- (a) the parameters for which the waste will be analyzed and the rationale for the selection of these parameters;
 - (b) the test methods that will be used to test for these parameters; and
 - (c) the sampling method that will be used to obtain a representative sample of the
- (2) The owner or operator shall repeat the analysis of the injected wastes as described in the waste analysis plan at frequencies specified in the waste analysis plan and when process or operating changes occur that may significantly alter the characteristics of the waste stream.
- (3) The owner or operator shall conduct continuous or periodic monitoring of selected parameters as required by the director.
- (4) The owner or operator shall assure that the plan remains accurate and the analyses remain representative.
- **B.** Hydrogeologic compatibility determination. The owner or operator shall submit information demonstrating to the satisfaction of the director that the waste stream and its anticipated reaction products will not alter the permeability, thickness or other relevant characteristics of the confining or injection zones such that they would no longer meet the requirements specified in 20.6.2.5352 NMAC.
 - **C.** Compatibility of well materials.

- (1) The owner or operator shall demonstrate that the waste stream will be compatible with the well materials with which the waste is expected to come into contact, and submit to the director a description of the methodology used to make that determination. Compatibility for purposes of this requirement is established if contact with injected fluids will not cause the well materials to fail to satisfy any design requirement imposed under Subsection B of 20.6.2.5355 NMAC.
- (2) The director shall require continuous corrosion monitoring of the construction materials used in the well for wells injecting corrosive waste, and may require such monitoring for other waste, by:
 - (a) placing coupons of the well construction materials in contact with the waste

stream; or

(b) routing the waste stream through a loop constructed with the material used in the

well; or

- (c) using an alternative method approved by the director.
- (3) If a corrosion monitoring program is required:
- (a) the test shall use materials identical to those used in the construction of the well, and such materials must be continuously exposed to the operating pressures and temperatures (measured at the well head) and flow rates of the injection operation; and
- (b) the owner or operator shall monitor the materials for loss of mass, thickness, cracking, pitting and other signs of corrosion on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in Subsection B of 20.6.2.5355 NMAC.
- **D.** Periodic mechanical integrity testing. In fulfilling the requirements of 20.6.2.5204 NMAC, the owner or operator of a Class I hazardous waste injection well shall conduct the mechanical integrity testing as follows:
- (1) the long string casing, injection tube, and annular seal shall be tested by means of an approved pressure test with a liquid or gas annually and whenever there has been a well workover;
- (2) the bottom-hole cement shall be tested by means of an approved radioactive tracer survey annually;
- (3) an approved temperature, noise, or other approved log shall be run at least once every five years to test for movement of fluid along the borehole; the director may require such tests whenever the well is worked over;
- casing inspection logs shall be run whenever the owner or operator conducts a workover in which the injection string is pulled, unless the director waives this requirement due to well construction or other factors which limit the test's reliability, or based upon the satisfactory results of a casing inspection log run within the previous five years; the director may require that a casing inspection log be run every five years, if he has reason to believe that the integrity of the long string casing of the well may be adversely affected by naturally-occurring or man-made events;
- (5) any other test approved by the director in accordance with the procedures in 40 CFR Section 146.8(d) may also be used.
 - **E.** Ambient monitoring.
- (1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone, and on the potential value of monitoring wells to detect such movement, the director shall require the owner or operator to develop a monitoring program. At a minimum, the director shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.
 - (2) When prescribing a monitoring system the director may also require:
- (a) continuous monitoring for pressure changes in the first aquifer overlying the confining zone; when such a well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by the director;
- **(b)** the use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by the director, or to provide other site specific data;
- (c) periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;
- (d) periodic monitoring of the ground water quality in the lowermost ground water of the state of New Mexico; and
- (e) any additional monitoring necessary to determine whether fluids are moving into or between ground water of the state of New Mexico.

F. The director may require seismicity monitoring when he has reason to believe that the injection activity may have the capacity to cause seismic disturbances. [20.6.2.5358 NMAC - N, 8-31-15]

- **20.6.2.5359 REPORTING REQUIREMENTS:** Reporting requirements shall, at a minimum, include:
 - **A.** quarterly reports to the director containing:
 - (1) the maximum injection pressure;
- (2) a description of any event that exceeds operating parameters for annulus pressure or injection pressure as specified in the permit;
- (3) a description of any event which triggers an alarm or shutdown device required pursuant to Subsection F of 20.6.2.5357 NMAC and the response taken;
 - (4) the total volume of fluid injected;
 - (5) any change in the annular fluid volume;
 - (6) the physical, chemical and other relevant characteristics of injected fluids; and
 - (7) the results of monitoring prescribed under 20.6.2.5358 NMAC;
 - **B.** reporting, within 30 days or with the next quarterly report whichever comes later, the results of:
 - (1) periodic tests of mechanical integrity;
 - any other test of the injection well conducted by the permittee if required by the director;

and

(3) any well workover.

[20.6.2.5359 NMAC - N, 8-31-15]

- **20.6.2.5360 INFORMATION TO BE EVALUATED BY THE DIRECTOR:** This section sets forth the information which must be evaluated by the director in authorizing Class I hazardous waste injection wells. For a new Class I hazardous waste injection well, the owner or operator shall submit all the information listed below as part of the permit application. For an existing or converted Class I hazardous waste injection well, the owner or operator shall submit all information listed below as part of the permit application except for those items of information which are current, accurate, and available in the existing permit file. For both existing and new Class I hazardous waste injection wells, certain maps, cross-sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current and readily available to the director (for example, in the permitting agency's files) and sufficiently identifiable to be retrieved.
- **A.** Prior to the issuance of a permit for an existing Class I hazardous waste injection well to operate or the construction or conversion of a new Class I hazardous waste injection well, the director shall review the following to assure that the requirements of 20.6.2.5000 through 20.6.2.5399 NMAC are met:
 - (1) information required in 20.6.2.5102 NMAC;
- a map showing the injection well for which a permit is sought and the applicable area of review; within the area of review, the map must show the number or name and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads; the map should also show faults, if known or suspected;
- (3) a tabulation of all wells within the area of review which penetrate the proposed injection zone or confining zone; such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging or completion and any additional information the director may require;
- (4) the protocol followed to identify, locate and ascertain the condition of abandoned wells within the area of review which penetrate the injection or the confining zones;
- (5) maps and cross-sections indicating the general vertical and lateral limits of all ground water of the state of New Mexico within the area of review, their position relative to the injection formation and the direction of water movement, where known, in each groundwater of the state of New Mexico which may be affected by the proposed injection;
 - (6) maps and cross-sections detailing the geologic structure of the local area;
 - (7) maps and cross-sections illustrating the regional geologic setting;
 - (8) proposed operating data:
 - (a) average and maximum daily rate and volume of the fluid to be injected; and
 - **(b)** average and maximum injection pressure;
- (9) proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of and other information on the injection formation and the confining zone;

- (10) proposed stimulation program;
- (11) proposed injection procedure;
- (12) schematic or other appropriate drawings of the surface and subsurface construction details of the well;
- (13) contingency plans to cope with all shut-ins or well failures so as to prevent migration of fluids into any ground water of the state of New Mexico;
 - (14) plans (including maps) for meeting monitoring requirements of 20.6.2.5358 NMAC;
- (15) for wells within the area of review which penetrate the injection zone or the confining zone but are not properly completed or plugged, the corrective action to be taken under 20.6.2.5354 NMAC;
- (16) construction procedures including a cementing and casing program, well materials specifications and their life expectancy, logging procedures, deviation checks, and a drilling, testing and coring program; and
- (17) a demonstration pursuant to 20.6.2.5320 NMAC, that the applicant has the resources necessary to close, plug or abandon the well and for post-closure care.
- **B.** Prior to the director's granting approval for the operation of a Class I hazardous waste injection well, the owner or operator shall submit and the director shall review the following information, which shall be included in the completion report:
 - (1) all available logging and testing program data on the well;
 - (2) a demonstration of mechanical integrity pursuant to 20.6.2.5358 NMAC;
 - (3) the anticipated maximum pressure and flow rate at which the permittee will operate;
- (4) the results of the injection zone and confining zone testing program as required in Paragraph (9) of Subsection A of 20.6.2.5360 NMAC;
 - (5) the actual injection procedure;
- (6) the compatibility of injected waste with fluids in the injection zone and minerals in both the injection zone and the confining zone and with the materials used to construct the well;
- (7) the calculated area of review based on data obtained during logging and testing of the well and the formation, and where necessary revisions to the information submitted under Paragraphs (2) and (3) of Subsection A of 20.6.2.5360 NMAC;
- (8) the status of corrective action on wells identified in Paragraph (15) of Subsection A of 20.6.2.5360 NMAC; and
- (9) evidence that the permittee has obtained an exemption under 40 C.F.R. Part 148, Subpart C for the hazardous wastes permitted for disposal through underground injection.
- C. Prior to granting approval for the plugging and abandonment (*i.e.*, closure) of a Class I hazardous waste injection well, the director shall review the information required in Paragraph (4) of Subsection A of 20.6.2.5361 NMAC and Subsection A of 20.6.2.5362 NMAC.
- **D.** Any permit issued for a Class I hazardous waste injection well for disposal on the premises where the waste is generated shall contain a certification by the owner or operator that:
- (1) the generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable; and
- (2) injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. [20.6.2.5360 NMAC N, 8-31-15]

20.6.2.5361 CLOSURE:

- A. Closure plan. The owner or operator of a Class I hazardous waste injection well shall prepare, maintain, and comply with a plan for closure of the well that meets the requirements of Subsection D of this section and is acceptable to the director. The obligation to implement the closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.
- (1) The owner or operator shall submit the plan as a part of the permit application and, upon approval by the director, such plan shall be a condition of any permit issued.
- (2) The owner or operator shall submit any proposed significant revision to the method of closure reflected in the plan for approval by the director no later than the date on which notice of closure is required to be submitted to the director under Subsection B of this section.
- (3) The plan shall assure financial responsibility as required in Paragraph (1) of Subsection A of 20.6.2.5342 NMAC.

- (4) The plan shall include the following information:
 - (a) the type and number of plugs to be used;
 - (b) the placement of each plug including the elevation of the top and bottom of each

plug;

- (c) the type and grade and quantity of material to be used in plugging;
- (d) the method of placement of the plugs;
- (e) any proposed test or measure to be made;
- (f) the amount, size, and location (by depth) of casing and any other materials to be

left in the well;

- (g) the method and location where casing is to be parted, if applicable;
- (h) the procedure to be used to meet the requirements of Paragraph (5) of

Subsection D of this section;

- (i) the estimated cost of closure; and
- (j) any proposed test or measure to be made.
- (5) The director may modify a closure plan following the procedures of 20.6.2.3109 NMAC.
- (6) An owner or operator of a Class I hazardous waste injection well who ceases injection temporarily, may keep the well open provided he:
 - (a) has received authorization from the director; and
- (b) has described actions or procedures, satisfactory to the director, that the owner or operator will take to ensure that the well will not endanger ground water of the state of New Mexico during the period of temporary disuse; these actions and procedures shall include compliance with the technical requirements applicable to active injection wells unless waived by the director.
- (7) The owner or operator of a well that has ceased operations for more than two years shall notify the director 30 days prior to resuming operation of the well.
- **B.** *Notice of intent to close.* The owner or operator shall notify the director at least 60 days before closure of a well. At the discretion of the director, a shorter notice period may be allowed.
- C. Closure report. Within 60 days after closure or at the time of the next quarterly report (whichever is less) the owner or operator shall submit a closure report to the director. If the quarterly report is due less than 15 days after completion of closure, then the report shall be submitted within 60 days after closure. The report shall be certified as accurate by the owner or operator and by the person who performed the closure operation (if other than the owner or operator). Such report shall consist of either:
- (1) a statement that the well was closed in accordance with the closure plan previously submitted and approved by the director; or
- (2) where actual closure differed from the plan previously submitted, a written statement specifying the differences between the previous plan and the actual closure.
 - **D.** *Standards for well closure.*
- (1) Prior to closing the well, the owner or operator shall observe and record the pressure decay for a time specified by the director. The director shall analyze the pressure decay and the transient pressure observations conducted pursuant to Paragraph (1) of Subsection E of 20.6.2.5358 NMAC and determine whether the injection activity has conformed with predicted values.
- (2) Prior to well closure, appropriate mechanical integrity testing shall be conducted to ensure the integrity of that portion of the long string casing and cement that will be left in the ground after closure. Testing methods may include:
 - (a) pressure tests with liquid or gas;
 - **(b)** radioactive tracer surveys;
 - (c) noise, temperature, pipe evaluation, or cement bond logs; and
 - (d) any other test required by the director.
 - (3) Prior to well closure, the well shall be flushed with a buffer fluid.
- (4) Upon closure, a Class I hazardous waste well shall be plugged with cement in a manner that will not allow the movement of fluids into or between groundwater of the state of New Mexico.
 - (5) Placement of the cement plugs shall be accomplished by one of the following:
 - (a) the balance method;
 - **(b)** the dump bailer method;
 - (c) the two-plug method; or
- (d) an alternate method, approved by the director, that will reliably provide a comparable level of protection.

- (6) Each plug used shall be appropriately tagged and tested for seal and stability before closure is completed.
- (7) The well to be closed shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method prescribed by the director, prior to the placement of the cement plug(s).

 [20.6.2.5361 NMAC N, 8-31-15]

20.6.2.5362 POST-CLOSURE CARE:

- A. The owner or operator of a Class I hazardous waste well shall prepare, maintain, and comply with a plan for post-closure care that meets the requirements of Subsection B of this section and is acceptable to the director. The obligation to implement the post-closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.
- (1) The owner or operator shall submit the plan as a part of the permit application and, upon approval by the director, such plan shall be a condition of any permit issued.
- (2) The owner or operator shall submit any proposed significant revision to the plan as appropriate over the life of the well, but no later than the date of the closure report required under Subsection C of 20.6.2.5361 NMAC.
 - (3) The plan shall assure financial responsibility as required in 20.6.2.5363 NMAC.
 - (4) The plan shall include the following information:
 - (a) the pressure in the injection zone before injection began;
 - (b) the anticipated pressure in the injection zone at the time of closure;
- (c) the predicted time until pressure in the injection zone decays to the point that the well's cone of influence no longer intersects the base of the lowermost ground water of the state of New Mexico;
 - (d) predicted position of the waste front at closure;
 - (e) the status of any cleanups required under 20.6.2.5354 NMAC; and
 - **(f)** the estimated cost of proposed post-closure care.
- (5) At the request of the owner or operator, or on his own initiative, the director may modify the post-closure plan after submission of the closure report following the procedures in 20.6.2.3109 NMAC.
 - **B.** The owner or operator shall:
- (1) continue and complete any cleanup action required under 20.6.2.5354 NMAC, if applicable;
- (2) continue to conduct any ground water monitoring required under the permit until pressure in the injection zone decays to the point that the well's cone of influence no longer intersects the base of the lowermost ground water of the state of New Mexico; the director may extend the period of post-closure monitoring if he determines that the well may endanger ground water of the state of New Mexico;
- (3) submit a survey plat to the local zoning authority designated by the director; the plat shall indicate the location of the well relative to permanently surveyed benchmarks; a copy of the plat shall be submitted to the director:
- (4) provide appropriate notification and information to such state and local authorities as have cognizance over drilling activities to enable such state and local authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the well's confining or injection zone;
- (5) retain, for a period of three years following well closure, records reflecting the nature, composition and volume of all injected fluids; the director shall require the owner or operator to deliver the records to the director at the conclusion of the retention period, and the records shall thereafter be retained at a location designated by the director for that purpose.
- **C.** Each owner of a Class I hazardous waste injection well, and the owner of the surface or subsurface property on or in which a Class I hazardous waste injection well is located, must record a notation on the deed to the facility property or on some other instrument which is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:
 - (1) the fact that land has been used to manage hazardous waste;
- (2) the name of the state agency or local authority with which the plat was filed, as well as the address of the director;
- (3) the type and volume of waste injected, the injection interval or intervals into which it was injected, and the period over which injection occurred.

 [20.6.2.5362 NMAC N, 8-31-15]

20.6.2.5363 FINANCIAL RESPONSIBILITY FOR POST-CLOSURE CARE: The owner or operator shall demonstrate and maintain financial responsibility for post-closure by using a trust fund, surety bond, letter of credit, financial test, insurance or corporate guarantee that meets the specifications for the mechanisms and instruments revised as appropriate to cover closure and post-closure care in 20.6.2.5320 NMAC. The amount of the funds available shall be no less than the amount identified in Subparagraph (f) of Paragraph (4) of Subsection A of 20.6.2.5362 NMAC. The obligation to maintain financial responsibility for post-closure care survives the termination of a permit or the cessation of injection. The requirement to maintain financial responsibility is enforceable regardless of whether the requirement is a condition of the permit. [20.6.2.5363 NMAC - N, 8-31-15]

20.6.2.5364 - 20.6.2.5399: [RESERVED]

HISTORY of 20.6.2 NMAC:

Pre-NMAC History:

Material in this Part was derived from that previously filed with the commission of public records - state records center and archives:

WQC 67-2, Regulations Governing Water Pollution Control in New Mexico, filed 12-5-67, effective 1-4-68

WQC 72-1, Water Quality Control Commission Regulations, filed 8-4-72, effective 9-3-72

WQC 77-1, Amended Water Quality Control Commission Regulations, filed 1-18-77, effective 2-18-77

WQC 81-2, Water Quality Control Commission Regulations, filed 6-2-81, effective 7-2-81

WQC 82-1, Water Quality Control Commission Regulations, filed 8-19-82, effective 9-20-82

History of Repealed Material: [Reserved]

Other History:

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-27-95, effective 12-1-95 20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-15-96, effective 11-15-96 20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 11-30-00, effective 1-15-01 20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 9-16-01, effective 12-1-01 20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 8-1-02, effective 9-15-02

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 11-21-18, effective 12-21-18

§ 141.61

- (b) The effective dates for §141.62 are as follows:
- (1) The effective date of paragraph (b)(1) of §141.62 is October 2, 1987.
- (2) The effective date for paragraphs (b)(2) and (b)(4) through (b)(10) of §141.62 is July 30, 1992.
- (3) The effective date for paragraphs (b)(11) through (b)(15) of §141.62 is January 17, 1994.

40 CFR Ch. I (7-1-14 Edition)

- (4) The effective date for §141.62(b)(16) is January 23, 2006.
- [56 FR 3593, Jan. 30, 1991, as amended at 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994; 66FR 7063, Jan. 22, 2001]

§ 141.61 Maximum contaminant levels for organic contaminants.

(a) The following maximum contaminant levels for organic contaminants apply to community and non-transient, non-community water systems.

CAS No.	Contaminant	MCL (mg/l)	
(1) 75–01–4	Vinyl chloride	0.002	
(2) 71-43-2	Benzene	0.005	
(3) 56-23-5	Carbon tetrachloride	0.005	
(4) 107-06-2	1,2-Dichloroethane	0.005	
(5) 79-01-6	Trichloroethylene	0.005	
(6) 106-46-7	para-Dichlorobenzene	0.075	
(7) 75–35–4	1,1-Dichloroethylene	0.007	
(8) 71–55–6	1,1,1-Trichloroethane	0.2	
(9) 156-59-2	cis-1,2-Dichloroethylene	0.07	
(10) 78–87–5	1,2-Dichloropropane	0.005	
(11) 100-41-4	Ethylbenzene	0.7	
(12) 108–90–7	Monochlorobenzene	0.1	
(13) 95-50-1	o-Dichlorobenzene	0.6	
(14) 100-42-5	Styrene	0.1	
(15) 127-18-4	Tetrachloroethylene	0.005	
(16) 108-88-3	Toluene	1	
(17) 156-60-5	trans-1,2-Dichloroethylene	0.1	
(18) 1330-20-7	Xylenes (total)	10	
(19) 75-09-2	Dichloromethane	0.005	
(20) 120-82-1	1,2,4-Trichloro- benzene	.07	
(21) 79-00-5	1.1.2-Trichloro- ethane	.005	

(b) The Administrator, pursuant to section 1412 of the Act, hereby identifies as indicated in the Table below granular activated carbon (GAC), packed tower aeration (PTA), or oxidation (OX) as the best technology treat-

ment technique, or other means available for achieving compliance with the maximum contaminant level for organic contaminants identified in paragraphs (a) and (c) of this section:

BAT FOR ORGANIC CONTAMINANTS LISTED IN § 141.61 (a) AND (c)

CAS No.	Contaminant	GAC	PTA	OX
15972-60-8	Alachlor	X		
116-06-3	Aldicarb	X	AND DESCRIPTION	
1646-88-4	Aldicarb sulfone	X	minimi	Managatintes
1646-87-3	Aldicarb sulfoxide	X		
1912-24-9	Atrazine	X		
71-43-2	Benzene	X	X	
50-32-8	Benzo[a]pyrene	X	Salara Contra	
1563-66-2	Carbofuran	X		
56-23-5	Carbon tetrachloride	X	X	***********
57-74-9	Chlordane	X		
75–99–0	Dalapon	X		
94-75-7	2,4-D	X		annous.
103-23-1		x	X	
The second secon	Di (2-ethylhexyl) adipate	x		*********
	Di (2-ethylhexyl) phthalate		Attribution	Antonio Contra
96-12-8	Dibromochloropropane (DBCP)	X	X	311111111111111111111111111111111111111
95-50-1	o-Dichlorobenzene	X	X	
106-46-7	para-Dichlorobenzene	X	X	doumno.
107-06-2	1,2-Dichloroethane	X	X	1871821321421
75-35-4	1,1-Dichloroethylene	X	X	
156-59-2	cis-1,2-Dichloroethylene	X	X	
156-60-5	trans-1,2-Dichloroethylene	X	X	

BAT FOR ORGANIC CONTAMINANTS LISTED IN § 141.61 (a) AND (c)—Continued

75-09-2 78-87-5 38-85-7 35-00-7 45-73-3 72-20-8	1,2-Dichloropropane Dinoseb Diquat Endothall Endrin	X X X X	×	
38–85–7 35–00–7 45–73–3	1,2-Dichloropropane Dinoseb Diquat Endothall Endrin	X X X	momor	***************************************
35–00–7 45–73–3	Dinoseb Diquat Endothall Endrin	X	-25-14-74-74-7	
45-73-3	Diqual Endothall Endrin	X	-25-14-74-74-7	
	Endothall Endrin			
	Endrin	Y		
2-20-0			interiore and a	**************************************
00-41-4		X	X	on and a second
06-93-4		x	X	manipale
071-83-6	Gylphosate			X
76-44-8		X		
024-57-3	Heptachlor epoxide	x		
18-74-1	and the same of th	x	minan	
7–47–3			X	101010101
8-89-9		×		111111111111111111111111111111111111111
2-43-5	Mathomobiles	0	>======================================	20110001111
08-90-7		X		
00-90-7		X	X	-010100101
3135–22–0 17–86–5		X	ASSESSMENT	***********
		X	**********	-9191919191
918-02-1		X	4994994995936	
336-36-3		X	*********	**********
22-34-9		X	***********	minimum.
00-42-5		X	X	inmental
746-01-6		X		***********
27-18-4		X	X	************
08-88-3	Toluene	X	X	
001-35-2	Toxaphene	X		
3-72-1	2,4,5-TP (Silvex)	X		
20-82-1	1,2,4-Trichlorobenzene	X	X	
1-55-6	1,1,1-Trichloroethane	X	X	
9-00-5	1,1,2-Trichloroethane	X	X	
9-01-6	Trichloroethylene	X	X	
5-01-4	Vinyi chloride	***	×	************
330-20-7	Xylene	X	X	************

(c) The following maximum contaminant levels for synthetic organic contaminants apply to community water systems:

CAS No.	Contaminant	MCL (mg/l)
(1) 15972-60-8	Alachlor	0.002
(2) 116-06-3		0.003
(3) 1646-87-3		0.004
(4) 1646-87-4		0.002
(5) 1912-24-9	Atrazine	0.003
(6) 1563-66-2	Carbofuran	0.04
(7) 57-74-9	Chlordane	0.002
8) 96-12-8	Dibromochloropropane	0.0002
9) 94–75–7	2,4-D	0.07
0) 106-93-4		0.00008
1) 76-44-8		0.0004
2) 1024–57–3	Heptachlor epoxide	0.0002
3) 58-89-9	Lindane	0.0002
4) 72-43-5	Methoxychlor	0.04
5) 1336–36–3	Polychlorinated biphenyls	0.0005
6) 87-86-5		0.001
7) 8001–35–2	Toxaphene	0.003
8) 93–72–1	2,4,5-TP	0.05
9) 50-32-8		0.0002
0) 75–99–0		0.2
1) 103–23–1	Di(2-ethylhexyl) adipate	0.4
2) 117–81–7	Di(2-ethylhexyl) phthalate	0.006
3) 88–85–7	Dinoseb	0.007
4) 85-00-7	Diquat	0.02
5) 145-73-3	Endothall	0.1
6) 72-20-8		0.002
7) 1071–53–6		0.7
8) 118-74-1		0.001
9) 77-47-4	Hexachlorocyclopentadiene	0.05

CAS No.	CAS No. Contaminant				
31) 1918–02–1 32) 122–34–9	Oxamyl (Vydate) Pictoram Simazine 2,3,7,8-TCDD (Dioxin)	0.2 0.5 0.004 3×10 ⁻⁸			

[56 FR 3593, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994]

§ 141.62 Maximum contaminant levels for inorganic contaminants.

(a) [Reserved]

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b) (2)-(6), (b)(10), and (b) (11)-(16) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, noncommunity water systems; and transient non-community water systems.

Contaminant	MCL (mg/l)					
(1) Fluoride	4.0					
(2) Asbestos	 7 Million Fibers/liter (longer than 10 μm). 					
(3) Barium	2					
(4) Cadmium	0.005					
(5) Chromium	0.1					
(6) Mercury						
(7) Nitrate						
(8) Nitrite						
(9) Total Nitrate and Nitrite						
(10) Selenium	0.05					
(11) Antimony	0.006					
(12) Beryllium						
(13) Cyanide (as free Cyanide).	0.2					
(14) [Reserved].	2352					
(15) Thallium						
(16) Arsenic	0.010					

(c) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(b)

Chemical Name	BAT(s)
Antimony	2,7
Arsenic 4	1, 2, 5, 6, 7, 9
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,62,7
Cyanide	5,7,13
Mercury	21,4,61,71
Nickel ,	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,23,6,7,9
Thallium	1,5

- ¹ BAT only if influent Hg concentrations ≤10μg/1. ² BAT for Chromium III only. ³ BAT for Selenium IV only.
- ⁴BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.
- To obtain high removals, iron to arsenic ratio must be at

Key to BATS in Table

- 1 = Activated Alumina
- 2 = Coagulation/Filtration (not BAT for systems <500 service connections)
- 3 = Direct and Diatomite Filtration
- 4 = Granular Activated Carbon
- 5 = Ion Exchange
- 6 = Lime Softening (not BAT for systems <500 service connections)
- 7 = Reverse Osmosis
- 8 = Corrosion Control
- 9 = Electrodialysis
- 10 = Chlorine
- 11 = Ultraviolet
- 12 = Oxidation/Filtration
- 13 = Alkaline Chlorination (pH ≥8.5)
- (d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

40 CFR Ch. I (7-1-14 Edition)

CAS No.	Contaminant	MCL (mg/l)		
(31) 1918-02-1	Oxamyl (Vydate) Picloram Simazine 2.3.7.8-TCDD (Dioxin)	0.2 0.5 0.004 3×10 ⁻⁸		

[56 FR 3593, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994]

§ 141.62 Maximum contaminant levels for inorganic contaminants.

(a) [Reserved]

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b) (2)-(6), (b)(10), and (b) (11)-(16) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, noncommunity water systems; and transient non-community water systems.

Contaminant	MCL (mg/l)					
(1) Fluoride	4.0					
(2) Asbestos	7 Million Fibers/liter (longer than 10 μm).					
(3) Barium	2					
(4) Cadmium	0.005					
(5) Chromium	0.1					
(6) Mercury	0.002					
(7) Nitrate	10 (as Nitrogen)					
(8) Nitrite	1 (as Nitrogen)					
(9) Total Nitrate and Nitrite	10 (as Nitrogen)					
(10) Selenium	0.05					
(11) Antimony	0.006					
(12) Beryllium	0.004					
(13) Cyanide (as free Cyanide).	0.2					
(14) [Reserved].						
(15) Thallium	0.002					
(16) Arsenic	0.010					

(c) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(b)

Chemical Name	BAT(s)
Antimony	2,7
Arsenic ⁴	1, 2, 5, 6, 7, 9,
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,62,7
Cyanide	5,7,13
Mercury	21,4,61,71
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,23,6,7,9
Thallium	1,5

 1 BAT only if influent Hg concentrations ${\le}10\mu g/1.$ 2 BAT for Chromium III only. 3 BAT for Selenium IV only.

*BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.

5 To obtain high removals, iron to arsenic ratio must be at least 20:1.

Key to BATS in Table

1 = Activated Alumina

2 = Coagulation/Filtration (not BAT for systems <500 service connections)

3 = Direct and Diatomite Filtration

4 = Granular Activated Carbon

5 = Ion Exchange

6 = Lime Softening (not BAT for systems <500 service connections)

7 = Reverse Osmosis

8 = Corrosion Control

9 = Electrodialysis

10 = Chlorine

11 = Ultraviolet

12 = Oxidation/Filtration

13 = Alkaline Chlorination (pH ≥8.5)

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

SMALL SYSTEM COMPLIANCE TECHNOLOGIES (SSCTs) 1 FOR ARSENIC 2

The state of the s
Affordable for listed small system categories 3
All size categories.
All size categories.
501-3,300, 3,301-10,000.
501-3,300, 3,301-10,000.
501-3,300, 3,301-10,000.
All size categories
All size categories.
All size categories.
501-3,300, 3,301-10,000
All size categories.

Section 1412(b)(4)(E)(ii) of SDWA specifies that SSCTs

¹ Section 1412(b)(4)(E)(ii) of SDWA specifies that SSCTs must be affordable and technically feasible for small systems. ² SSCTs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V. ³ The Act (bid.) specifies three categories of small systems: (i) those serving 25 or more, but fewer than 501, (ii) those serving more than 500, but fewer than 5.01, and (iii) those serving more than 3.300, but fewer than 10.001. ⁴ When POU or POE devices are used for compliance, programs to ensure proper long-term operation, maintenance, and monitoring must be provided by the water system to ensure adequate performance.

sure adequate performance.

5Unlikely to be installed solely for arsenic removal. May require pH adjustment to optimal range if high removals are

eneeded.

Technologies reject a large volume of water—may not be appropriate for areas where water quantity may be an issue.

To obtain high removals, iron to arsenic ratio must be at least 20.5.

[56 FR 3594, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31847, July 17, 1992; 59 FR 34325, July 1, 1994; 60 FR 33932, June 29, 1995; 66 FR 7063, Jan. 22, 2001; 68 FR 14506, Mar. 25, 2003; 69 FR 38855, June 29, 2004]

§ 141.63 Maximum contaminant levels (MCLs) for microbiological contami-

(a) Until March 31, 2016, the total coliform MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system that collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system that collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

- (b) Until March 31, 2016, any fecal coliform-positive repeat sample or E. coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E. coli-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in subpart Q of this part, this is a violation that may pose an acute risk to health.
- (c) Beginning April 1, 2016, a system is in compliance with the MCL for E. coli for samples taken under the provisions of subpart Y of this part unless any of the conditions identified in paragraphs (c)(1) through (c)(4) of this section occur. For purposes of the public notification requirements in subpart Q of this part, violation of the MCL may pose an acute risk to health.
- (1) The system has an E. coli-positive repeat sample following a total coliform-positive routine sample.
- (2) The system has a total coliformpositive repeat sample following an E. coli-positive routine sample.
- (3) The system fails to take all required repeat samples following an E. coli-positive routine sample.
- (4) The system fails to test for E. coli when any repeat sample tests positive for total coliform.
- (d) Until March 31, 2016, a public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this section for each month in which it is required to monitor for total coliforms. Beginning April 1, 2016, a public water system must determine compliance with the MCL for E. coli in paragraph (c) of this section for each month in which it is required to monitor for total coli-
- (e) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section and for achieving compliance with the maximum contaminant level for E. coli in paragraph (c) of this section:

	Feb	ruary 2019 NME	D Soil Screening	Levels Summa		ed 3/5/19)				
	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (μg/L)	Tap Water, Noncancer (μg/L)	Cw, DAF 20 (mg/kg)
Chemical	02.22.0		2 405 02	(mg/kg)	(mg/kg)	(Ilig/Kg)			5.05E.00	0.255.01
Acetaldehyde	83-32-9 75-07-0	3.38E+02	3.48E+03 2.49E+02	1.64E+03	5.05E+04 1.17E+03	7.61E+03	1.51E+04 2.17E+02	2.55E+01	5.35E+02 1.88E+01	8.25E+01 6.58E-02
Acetone	67-64-1	3.36E+02	6.63E+04	1.04E+03	9.60E+05	7.01E+03	2.17E+02 2.42E+05	2.33E+01	1.41E+04	4.98E+01
Acetophenone	98-86-2		7.82E+03		1.30E+05		3.54E+04		1.92E+03	9.64E+00
Acrolein	107-02-8		4.54E-01		2.16E+00		4.01E-01		4.15E-02	1.46E-04
Acrylonitrile	107-13-1	4.93E+00	3.99E+01	2.46E+01	1.90E+02	1.29E+02	3.52E+01	5.23E-01	4.15E+00	1.95E-03
Alachlor	15972-60-8	9.51E+01	6.16E+02	4.58E+02	9.16E+03	3.36E+03	2.69E+03	1.37E-01	1.86E+02	2.57E-02
Aldrin	309-00-2	3.11E-01	1.85E+00	1.50E+00	2.75E+01	1.09E+01	8.07E+00	1.98E-03	3.31E-02	4.88E-03
Aluminum	7429-90-5		7.80E+04		1.29E+06		4.14E+04		1.99E+04	5.97E+05
Anthracene	120-12-7 7440-36-0		1.74E+04 3.13E+01		2.53E+05 5.19E+02		7.53E+04 1.42E+02		1.72E+03 7.26E+00	8.51E+02 6.56E+00
Antimony Arsenic	7440-38-2	7.07E+00	1.30E+01	3.59E+01	2.08E+02	2.16E+02	4.12E+01	8.55E-01	3.55E+00	5.83E+00
Atrazine	1912-24-9	2.32E+01	2.16E+03	1.12E+02	3.21E+04	8.19E+02	9.42E+03	3.39E+00	7.02E+02	3.41E-02
Barium	7440-39-3		1.56E+04		2.55E+05		4.39E+03		3.28E+03	2.70E+03
Benzene	71-43-2	1.78E+01	1.14E+02	8.72E+01	7.29E+02	4.23E+02	1.42E+02	4.55E+00	3.32E+01	4.18E-02
Benzidine	92-87-5	5.18E-03	1.85E+02	1.12E-01	2.75E+03	8.12E-01	8.07E+02	1.09E-03	5.89E+01	4.27E-05
Benzo(a)anthracene	56-55-3	1.53E+00		3.23E+01		2.40E+02		1.20E-01		6.37E-01
Benzo(a)pyrene	50-32-8	1.12E+00		2.36E+01		1.73E+02 2.40E+02		2.51E-01 3.43E-01	6.02E+00	4.42E+00
Benzo(b)fluoranthene Benzo(k)fluoranthene	205-99-2 207-08-9	1.53E+00 1.53E+01		3.23E+01 3.23E+02		2.40E+02 2.31E+03		3.43E+00		6.17E+00 6.05E+01
Beryllium	7440-41-7	6.44E+04	1.56E+02	3.13E+05	2.58E+03	2.71E+03	1.48E+02	JJ.LT00	1.24E+01	1.96E+02
a-BHC (a-Hexachlorocyclohexane, a-HCH)	319-84-6	8.45E-01	4.93E+02	4.07E+00	7.33E+03	2.97E+01	2.15E+03	6.93E-02	9.18E+01	6.08E-03
b-BHC (b-Hexachlorocyclohexane, b-HCH)	319-85-7	2.96E+00		1.43E+01		1.04E+02		2.43E-01		2.13E-02
t-BHC (t-Hexachlorocyclohexane, Lindane)	58-89-9	5.63E+00	2.12E+01	2.83E+01	3.34E+02	1.98E+02	9.43E+01	4.15E-01	3.60E+00	3.64E-02
1,1-Biphenyl	92-52-4	8.48E+02	3.91E+04	4.43E+03	6.49E+05	3.02E+04	1.77E+05	3.71E+01	8.34E-01	1.31E-01
Bis(2-chloroethyl) ether	111-44-4	3.11E+00		1.57E+01		1.95E+00		1.37E-01		6.05E-04
Bis(2-chloroisopropyl) ether	108-60-1	9.93E+01	1.225.02	5.19E+02	1.025.04	3.54E+03	5 205 . 02	9.81E+00	4.015.00	4.75E-02
Bis(2-ethylhexyl)phthalate (di(2-ethylhexyl)phthalat Bis(chloromethyl) ether	117-81-7 542-88-1	3.80E+02 2.08E-03	1.23E+03	1.83E+03 1.02E-02	1.83E+04	1.34E+04 4.81E-02	5.38E+03	5.56E+01 7.20E-04	4.01E+02	2.00E+02 3.00E-06
Boron	7440-42-8	2.06L-03	1.56E+04	1.02E-02	2.59E+05	4.01L-02	5.14E+04	7.20L-04	3.95E+03	2.51E+02
Bromodichloromethane	75-27-4	6.19E+00	1.56E+03	3.02E+01	2.60E+04	1.43E+02	7.08E+03	1.34E+00	3.77E+02	6.21E-03
Bromomethane	74-83-9		1.77E+01		9.45E+01		1.79E+01		7.54E+00	3.43E-02
1,3-Butadiene	106-99-0	6.86E-01	2.30E+00	3.41E+00	1.08E+01	1.77E+01	2.02E+00	1.81E-01	4.17E+00	2.08E-03
2-Butanone (Methyl ethyl ketone, MEK)	78-93-3		3.74E+04		4.11E+05		9.17E+04		5.56E+03	2.01E+01
tert-Butyl methyl ether (MTBE)	1634-04-4	9.75E+02	3.78E+04	4.82E+03	1.78E+05	2.42E+04	3.31E+04	1.43E+02	6.26E+03	5.53E-01
Cadmium Carbofuran	7440-43-9 1563-66-2	8.59E+04	7.05E+01 3.08E+02	4.17E+05	1.11E+03 4.58E+03	3.61E+03	7.21E+01 1.35E+03		6.24E+00 9.36E+01	9.39E+00 5.91E-01
Carbon disulfide	75-15-0		1.55E+03		4.58E+03 8.54E+03		1.53E+03 1.62E+03		9.36E+01 8.10E+02	4.42E+00
Carbon tetrachloride (Tetrachloromethane)	56-23-5	1.07E+01	1.44E+02	5.25E+01	1.02E+03	2.52E+02	2.02E+02	4.55E+00	4.92E+01	3.67E-02
Chlordane	12789-03-6	1.77E+01	3.53E+01	8.90E+01	5.56E+02	6.23E+02	1.53E+02	4.48E-01	1.27E+00	2.03E+00
2-Chloroacetophenone	532-27-4		1.72E+05		8.12E+05		2.81E+02			
2-Chloro-1,3-butadiene	126-99-8	1.75E-01	3.80E+01	8.48E-01	1.82E+02	3.95E+00	3.40E+01	1.87E-01	3.70E+01	1.97E-03
1-Chloro-1,1-difluoroethane	75-68-3		1.09E+05		5.15E+05		9.58E+04		1.04E+05	1.07E+03
Chlorobenzene (Monochlorobenzene)	108-90-7		3.78E+02		2.16E+03		4.12E+02		7.76E+01	1.08E+00
1-Chlorobutane Chlorodifluoromethane	109-69-3 75-45-6		3.13E+03 1.02E+05		5.19E+04 4.83E+05		1.42E+04 8.98E+04		6.31E+02 1.04E+05	4.53E+00 8.55E+02
Chloroform (Trichloromethane)	67-66-3	5.90E+00	3.06E+02	2.87E+01	2.00E+03	1.34E+02	3.91E+02	2.29E+00	9.72E+01	1.09E-02
Chloromethane	74-87-3	4.11E+01	2.68E+02	2.01E+02	1.26E+03	9.56E+02	2.35E+02	2.03E+01	1.88E+02	9.52E-02
b-Chloronaphthalene	91-58-7		6.26E+03		1.04E+05		2.83E+04		7.33E+02	5.70E+01
o-Chloronitrobenzene	88-73-3	1.78E+01	1.84E+02	8.55E+01	2.72E+03	6.28E+02	8.39E+01	2.36E+00	5.49E+01	3.44E-02
p-Chloronitrobenzene	100-00-5	8.45E+02	6.16E+01	4.07E+03	9.16E+02	2.99E+04	2.57E+02	1.10E+02	1.79E+01	2.57E-01
2-Chlorophenol	95-57-8		3.91E+02		6.49E+03		1.77E+03		9.10E+01	1.15E+00
2-Chloropropane	75-29-6		2.86E+02		1.35E+03		2.51E+02		2.09E+02	1.26E+00
o-Chlorotoluene Chromium III	95-49-8 16065-83-1		1.56E+03 1.17E+05		2.60E+04 1.95E+06		7.08E+03 5.31E+05		2.33E+02 1.36E+04	3.56E+00 4.91E+08
Chromium VI	18540-29-9	3.05E+00	2.35E+02	7.21E+01	3.89E+03	6.69E+01	4.98E+02	5.01E-01	2.67E+01	1.92E-01
Chromium (Total)	233.0277	9.66E+01	4.52E+04	5.05E+02	3.14E+05	4.68E+02	1.34E+02	5.70E+00	1.17E+04	2.05E+05
Chrysene	218-01-9	1.53E+02		3.23E+03		2.31E+04		3.43E+01		1.86E+02
Cobalt	7440-48-4	1.72E+04	2.34E+01	8.34E+04	3.88E+02	7.22E+02	3.67E+01		5.98E+00	5.40E+00
Copper	7440-50-8		3.13E+03		5.19E+04		1.42E+04		7.90E+02	9.15E+02
Crotonaldehyde	123-73-9	3.66E+00	7.82E+01	1.91E+01	1.30E+03	1.30E+02	3.54E+02	4.04E-01	1.98E+01	1.42E-03
Cumene (isopropylbenzene)	98-82-8		2.36E+03		1.42E+04		2.74E+03		4.47E+02	1.14E+01
Cyanide	57-12-5 460-19-5		1.12E+01 7.82E+01		6.33E+01 1.30E+03		1.21E+01 3.54E+02		1.46E+00 1.99E+01	7.13E-01 8.01E-02
Cyanogen Cyanogen bromide	460-19-5 506-68-3		7.82E+01 7.04E+03		1.30E+03 1.17E+05		3.54E+02 3.19E+04		1.99E+01 1.80E+03	8.01E-02 1.06E+01
Cyanogen chloride	506-77-4		3.91E+03		6.49E+04		1.77E+04		9.99E+02	5.88E+00
DDD	72-54-8	2.22E+01		1.07E+02		7.78E+02		3.17E-01		1.12E+00
DDE	72-55-9	1.57E+01		7.55E+01		5.49E+02		4.62E-01		1.63E+00
DDT	50-29-3	1.87E+01	3.62E+01	9.50E+01	5.77E+02	6.59E+02	1.62E+02	2.29E+00	1.00E+01	1.16E+01
Dibenz(a,h)anthracene	53-70-3	1.53E-01		3.23E+00		2.40E+01		3.43E-02		1.97E+00
1,2-Dibromo-3-chloropropane	96-12-8	8.58E-02	5.88E+00	1.18E+00	4.11E+01	5.53E+00	8.29E+00	3.34E-03	3.72E-01	1.39E-03
Dibromochloromethane 1,2-Dibromoethane (Ethylene dibromide, EDB)	124-48-1 106-93-4	1.39E+01 6.72E-01	1.23E+03 1.35E+02	6.74E+01 3.31E+00	1.83E+04 7.38E+02	3.40E+02 1.63E+01	5.38E+03 1.40E+02	1.68E+00 7.47E-02	3.78E+02 1.69E+01	7.55E-03 3.52E-04
1,4-Dichloro-2-butene	764-41-0	6.72E-01 1.15E-01	1.55E+02	5.58E-01	7.36E+02	2.59E+00	1.40E+02	1.34E-02	1.09E+01	3.52E-04 9.99E-05
		1.1315-01	1	J.JUL-U1	1	2.57ET00	1	1.5-15-02	·	7.7712-03
1,2-Dichlorobenzene (ortho-Dichlorobenzene)	95-50-1		2.15E+03		1.30E+04		2.50E+03		3.02E+02	9.08E+00

	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (μg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
Chemical 3,3-Dichlorobenzidine	91-94-1	1.18E+01		5.70E+01	(mg/kg)	4.10E+02	(8/8/	1.25E+00		1.24E-01
Dichlorodifluoromethane (Fluorocarbon-12)	75-71-8	1.16L+01	1.82E+02	3.70E+01	8.65E+02	4.10E+02	1.61E+02	1.23E+00	1.97E+02	7.23E+00
1,1-Dichloroethane (1,1-DCA)	75-34-3	7.86E+01	1.56E+04	3.83E+02	2.60E+05	1.82E+03	7.08E+04	2.75E+01	3.74E+03	1.36E-01
1,2-Dichloroethane (Ethylene dichloride, EDC)	107-06-2	8.32E+00	5.56E+01	4.07E+01	2.86E+02	1.95E+02	5.38E+01	1.71E+00	1.30E+01	2.38E-02
cis-1,2-Dichloroethene (cis-1,2-DCE)	156-59-2		1.56E+02		2.60E+03		7.08E+02		3.65E+01	3.52E-01
trans-1,2-Dichloroethene (trans-1,2-DCE)	156-60-5		2.95E+02		1.61E+03		3.05E+02		9.32E+01	5.03E-01
1,1-Dichloroethene (1,1-DCE)	75-35-4		4.40E+02		2.26E+03		4.24E+02		2.84E+02	1.95E+00
2,4-Dichlorophenol	120-83-2	1.705.01	1.85E+02	0.600.01	2.75E+03	4.150 . 02	8.07E+02	4.205.00	4.53E+01	8.25E-01
1,2-Dichloropropane (propylene dichloride, PDC)	78-87-5 542-75-6	1.78E+01 2.93E+01	2.90E+01 1.41E+02	8.68E+01 1.46E+02	1.37E+02 6.95E+02	4.15E+02 7.81E+02	2.54E+01 1.30E+02	4.38E+00 4.71E+00	8.30E+00 3.88E+01	2.77E-02 2.81E-02
1,3-Dichloropropene Dicyclopentadiene	77-73-6	2.93E+01	6.26E+03	1.46E+02	6.95E+02 1.04E+05	7.81E+02	2.83E+04	4./1E+00	6.25E-01	3.42E-02
Dieldrin	60-57-1	3.33E-01	3.08E+00	1.60E+00	4.58E+01	1.17E+01	1.35E+01	1.75E-02	3.72E-01	1.06E-02
Diethyl phthalate (DEP)	84-66-2	3.332 01	4.93E+04	1.002100	7.33E+05	1.17.2.101	2.15E+05	11702 02	1.48E+04	9.79E+01
Di-n-butyl phthalate (Dibutyl phthalate)	84-74-2		6.16E+03		9.16E+04		2.69E+04		8.85E+02	3.38E+01
2,4-Dimethylphenol	105-67-9		1.23E+03		1.83E+04		5.38E+03		3.54E+02	6.45E+00
Dimethyl phthalate (DMP, Phthalic Acid)	100-21-0		6.16E+04		9.16E+05		2.69E+05		6.12E+02	3.57E+00
4,6-Dinitro-o-cresol	534-52-1		4.93E+00		7.33E+01		2.15E+01		1.52E+00	3.98E-02
2,4-Dinitrophenol	51-28-5		1.23E+02		1.83E+03		5.38E+02		3.87E+01	6.69E-01
2,4-Dinitrotoluene (2,4-DNT)	121-14-2	1.71E+01	1.23E+02	8.23E+01	1.82E+03	6.00E+02	5.36E+02	2.37E+00	3.80E+01	4.92E-02
2,6-Dintitrotoluene (2,6-DNT)	606-20-2	3.56E+00	1.85E+01	1.72E+01	2.76E+02	1.65E+02	8.09E+01	4.85E-01	5.64E+00	1.02E-02
2,4/2,6-Dintrotoluene Mixture	25321-14-6	7.83E+00	1.057.00	3.77E+01	0.755.04	2.77E+02	7.055.00	1.06E+00	5.670.01	2.24E-02
1,4-Dioxane	123-91-1	5.33E+01	1.85E+03	2.57E+02	2.75E+04	1.88E+03 2.34E+02	7.85E+03	4.59E+00	5.67E+01	1.63E-02
1,2-Diphenylhydrazine Endosulfan	122-66-7 115-29-7	6.66E+00	3.70E+02	3.21E+01	5.50E+03	2.34E+02	1.61E+03	7.80E-01	9.87E+01	3.79E-02 2.04E+01
Endosunan Endrin	72-20-8		3.70E+02 1.85E+01		2.75E+02		8.07E+01		9.87E+01 2.23E+00	1.35E+00
Epichlorohydrin	106-89-8	4.22E+02	4.27E+01	2.14E+03	2.75E+02 2.15E+02	1.22E+04	4.02E+01	2.92E+01	2.23E+00 2.05E+00	7.72E-03
Ethyl acetate	141-78-6	4.222102	1.82E+03	2.142103	8.75E+03	1.222104	1.63E+03	2.721.01	1.45E+02	5.28E-01
Ethyl acrylate	140-88-5	1.45E+02	1.022103	7.57E+02	0.732103	5.16E+03	1.032103	1.57E+01	1.102102	5.98E-02
Ethyl chloride	75-00-3		1.90E+04	7,10,7,23,7,2	8.95E+04		1.66E+04		2.09E+04	1.07E+02
Ethyl ether	60-29-7		1.56E+04		2.60E+05		7.08E+04		3.93E+03	1.52E+01
Ethyl methacrylate	97-63-2		2.73E+03		1.78E+04		3.48E+03		4.55E+02	1.83E+00
Ethylbenzene	100-41-4	7.51E+01	3.93E+03	3.68E+02	2.90E+04	1.77E+03	5.80E+03	1.50E+01	8.00E+02	1.23E+01
Ethylene oxide	75-21-8	1.88E-01	6.35E+02	9.15E-01	2.99E+03	4.26E+00	5.55E+02	1.86E-02	6.26E+01	6.65E-05
Fluoranthene	206-44-0		2.32E+03		3.37E+04		1.00E+04		8.02E+02	1.34E+03
Fluorene	86-73-7		2.32E+03		3.37E+04		1.00E+04		2.88E+02	8.00E+01
Fluoride	7782-41-4		4.69E+03		7.78E+04		1.81E+04		1.18E+03	1.20E+04
Furan	110-00-9		7.24E+01		1.15E+03		3.54E+02		1.92E+01	1.22E-01
Glyphosate	1071-83-6 76-44-8	1.18E+00	6.16E+03 3.08E+01	5.70E+00	9.16E+04 4.58E+02	4.15E+01	2.69E+04 1.35E+02	2.21E-02	2.01E+03 2.72E+00	1.33E+02 4.97E-01
Heptachlor Hexachlorobenzene	118-74-1	3.33E+00	4.93E+01	1.60E+01	7.33E+02	4.13E+01 1.17E+02	2.15E+02	9.76E-02	1.60E+01	1.89E-01
Hexachloro-1,3-butadiene	87-68-3	6.83E+01	6.16E+01	5.21E+01	9.16E+02	2.40E+03	2.69E+02	1.39E+00	6.30E+00	4.13E-02
Hexachlorocyclopentadiene	77-47-4	0.032101	2.30E+00	3.212.101	5.49E+03	2.102103	8.67E+02	1.5) 2.100	4.11E-01	2.40E+00
Hexachloroethane	67-72-1	1.33E+02	4.31E+01	6.41E+02	6.41E+02	4.67E+03	1.88E+02	3.28E+00	6.14E+00	3.20E-02
n-Hexane	110-54-3		6.15E+02		3.20E+03		6.03E+02		3.19E+02	5.57E+01
HMX (Octrahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazo	2691-41-0		3.85E+03		6.33E+04		1.74E+04		1.00E+03	1.94E+01
Hydrazine anhydride	302-01-2	1.78E+00	1.72E+05	8.55E+00	8.12E+05	5.99E+01	2.81E+02	2.60E-01		9.00E-04
Hydrogen cyanide	74-90-8		1.02E+01		5.72E+01		1.09E+01		1.46E+00	5.22E-03
Indeno(1,2,3-c,d)pyrene	193-39-5	1.53E+00		3.23E+01		2.40E+02		3.43E-01		2.01E+01
Iron	7439-89-6		5.48E+04		9.08E+05		2.48E+05		1.38E+04	6.96E+03
Isobutanol (Isobutyl alcohol)	78-83-1		1.85E+04		2.75E+05		8.07E+04		5.91E+03	2.10E+01
Isophorone	78-59-1 7439-92-1	5.61E+03	1.23E+04	2.70E+04	1.83E+05	1.98E+05	5.37E+04	7.81E+02	3.83E+03	4.23E+00 2.70E+02
Lead	78-00-2		6.16E-03		9.16E-02		3.54E-02		1.24E-03	9.41E-05
Lead (tetraethyl-) Maleic hydrazide	123-33-1		3.08E+04		9.16E-02 4.58E+05		3.34E-02 1.35E+05		1.24E-03 1.00E+04	3.57E+01
Manganese	7439-96-5		1.05E+04		4.58E+05 1.60E+05		4.64E+02		2.02E+03	2.63E+03
Mercury (elemental)	7439-97-6		2.38E+01		1.12E+02		2.07E+01		6.26E-01	2.09E+00
Mercury (methyl)	22967-92-6		7.82E+00		1.30E+02		3.54E+01		1.96E+00	7.58E-03
Mercury (salts)	7487-94-7		2.35E+01		3.89E+02		7.71E+01		4.92E+00	5.13E+00
Methacrylonitrile	126-98-7		7.70E+00		1.23E+02		3.28E+01		1.91E+00	7.43E-03
Methomyl	16752-77-5		1.54E+03		2.29E+04		6.73E+03		4.98E+02	1.87E+00
Methyl acetate	79-20-9		7.82E+04		1.30E+06		3.54E+05		1.99E+04	7.11E+01
Methyl acrylate	96-33-3		3.50E+02		1.85E+03		3.48E+02		3.90E+01	1.43E-01
Methyl isobutyl ketone	108-10-1		5.81E+03		8.16E+04		2.02E+04		1.24E+03	4.80E+00
Methyl styrene (alpha)	80-62-6 98-83-9		1.11E+04 5.48E+03		5.65E+04 9.08E+04		1.06E+04 2.48E+04		1.39E+03 7.65E+02	5.22E+00 1.89E+01
Methyl styrene (alpha) Methyl styrene (mixture)	98-83-9 25013-15-4		5.48E+03 2.73E+02		9.08E+04 2.20E+03		2.48E+04 4.49E+02		7.65E+02 3.73E+01	9.40E-01
Methylcyclohexane	108-87-2		5.50E+03		2.20E+03 2.59E+04		4.49E+02 4.82E+03		6.26E+03	3.16E+02
Methylene bromide (Dibromomethane)	74-95-3		5.79E+01		2.88E+02		5.39E+01		8.00E+00	3.35E-02
Methylene chloride (Dichloromethane)	75-09-2	7.66E+02	4.09E+02	1.44E+04	5.13E+03	8.96E+04	1.21E+03	1.18E+02	1.06E+02	4.71E-01
1-Methylnaphthalene	90-12-0	1.72E+02	4.06E+03	8.13E+02	5.89E+04	6.06E+03	1.76E+04	1.14E+01	6.11E+02	8.93E-01
2-Methylnaphthalene	91-57-6		2.32E+02		3.37E+03		1.00E+03		3.51E+01	2.76E+00
Molybdenum	7439-98-7		3.91E+02		6.49E+03		1.77E+03		9.87E+01	3.98E+01
Naphthalene	91-20-3		1.16E+03		1.68E+04		5.02E+03	1.65E+00	6.11E+00	8.23E-02
Nickel	7440-02-0	5.95E+05	1.56E+03	2.89E+06	2.57E+04	2.50E+04	7.53E+02		3.72E+02	4.85E+02
Nitrate	14797-55-8		1.25E+05		2.08E+06		5.66E+05		3.16E+04	4.25E+02
Nitrite	14797-65-0		7.82E+03		1.30E+05		3.54E+04		1.97E+03	2.66E+01
Nitrobenzene	98-95-3	6.04E+01	1.31E+02	2.93E+02	1.54E+03	1.35E+03	3.53E+02	1.40E+00	1.25E+01	1.44E-02

Charles	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (μg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
Chemical Nitroglycerin	55-63-0	3.13E+02	6.16E+00	1.51E+03	(mg/kg) 9.16E+01	1.11E+04	2.69E+01	4.47E+01	1.96E+00	1.36E-02
p-Nitrophenol										
N-Nitrosodiethylamine	55-18-5	7.94E-03		1.71E-01		1.25E+00		1.67E-03		9.94E-06
N-Nitrosodimethylamine N-Nitrosodi-n-butylamine	62-75-9 924-16-3	2.34E-02 7.81E-01	4.93E-01	5.03E-01 3.77E+00	7.33E+00	3.66E+00 2.46E+01	2.14E+00	4.91E-03 2.73E-02	1.60E-01	2.04E-05 8.42E-04
N-Nitrosodiphenylamine	86-30-6	1.09E+03		5.77E+00 5.24E+03		3.79E+04		1.22E+02		1.00E+01
N-Nitrosopyrrolidine	930-55-2	2.54E+00		1.22E+01		8.89E+01		3.70E-01		2.30E-03
m-Nitrotoluene	99-08-1		6.16E+00		9.16E+01		2.69E+01		1.74E+00	2.50E-02
o-Nitrotoluene	88-72-2	3.16E+01	7.04E+01	1.65E+02	1.17E+03	1.13E+03	3.19E+02	3.14E+00	1.61E+01	4.58E-02
p-Nitrotoluene Pentachlorobenzene	99-99-0 608-93-5	3.33E+02	2.47E+02 4.93E+01	1.60E+03	3.67E+03 7.33E+02	1.18E+04	1.08E+03 2.15E+02	4.27E+01	7.07E+01 3.07E+00	6.13E-01 3.52E-01
Pentachlorophenol (PCP)	87-86-5	9.85E+00	2.34E+02	4.45E+01	3.18E+03	3.46E+02	9.89E+02	4.13E-01	2.21E+01	1.52E-01
Perchlorate	14797-73-0		5.48E+01		9.08E+02		2.48E+02		1.38E+01	1.17E-01
Polyfluoroalkyl and Perfluoroalkyl Compounds		o Section 5.3 on u		inary screening						
Perfluorohexane sulfonic acid (PFHxS) Perfluorooctane sulfonate (PFO, PFOS)	335-46-4 2795-39-3		1.56E+00 1.56E+00		2.60E+01 2.60E+01		7.08E+00 7.08E+00		7.00E-02 7.00E-02	
Perfluorooctanoic acid (PFOA)	335-67-1		1.56E+00		2.60E+01 2.60E+01		7.08E+00 7.08E+00		7.00E-02 7.00E-02	
Phenanthrene	85-01-8		1.74E+03		2.53E+04		7.53E+03		1.70E+02	8.59E+01
Phenol	108-95-2		1.85E+04		2.75E+05		7.74E+04		5.76E+03	5.23E+01
Polychlorinatedbiphenyls (PCBs)	10074 11 7		2.000 00	2017 22	5540 01	0.440.00	1 500 01	2245 22	1.400.00	2017 00
Aroclor 1016 Aroclor 1221	12674-11-2 11104-28-2	6.96E+01 1.81E+00	3.98E+00	3.04E+02 8.57E+00	5.74E+01	2.44E+03 5.53E+01	1.72E+01	2.24E+00 5.61E-02	1.40E+00	2.01E+00 1.43E-02
Aroclor 1221 Aroclor 1232	11104-28-2	1.81E+00 1.86E+00		8.82E+00		5.76E+01		5.61E-02 5.61E-02		1.43E-02 1.43E-02
Aroclor 1242	53469-21-9	2.43E+00		1.09E+01		8.53E+01		7.86E-02		1.84E-01
Aroclor 1248	12672-29-6	2.43E+00		1.07E+01		8.53E+01		7.86E-02		1.81E-01
Aroclor 1254	11097-69-1	2.43E+00	1.14E+00	1.10E+01	1.64E+01	8.53E+01	4.91E+00	7.86E-02	4.01E-01	3.08E-01
Aroclor 1260 2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 17	11096-82-5 35065-30-6	2.43E+00 3.75E-01	3.98E-01	1.11E+01 1.77E+00	5.74E+00	8.53E+01 1.31E+01	1.72E+00	7.86E-02 5.99E-02	1.40E-01	8.25E-01 6.42E-01
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 18	35065-29-3	3.75E+00	3.98E+00	1.77E+00 1.77E+01	5.74E+00 5.74E+01	1.31E+01 1.31E+02	1.72E+00 1.72E+01	5.99E-02 5.99E-01	1.40E+00	6.29E+00
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 18'	39635-31-9	1.25E+00	1.33E+00	5.81E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	4.15E-01
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	52663-72-6	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.48E-01
2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157)	69782-90-7	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.53E-01
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156) 3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169)	38380-08-4 32774-16-6	1.25E+00 1.25E-03	1.33E+00 1.33E-03	5.75E+00 5.78E-03	1.91E+01 1.91E-02	4.37E+01 4.37E-02	5.73E+00 5.73E-03	3.95E-02 3.95E-05	4.01E-01 4.01E-04	2.53E-01 2.48E-04
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	65510-44-3	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-03 3.95E-02	4.01E-04 4.01E-01	1.55E-01
2',3',4,4',5-Pentachlorobiphenyl (PCB 118)	31508-00-6	1.25E+00	1.32E+00	5.64E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.52E-01
2',3,3',4,4'-Pentachlorobiphenyl (PCB 105)	32598-14-4	1.25E+00	1.32E+00	5.64E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.55E-01
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	74472-37-0	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.55E-01
3,3',4,4',5-Pentachlorobiphenyl (PCB 126) 3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	57465-28-8 32598-13-3	3.75E-04 3.75E-01	3.98E-04 3.98E-01	1.72E-03 1.77E+00	5.74E-03 5.74E+00	1.31E-02 1.31E+01	1.72E-03 1.72E+00	1.19E-05 5.99E-02	1.20E-04 1.40E-01	4.55E-05 1.41E-01
3,4,4',5-Tetrachlorobiphenyl (PCB 81)	70362-50-4	1.25E-01	1.32E-01	5.66E-01	1.91E+00	4.37E+00	5.73E-01	3.95E-03	4.01E-02	9.27E-03
Prometon	1610-18-0		9.25E+02		1.37E+04		4.04E+03		2.50E+02	1.92E+00
Propylene oxide	75-56-9	2.56E+01	9.14E+02	1.33E+02	4.31E+03	8.55E+02	7.99E+02	2.66E+00	6.26E+01	9.65E-03
Pyrene	129-00-0	8.31E+01	1.74E+03 3.01E+02	4.28E+02	2.53E+04 4.89E+03	2.96E+03	7.53E+03 1.35E+03	9.66E+00	1.17E+02 7.96E+01	1.92E+02 5.93E-02
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine Selenium	7782-49-2	8.31E+01	3.91E+02	4.28E+02	6.49E+03	2.90E+03	1.35E+03 1.75E+03	9.00E+00	9.87E+01	3.93E-02 1.02E+01
Silver	7440-22-4		3.91E+02		6.49E+03		1.77E+03		8.12E+01	1.38E+01
Simazine	122-34-9	4.44E+01	3.08E+02	2.14E+02	4.58E+03	1.57E+03	1.35E+03	6.07E+00	9.40E+01	4.83E-02
Strontium	7440-24-6		4.69E+04		7.79E+05		2.12E+05		1.18E+04	8.33E+03
Styrene (Ethenylbenzene) Sulfolane (thiolane 1,1 dioxide)	100-42-5 126-33-0		7.26E+03 6.16E+01		5.13E+04 9.16E+02		1.02E+04 2.65E+02		1.21E+03 2.00E+01	2.06E+01 7.49E-02
2,3,7,8-TCDD	1746-01-6	4.90E-05	5.06E-05	2.38E-04	9.16E+02 8.08E-04	1.72E-03	2.65E+02 2.26E-04	1.19E-06	1.20E-05	7.49E-02 2.24E-04
2,3,7,8-TCDF	51207-31-9	4.90E-04		2.43E-03		1.72E-02		1.84E-06		7.69E-06
1,2,4,5-Tetrachlorobenzene	95-94-3		1.85E+01		2.75E+02		8.07E+01		1.66E+00	1.17E-01
1,1,1,2-Tetrachloroethane	630-20-6	2.81E+01	2.35E+03	1.37E+02	3.89E+04	6.59E+02	1.06E+04	5.74E+00	4.77E+02	3.60E-02
1,1,2,2-Tetrachloroethane Tetrachloroethene (Perchloroethylene, PCE)	79-34-5 127-18-4	7.98E+00 3.37E+02	1.56E+03 1.11E+02	3.94E+01 1.65E+03	2.60E+04 6.29E+02	1.97E+02 7.91E+03	7.08E+03 1.20E+02	7.57E-01 1.13E+02	3.60E+02 4.03E+01	4.81E-03 3.21E-01
Tetryl (Trinitrophenylmethylnitramine)	479-45-8	5.57ET02	1.11E+02 1.56E+02	1.0512+05	6.29E+02 2.59E+03	7.71E±03	7.06E+02	1.1312+02	3.94E+01	5.59E+00
Thallium	7440-28-0		7.82E-01		1.30E+01		3.54E+00		1.97E-01	2.85E+00
Toluene (Methylbenzene)	108-88-3		5.23E+03		6.13E+04		1.40E+04		1.09E+03	1.21E+01
Toxaphene	8001-35-2	4.84E+00	1.005.00	2.33E+01	1.025.04	1.70E+02	5.207.02	1.58E-01	2.765.00	6.96E+00
Tribromomethane (Bromoform) 1,1,2-Trichloro-1,2,2-trifluoroethane	75-25-2 76-13-1	6.74E+02	1.23E+03 5.08E+04	1.76E+03	1.83E+04 2.43E+05	2.37E+04	5.38E+03 4.53E+04	3.29E+01	3.76E+02 5.50E+04	1.47E-01 3.20E+03
1,2,4-Trichlorobenzene	120-82-1	2.40E+02	8.29E+01	1.25E+03	4.23E+02	8.54E+03	7.91E+01	1.15E+01	3.98E+00	3.10E+00
1,1,1-Trichloroethane (TCA)	71-55-6		1.44E+04		7.25E+04		1.36E+04		8.00E+03	5.11E+01
1,1,2-Trichloroethane (1,2,-TCA)	79-00-5	1.88E+01	2.61E+00	9.21E+01	1.24E+01	4.30E+03	2.30E+00	2.75E+00	4.15E-01	2.68E-02
Trichloroethylene (trichloroethene, TCE)	79-01-6	1.55E+01	6.77E+00	1.12E+02	3.65E+01	5.37E+03	6.90E+00	2.59E+00	2.82E+00	3.10E-02
Trichlorofluoromethane (Fluorocarbon-11) 2,4,5-Trichlorophenol	75-69-4 95-95-4		1.23E+03 6.16E+03		6.03E+03 9.16E+04		1.13E+03 2.69E+04		1.14E+03 1.17E+03	1.57E+01 6.62E+01
2,4,5-1 richlorophenol	95-95-4 88-06-2	4.84E+02	6.16E+03	2.33E+03	9.16E+04 9.16E+02	1.70E+04	2.69E+04 2.69E+02	4.11E+01	1.17E+03 1.19E+01	6.62E+01 6.74E-01
1,1,2-Trichloropropane	598-77-6		3.91E+02		6.49E+03		1.77E+03		8.81E+01	5.59E-01
1,2,3-Trichloropropane	96-18-4	5.10E-02	7.09E+00	1.21E+00	3.40E+01	8.26E+00	6.31E+00	8.35E-03	6.20E-01	5.82E-05
Triethylamine	121-44-8		1.93E+02		9.09E+02		1.69E+02		1.46E+01	7.31E-02
2,4,6-Trinitrotoluene (TNT)	118-96-7	2.11E+02	3.60E+01	1.07E+03	5.73E+02	7.50E+03	1.61E+02	2.53E+01	9.80E+00	8.61E-01
Uranium (soluable salts) Vanadium	7440-62-2		2.34E+02 3.94E+02		3.88E+03 6.53E+03		2.77E+02 6.14E+02		5.92E+01 6.31E+01	5.33E+02 1.26E+03
Vinyl acetate	108-05-4		3.94E+02 2.56E+03		1.24E+04		2.30E+03		4.09E+02	1.50E+00
		·			·					

Chemical	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (μg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
Vinyl bromide	593-60-2	2.71E+00	9.66E+00	1.31E+01	4.55E+01	6.12E+01	8.46E+00	1.75E+00	6.26E+00	9.23E-03
Vinyl chloride (Chlorothene)	75-01-4	7.42E-01	1.13E+02	2.84E+01	8.16E+02	1.61E+02	1.62E+02	3.24E-01	4.43E+01	1.34E-02
m-Xylene	108-38-3		7.64E+02		3.73E+03		6.96E+02		1.93E+02	2.97E+00
o-Xylene	95-47-6		8.05E+02		3.94E+03		7.36E+02		1.93E+02	2.98E+00
p-Xylene	106-42-3		7.92E+02		3.87E+03		7.23E+02		1.93E+02	2.99E+00
Xylenes	1330-20-7		8.71E+02		4.28E+03		7.98E+02		1.93E+02	1.54E+02
Zinc	7440-66-6		2.35E+04		3.89E+05		1.06E+05		5.96E+03	7.41E+03
Essential Nutrients										
Calcium			1.30E+07		3.24E+07		8.85E+06			
Chloride			1.20E+07		5.84E+07		1.59E+07			
Magnesium			1.56E+07		5.68E+06		1.55E+06			
Phosphorus			1.56E+07		6.49E+07		1.77E+07			
Potassium			1.56E+07		7.62E+07		2.08E+07			
Sodium			7.82E+06		3.73E+07		1.02E+07			

	MCL	(ng/L)								7	· e	0 4										(۵		10	ю			2000			2					4				
Contaminant Contam	Child THI=1	(ng/L)	2.4E+01 1.9E+01	3.5E+02 1.4E+04	1.3E+02	1.9E+03	4.2E-02	4.0E+01	4.1E+00	1.6E+02	2.0E+01	2.0E+01	6.0E-01	2.1E+00	2.0E+04 8.0E+00	1.5E+02	1.6E+03	7.9E+01 4.0E+02	8.2E+00	4.0E+03	6.3E+00 1.4E+02	3.0E+01	7.8E+00 9.7E+00	7.8E+00	6.0E+00 7.0E-02	7.2E+02 6.3E+02	8.0E+00 5.6E+01	2.0E+04	3.8E+03	9.7E+02	3.9E+03 5.7E+02	1.9E+03 3.3E+01	1.7E+01	5.9E+01 7.5E+04	L	2.0E+03 2.0E+00	2.5E+01 1.0E+02	3.0E+02	6.3E-01 7.1E+02 5.9E+01	775.03	4.0E+03
er CHILD Hazard Ir	Child THQ=1	(ng/L)	1.9E+01	6.4E+04	1.3E+02		4.2E-02	2 1E±00	4.2E+00				24	2.1E+00							6.3E+00											6.3E+01				2.1E+00		20 04	6.3E-01		F 0 .
Noncancer Cl	Child THQ=1	(ng/L)	3.4E+04	4.4E+06		4.6E+04	1.7E+03	2.1E+04	8.9E+04	6.9E+02	1.4E+03	2.4E+04	100	1.36+04	4.6E+06	9.8E+02	2.8E+05	7.5E+03 9.1E+04	9.8E+00	9.1E+05	7.7E+03	1.1E+02	3.4E+02	2.7E+02	1.4E+03 1.6E+01	5.8E+05 6.2E+03	8.3E+02	6.8E+07	6.4E+04	3.0E+04	2.4E+05 9.4E+03	4.9E+04 6.1E+02	1.0E+02	3.0E+03 1.2E+06	L	8.9E+04 3.2E+02	6.4E+01 2.3E+02	7.25.00	6.5E+03 3.0E+03	00.00	9.1E+05
No actional	Child THQ=1		2.4E+01	1.8E+04		2.0E+03	1.0E+01	4.0E+01	8.0E+02	2.0E+02	2.0E+01	2.0E+01	6.0E-01	1.05+02	2.0E+04	1.8E+02	1.6E+03	8.0E+01 4.0E+02	5.0E+01	4.0E+03	1.4E+02	4.0E+01	1.0E+00	8.0E+00	6.0E+00 7.0E-02	7.2E+02 7.0E+02	8.0E+00 6.0E+01	2.0E+04	4.0E+03	1.0E+03	4.0E+03 6.0E+02	2.0E+03 8.0E+01	2.0E+00	8.0E+04	L	2.0E+03 4.0E+01	4.0E+01 1.8E+02	3.0E+02	8.0E+04 6.0E+01	4 0 1 0 1	4.0E+03
= 1E-06	Carcinogenic SL TR=1E-06	(ng/L)	2.6E+00			4 EF 02	1.6E-UZ	5.0E-02	5.2E-02	1.1E+00			9.2E-04	7.3E-01		0000	3.06-03				1.3E+01	1.4E+00			5.2E-02	3.0E-01 6.7E-02		1.ZE-01				1.9E+01 4.6E-01	10-10-7	1.1E-04	3.0E-03	8.9E-02		00.306	3.86	1.4E-02 7.2E-05	
Target Risk (TR)	Inhalation SL TR=1E-06	(ng/L)	2.6E+00						8.3E-02				1.1E-03	9.4E-01													L	1.8E-01				7.2E-01				1.1E-01				1.7E-02 9.1E-05	
arcinogenic Tar	Dermal SL TR=1E-06	(ng/L)				20 32	6.7 E-UZ	2.3E+01	1.4E+01	4.4E+00				3.5E+01		7 1 2 2	1.5E-02				6.9E+02	5.1E+00			9.7E+00	2.8E+00 2.7E-01		7.3E-01				4.4E+02 9.8E+00	L C	5.0E-03	6.0E-03	3.4E+00		00.55	0.04=0.0	2.7E+00 3.4E-02	
BO	Ingestion SL TR=1E-06	(ng/L)				00 11	Z.TE-02	5.0E-02	1.4E-01	1.4E+00			4.6E-03	3.7E+00		27 75 00	3.75-03				1.4E+01	1.9E+00			5.2E-02	3.4E-01 8.9E-02		7.1E-01				1.9E+01 1.4E+00	10-10-1	1.15-04	6.0E-03	4.6E-01		0.75	9.7 E+00	7.1E-02 3.5E-04	
			30560-19-1 75-07-0	34230-82-1 67-64-1	75-86-5 75-05-8	98-86-2	53-96-3 107-02-8	79-06-1	107-13-1	111-69-3 15972-60-8	116-06-3	1646-88-4 1646-87-3	309-00-2	107-05-1	7429-90-5	834-12-8	591-27-5	95-55-6 123-30-8	33089-61-1	7773-06-0	75-85-4	84-65-1	1314-60-9	1332-81-6	7440-38-2 7784-42-1	3337-71-1 1912-24-9 492-80-8	65195-55-3 86-50-0	123-77-3	7440-39-3	17804-35-2	83055-99-6 25057-89-0	100-52-7 71-43-2	108-98-5	92-87-5 65-85-0	98-07-7	100-51-6 100-44-7	7440-41-7 42576-02-3	82657-04-3	92-52-4 108-60-1 111-91-1	111-44-4 542-88-1	7440-42-8
Contaminant		Analyte																																							
			Acephate Acetaldehyde	Acetochior Acetone	Acetone Cyanohydrin Acetonitrile	Acetophenone		Acrylamide	Acrylonitrile	Adiponitrile Alachlor	Aldicarb	Aldicarb Sulfone Aldicarb sulfoxide	Aldrin	Allyl Chloride	Aluminum Phosphide	Ametryn	Aminophenol, m-	Aminophenol, o- Aminophenol, p-	Amitraz	Ammonium Sulfamate	Amyl Alcohol, tert- Aniline	Anthraquinone, 9,10-	Antimony (metallic) Antimony Pentoxide	Antimony Tetroxide Antimony Trioxide	Arsenic, Inorganic Arsine	Asulam Atrazine Auramine	Avermectin B1 Azinphos-methyl	Azobenzene Azodicarbonamide	Barium	Benomyl	Bensulfuron-methyl Bentazon	Benzaldehyde Benzene	Benzenethiol	Benzidine Benzoic Acid	Benzotrichloride	Benzyl Alcohol Benzyl Chloride	Beryllium and compounds Bifenox	Biphenthrin	Diphenyl, 1,1 - Bis(2-chloro-1-methylethyl) ether Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether Bis(chloromethyl)ether	Boron And Borates Only
	٤	FA EPD?		1 Yes	1 Yes	1 Yes	1 Yes	1 Yes			Yes			1 Yes	1 Yes	1 Yes	1 Yes	1 Yes	0.9 Yes	1 Yes	1 Yes	0.9 Yes	7 Yes	1 Yes	7 Yes	1 Yes 1 Yes 0.9 Yes		1 Yes	1 Yes		1 Yes		1 Yes	1 Yes	1 Yes	1 Yes	Yes 9 Yes		1 Yes		
		GIABS			€ 4 						-		-									5	0.15	0.15	<u>}</u>				0.07						· - ·		0.007				
Toxicity and Chemical-specific Information	muta	gen						Σ		-0.32 3.52	1.1	-0.57 -0.78		1.93		25.90	0.2	0.62			6.0	3.30				-0.27 2.61 2.98					2.18		2.5		3.9		4.48			0.57	
hemical-specific Ir	R Č o ×	У (9.0E-03 I V	3.1E+01 A V	2.0E-03 X 6.0E-02 I V	>	2.0E-05 I V		2.0E-03 V	6.0E-03 P			>	1.0E-03 V	5.0E-03 P				7 DE-01		3.0E-03 X V 1.0E-03			2.0F-04	1.5E-05 C 5.0E-05 I		A 1.0E-02 A	۵	5.0E-04 H	•		3.0E-02 I V	>		>	1.0E-03 P V	2.0E-05 I		4.0E-04	>>	I 2.0E-02 H
oxicity and Chem	RfD _o e	3	1.2E-03 O	9.0E-01		1.0E-01	-	2.0E-03 I	- ∢	1.0E-02	1.0E-03	1.0E-03	3.0E-05 I		1.0E+00 P	9.0E-03		4.0E-03 X 2.0E-02 P	2.5E-03 I	2.0E-01		×	5.0E-04 H	I	– o	3.6E-02 O 3.5E-02 I	4.0E-04 I 3.0E-03 A		2.0E-01		2.0E-01 3.0E-02	1.0E-01 4.0E-03	3.0E-04 1.0E-03 P	3.0E-03 4.0E+00		1.0E-01 P 2.0E-03 P	2.0E-03 l 9.0E-03 P	1.5E-02	3.0E-03 P	- 60	
Toxic	UR e x	(ug/m³) ⁻¹ y (m	2.2E-06 I			7 20 00	د	1.0E-04	6.8E-05 I				4.9E-03 I	6.0E-06 C		000	ر				1.6E-06 C				4.3E-03 I	2.5E-04 C		3.1E-05 1				7.8E-06 I	- 00	-		4.9E-05 C	2.4E-03			3.3E-04 1 6.2E-02 1	
	→ 0	(mg/kg-day) ⁻¹ y				000		5.0E-01	5.4E-01	5.6E-02 C			1.7E+01	2.1E-02 C		C					-	4.0E-02 P			1.5E+00	2.3E-01 C		1.1E-01				4.0E-03 P 5.5E-02 I	< -	-	1.3E+01	1.7E-01		0 00	-	1.1E+00 I 2.2E+02 I	

pplied (see	MCL	(ng/L)	10		80.0(F)	80.0(F)							2		40			2		1000		09	100			80.0(F)	
volatile; R = RBA s e Section 5.12) Index (HI) = 1	ncarcinog Child THI=	(ug/L) 2.6E+01	8.0E+01	4.6E+00 6.2E+01	8.3E+01 3.8E+02	3.8E+02 7.5E+00	3.5E+01 2.1E+02	2.5E+02	1.0E+02 4.2E+00 4.5E+02	2.0E+03 2.4E+04 4.6E+02	1.0E+03 1.0E+03	2.0E+03 6.9E+02 4.0E+02	9.2E+00 9.9E+03	3.2E+01 2.4E+03 1.8E+03	9.4E+01 8.1E+02 4.9E+01	2.1E+02 5.1E+01 1.9E+03	2.0E+03 2.9E+02	7.4E-01 2.9E+00	1.1E+01 1.8E+03 3.0E-01	4.2E-01 6.0E+02 1.0E+05	3.7E+01 5.4E+01		7.6E+01 7.8E+01 2.0E+03	1.9E+02 5.1E+02 3.5E+01	6.4E+02 1.0E+05 4.0E+02	9.7E+01 1.9E+02	5.5E+01 1.3E+01 9.1E+01 8.3E-01
Section 5; V = see user's guid	SL	(ug/L) 2.7E+01		1.3E+02	8.3E+01	1.0E+01	2.1E+02		4.2E+00	6.3E+04					1.5E+03 2.1E+02	2.1E+02		1.5E+00	3.0E-01	4.2E-01 1.0E+05	4.2E+01		1.0E+02	6.3E+02	1.0E+05	2.0E+02 1.9E+02	8.3E-01
user's guide ceed Csat (Noncance)	Dermal SL I Child THQ=1	(ug/L) 1,8E+05	1.8E+04	2.0E+01 5.4E+02	6.5E+03	6.2E+03 1.0E+03	5.5E+01	1.3E+03	1.8E+03	1.0E+05 3.0E+06 8.5E+02	1.2E+03	1.1E+03 6.7E+04	1.1E+02 9.0E+05	1.5E+02 3.0E+04 2.4E+04	1.4E+03 2.0E+04 3.4E+02	6.9E+01 4.1E+04	1.5E+05 7.4E+03	1.8E+00 5.4E+00	5.6E+01 6.8E+04 4.6E+05	1.4E+05 1.4E+05	1.8E+03 5.6E+02		1.3E+03 1.3E+03 1.8E+06	3.5E+02 3.4E+03 9.3E+01	3.1E+03 7.7E+04	2.5E+03	6.4E+02 1.2E+02 1.0E+03
gen; S = see ration may ex	SL	(ug/L) 8.0E+02	8.0E+01	6.0E+00 1.6E+02	4.0E+02	4.0E+02 2.8E+01	1.0E+02	3.0E+02	3.0E+02 6.0E+02	2.0E+03 4.0E+04	6.0E+03 1.0E+03	2.0E+03 2.0E+03 4.0E+02	1.0E+01	4.0E+01 2.6E+03 2.0E+03	1.0E+02 2.0E+03 8.0E+01	2.0E+02 2.0E+03	2.0E+03 3.0E+02	1.0E+01 6.0E+00	1.4E+01 1.8E+03 2.0E+03	6.0E+02 6.0E+02	4.0E+02 6.0E+01		8.0E+01 4.0E+02 2.0E+03	4.0E+02 6.0E+02 6.0E+01	8.0E+02 4.0E+02	2.0E+02	6.0E+01 1.4E+01 1.0E+02
ction 5.2; M = muta 15.13); s = concent = 1E-06	Carcinogenic SL TR=1E-06	(ng/L)	1.1E-01 7.4E-03		1.3E-01	3.3E+00		6.1E-01	2.4E-01 1.8E-02		1.5E+02 3.4E+00			4.0E-01 3.1E+01	4.6E-01			1.8E-01 2.0E-02 3.5E-03			1.9E-02 1.7E-01 7.0E-01		3.7E-01	3.1E-01		2.2E-01	2.4E-01 1.2E+00
e user's guide Sec er's guide Section Target Risk (TR) =	Inhalation SL TR=1E-06	(ng/L)	9.4E-03		1.5E-01	5.1E+00			1.9E-01						9.4E-01			5.6E-02			1.9E-02					2.4E-01 8.1E-03	
.6; L = see us t (see user's g inogenic Targ	و بـ	(ng/L)	2.1E+01 5.7E-01		1.9E+01	1.4E+02		3.1E+00	3.6E-01		2.5E+02 4.0E+00			1.8E+00 3.6E+02	4.3E+00			3.5E+00 3.6E-02 6.5E-03			5.1E+02 6.6E+00	4.6E+01	5.9E+00	5.6E-01		2.9E+01	2.6E+00 1.0E+01
Section 2.3. ed ceiling limit Carci	SL 6	(ng/L)	1.1E-01 3.9E-02		1.3E+00	9.9E+00		7.6E-01	7.8E-01		3.9E+02 2.2E+01			5.2E-01 3.4E+01	1.1E+00			1.9E-01 2.2E-01 7.8E-03			1.7E-01 7.8E-01	2.9E-01	3.9E-01	7.1E-01		2.5E+00	2.6E-01 1.3E+00
ee user guide on may excee		CAS No.	15541-45-4 107-04-0	460-00-4 108-86-1	75-27-4	75-25-2 74-83-9	2104-96-3 106-94-5	1689-84-5	106-99-0 106-99-0 94-82-6	71-36-3 78-92-2	25013-16-5 128-37-0 104-51-8	135-98-8 98-06-6 75-60-5	7440-43-9 7440-43-9 105-60-2	2425-06-1 133-06-2 63-25-2	1563-66-2 75-15-0 56-23-5	463-58-1 55285-14-8 5234-68-4	1306-38-3 302-17-0 133-90-4	118-75-2 12789-03-6 143-50-0	470-90-6 90982-32-4 7782-50-5	10049-04-4 7758-19-2 75-68-3	126-99-8 3165-93-3 95-69-2	107-20-0 79-11-8 532-27-4	106-47-8 108-90-7 98-66-8	510-15-6 74-11-3 98-56-6	109-69-3 75-45-6 107-07-3	67-66-3 74-87-3 107-30-2	88-73-3 100-00-5 95-57-8 76-06-2
See FAQ; W = see user guide Section 2.3.5; E = see user guide Section 2.3.6; L = see user's guide Section 5.2; M = mutagen; S = see user's guide Section 5.1? SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (see user's guide Section 5.13); s = concentration may exceed Csat (see user's guide Section 5.12) Contaminant Contaminant Noncancer CHILD Hazard Index (HI) = 1				7 (-)								. 0, 1						4	7 07 12	. 12 12	((- - 4)		3 1 3			
.Q; W = see user gu lues are based on E Contaminant	:	Analyte													•												
11			benzene 1-	benzene, 1-	emane		+.	decord	Bromoxynii Octarbate Butadiene, 1,3- Butanoic acid, 4-(2,4-dichlorophenoxy)	-081	oxyanisole oxytoluene n-	sec-	er)		de	eg.		(ebone)	ıs thyl-	Chlorine Dioxide Chlorite (Sodium Salt) Chloro-1,1-difluoroethane, 1-	Chloro-1,3-butadiene, 2- Chloro-2-methylaniline HCl, 4- Chloro-2-methylaniline, 4-	hyde, 2- cid enone, 2-	Chloroaniline, p- Chlorobenzene Chlorobenzene sulfonic acid, p-	Acid, p- fluoride, 4-	1- nethane 2-	Anthyl Ether	zene, p- zene, p- 2-
see FQ #31); ; ** = where n		Boron Trifluoride	Bromate Bromo-2-chloroethane, 1- Bromo-3-fluorohenzene, 1-	Bromobenzene, 1-	Bromodichloromethane	Bromoform Bromomethane	Bromophos Bromopropane, 1-	Bromoxynil Octoboots	Butadiene, 1,3- Butanoic acid,	Butanol, N- Butyl alcohol, sec- Butylate	Butylated hydroxyanisole Butylated hydroxytoluene Butylbenzene, n-	Butylbenzene, sec- Butylbenzene, tert- Cacodylic Acid	Cadmium (Diet) Cadmium (Water) Caprolactam	Captafol Captan Carbaryl	Carbofuran Carbon Disulfide Carbon Tetrachloride	Carbonyl Sulfide Carbosulfan Carboxin	Ceric oxide Chloral Hydrate Chloramben	Chloranil Chlordane Chlordecone (Kepone)	Chlorfenvinphos Chlorimuron, Ethyl- Chlorine	Chlorine Dioxide Chlorite (Sodium Salt) Chloro-1,1-difluoroeth	Chloro-1,3-butadiene, 2- Chloro-2-methylaniline HC Chloro-2-methylaniline, 4-	Chloroacetaldehyde, 2- Chloroacetic Acid Chloroacetophenone, 2	Chloroaniline, p- Chlorobenzene Chlorobenzene sulfonic	Chlorobenzilate Chlorobenzoic Acid, p- Chlorobenzotrifluoride,	Chlorobutane, 1- Chlorodifluoromethane Chloroethanol, 2-	Chloroform Chloromethane Chloromethyl Methyl Ether	Chloropicin Chloropich Chloropich Chloropich
/ SCREEN (6 < 100X c.SL	<u>=</u> {	Yes Yes		Yes		Yes	Yes	Yes	≺es ≺es		Yes			Yes		Yes Yes Yes		Yes Yes	Yes Yes Yes	Yes O			Yes Yes	Yes Yes Yes		Yes	
NDIX PPRT where: n SL		GIABS FA					1 0.8	1 0.9			1 1 0.8		0.025 1	1 1 0.9		1 0.8		1 0.7	1 0.9					1 1 1			
EPA; X = APPEnnoncancer; * = '	muta	gen LOGP 0.22	1.92	3.08	1.41	2.4	5.21	2.8	3.53	0.88	3.5 5.1 4.38	4.57 4.11 0.36	-0.19	3.8 2.8 2.36	2.32 1.94 2.83	-1.33 5.57 2.14	0.99	2.22 6.16 5.41	3.81 2.5 0.85	2.05	2.53	0.09	1.83 2.84 -0.52	4.74 2.65 3.6	2.64 1.08 0.03	0.97	2.24
= ATSDR; C = Cal EPA; 0); c = cancer; n = non Chemical-specific Infor		(mg/m²) y I I		- :	4.0E-02 A V	V 5.0E-03 I V	V 1.0E-01 A V		2.0E-03 I V	3.0E+01 P V			1.0E-05 A 1.0E-05 A 2.2E-03 C		7.0E-01 V 1.0E-01 V	1.0E-01 P V	9.0E-04 I	7.0E-04 I V	1.5E-04 A V	2.0E-04 V 5.0E+01 V		V 3.0E-05 I	5.0E-02 P V	3.0E-01 P V	5.0E+01	9.8E-02 A V 9.0E-02 I V	1.0E-05 X 2.0E-03 P V 4.0E-04 C V
= OPP; A = ATS Section 5.10); c oxicity and Chem		(mg/kg-day) y 4.0E-02 C		3.0E-04 X 8.0E-03 I	2.0E-02			1.5E-02 O		1.0E-01 2.0E+00 5.0E-02	3.0E-01 P	1.0E-01 X 1.0E-01 X 2.0E-02 A	1.0E-03 5.0E-04 5.0E-01	2.0E-03 1 1.3E-01 1	5.0E-03 1 1.0E-01 1 4.0E-03 1	1.0E-02 1.0E-01	1.0E-01 1	5.0E-04 3.0E-04	7.0E-04 A 9.0E-02 O 1.0E-01 I	3.0E-02 I 3.0E-02 I	2.0E-02 H 3.0E-03 X		4.0E-03 2.0E-02 1.0E-01 X	2.0E-02 I 3.0E-02 X 3.0E-03 P	4.0E-02 P 2.0E-02 P	1.0E-02	3.0E-03 P 7.0E-04 P 5.0E-03 I
Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (see FQ #31); H = HEAST; F: user's guide Section 5.10); c = cancer, n = noncancer, * = where: n SL < 100X c SL; ** = where n SL < 10X c SL	e k	y (ug/m²) ' y	X 6.0E-04 X	., .	3.7E-05 C	1 1.1E-06 1 2		00	3.0E-05 1	. 04	C 5.7E-08 C 3 P 5		1.8E-03 5	C 4.3E-05 C 2 C 6.6E-07 C 1	1 6.0E-06 I 4		7.7	H 1.0E-04 5 4.6E-03 C 3	0/ F		3.0E-04 1 2 H P 7.7E-05 C 3		Д 4 2 1	C 3.1E-05 C 2		2.3E-05 6.9E-04 C	
Key: I = IRIS; F		(mg/kg-day)	7.0E-01 2.0E+00			7.9E-03			3.4E+00		2.0E-04 3.6E-03			1.5E-01 2.3E-03	7.0E-02			4.0E-01 3.5E-01 1.0E+01			4.6E-01 1.0E-01		2.0E-01	1.1E-01			3.0E-01 6.0E-02

MCL	(ug/L)							100		1300							200			700						200		400	0.2	80.0(F)	0.05		
Registion SL Inhalation SL	(ug/L)	2.6E+02 2.4E+02	2.5E+02	6.4E+02	1.2E+02 9.9E+02	1.2E+02	2.2E+00	4.4E+01	2.3E+02	8.0E+02	9.3E+02	9.3E+02 1.9E+03	1.4E+03 1.5E+03	2.0E+01	3.8E+01	2.0E+01 1.0E+02	1.5E+00 2.0E+01	1.5E+00	8.2E+01 1.8E+03	4.0E+01 4.0E+00 4.0E+00	1.0E+03 1.3E+04	2.9E+02 1.4E+03	7.0E+01 3.8E+03 1.2E+02	2.0E+01 9.9E+03	6.3E-02	1.0E+01	3.0E+03 1.4E+02	4.2E-01 1.2E+04	1.0E+01 6.5E+01 3.7E-01	5.3E+00 1.3E+02 3.8E+02	1.7E+01 8.3E+00 6.0E+00	5.7E+02	
Inhalation SL N Child THQ=1	(J/gn)													8 3E±02	0.01402		1.7E+00	1.7E+00			1.3E+04	1.5E+03	2.1E+03						4.2E-01		1.9E+01 8.3E+00		
Dermal SL Child THQ=1	(ug/L)	2.1E+03 5.8E+02	6.6E+02	1.5E+01	2.9E+02 5.7E+04	3.3E+02	3.4E+00 8.9E+04	1.7E+02	2.1E+03	3.4E+03	1.2E+04	1.2E+04 2.5E+04	5.2E+03 6.7E+03	1.5E+03	7.6E+02	4.6E+03 2.3E+04	2.7E+03 5.1E+03	5.8E+05 2.7E+03	4.6E+02 1.8E+04	9.1E+02 9.1E+02	3.8E+05	1.1E+03 6.5E+06	2.5E+02 9.3E+04 1.6E+02	8.0E+05	7.1E-02	5.5E+04	1.0E+07	8.8E-01	3.9E+01 9.6E+01 2.4E+01	3.7E+02 6.7E+03	3.6E+03	1.0E+04	
Ingestion SL Child THQ=1		3.0E+02 4.0E+02	4.0E+02	1.0E+03 2.0E+01	2.0E+02 1.0E+03	2.0E+02	3.0E+04	6.0E+01	2.6E+02	8.0E+00	1.0E+03	1.0E+03 2.0E+03	2.0E+03 2.0E+03	2.0E+01	4.0E+01	2.0E+01 1.0E+02	1.2E+01 2.0E+01	1.0E+03 1.2E+01	1.0E+02 2.0E+03	4.0E+00 4.0E+00 4.0E+00	1.0E+03	4.0E+02 1.0E+05	1.0E+02 4.0E+03 5.0E+02	2.0E+01 1.0E+04	6.0E-01	1.0E+01 6.0E+02	3.0E+03 1.4E+02	8.0E-01 1.2E+04	1.4E+01 2.0E+02 4.0E+00	8.0E+00 2.0E+02 4.0E+02	1.8E+02 6.0E+00	6.0E+02	
Carcinogenic SL TR=1E-06	(ug/L)	2.2E+01	3.2E-04					3.5E-02						4.0E-02	3.5E-01 8.8E-02							2.8E+00			3.2E-02 4 6F-02	2.3E-01	4.3E+00 1.1E+02	6.5E+01 5.4E-01	3.3E-04	8.7E-01	7.5E-03	1.3E-03	1.3E-03
Inhalation SL TR=1E-06	(ug/L)																								5.8E-02				3.4E-04		9.4E-03	1.3E-03	1.3E-03
Dermal SL TR=1E-06	(ug/L)	1.6E+02	1.0E+00					1.2E-01						2.7E+00	1.3E+04 1.6E+00							9.6E+00			3.5E-02		1.3E+04	9.2E-01	1.7E-01	1.4E+01	7.1E-01		
Ingestion SL TR=1E-06	(ug/L)	2.5E+01	3.2E-04					5.0E-02						4.1E-02	3.5E-01 9.3E-02)						3.9E+00			3.2E-01	2.3E-01	4.3E+00 1.1E+02	6.5E+01 1.3E+00	3.1E-02	9.3E-01	3.9E-02		
		1897-45-6 95-49-8	106-43-4 54749-90-5	101-21-3 2921-88-2	5598-13-0 64902-72-3	1861-32-1	16065-83-1	18540-29-9 7440-47-3	74115-24-5	8007-45-2 7440-50-8	108-39-4	95-48-7 106-44-5	59-50-7 1319-77-3	123-73-9 98-82-8	135-20-6 21725-46-2	592-01-8 544-92-3	57-12-5 460-19-5	506-77-4 74-90-8	506-61-6 506-64-9	143-33-9 E1790664 463-56-9	557-21-1 110-82-7	87-84-3 108-94-1	110-83-8 108-91-8 68359-37-5	68085-85-8 66215-27-8	72-54-8	50-29-3 75-99-0	1596-84-5 1163-19-5	8065-48-3 103-23-1 2303-16-4	333-41-5 132-65-0 96-12-8	108-36-1 106-37-6 124-48-1	106-93-4 74-95-3 E1790660	1918-00-9 764-41-0	1476-11-5
																>											,3,3',4,4',5,5',6,6'- (BDE-209)						
	Analyte	Chlorothalonii Chlorotoluene, o-	Chlorozotocin	Chlorpyrifos	Chlorpyrifos Methyl Chlorsulfuron	Chlorthal-dimethyl	Chiorniophos Chromium(III), Insoluble Salts	Chromium, Total	Clofentezine	Cobali Coke Oven Emissions Copper	Cresol, m-	Cresol, o- Cresol, p-	Cresol, p-chloro-m- Cresols	Crotonaldehyde, trans-	Cupferron Cyanazine	Cyanides ~Calcium Cyanide ~Copper Cyanide	-Cyanogen	-Cyanogen biomide -Cyanogen Chloride -Hydrogen Cyanide	Potassium Silver Cyanide ~Silver Cyanide	~Sodium Cyanide ~Thiocyanates ~Thiocyanic Acid	~Zinc Cyanide	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro Cyclohexanone	Cyclohexene Cyclohexylamine Cycluthrin	Cyhalothrin Cyromazine	DDD, p,p'- (DDD)	DDT Dalabon	de nodiphenyl ether, 2,2	Demeton Di(2-ethylhexyl)adipate Diallate	Diazinon Dibenzothiophene Dibromo-3-chloropropane, 1,2-	Dibromobenzene, 1,3- Dibromobenzene, 1,4- Dibromochloromethane	Dibromoethane, 1,2- Dibromomethane (Methylene Bromide) Dibutyltin Compounds	Dicamba Dichloro-2-butene, 1,4-	Dichloro-2-butene, cis-1.4-
Ξ	EPD?	Yes	Xes Xes		Yes	Yes	Yes		yes Ves	Xes X		Yes			Xes Xes	Yes	Yes	Yes Yes	Yes	Yes		Yes	Yes Yes	No Yes	Yes	S S S		Yes Yes		Yes Yes			
	GIABS FA	1 0.9			1 0.9	1 0.9		0.025 1	1 0.9		·		1 1 1 0.9						0.04			1 0.9	1 1 1	1 0.5	1 0.8	1 0.7	0	1 0.8		1 0.9			-
	LOGP	3.05	3.33	4.96	4.31	4.28			3.1		1.96	1.95 1.95	3.1 1.95	3.66	-1.73 2.22		0.07	-0.25		0.58	3.44	4.72 0.81	2.86 1.49	6.9	6.02	6.91	12.11	3.21 6.11 4.49	3.81 4.38 2.96	3.75	1.96	2.21	5.6
RfC _i e o muta	- c	>	>					1.0E-04 I M	0 0 0 0		-01 C	6.0E-01 C 6.0E-01 C	C	V 10E-01			8.0E-04 S V V	8.0E-04 I V		>	6.0E+00 I V	E-01 P V	1.0E+00 X V V		>	•			V 2.0E-04 I V M	>>>	9.0E-03 V 4.0E-03 X V	>	>
× 0	day) y (mg	1.5E-02 1 2.0E-02 1			02 H		r –		- 0	LI		- ∢	4	_ –	- т	 93		-		9 4 6 - A ×	-	× –	д – –	03 0		. – – s	03		< × ₽	×			
~		ய் ய	9 1	5.0E-02 1.0E-03	1.0E-02 5.0E-02	1.0E-02	8.0E 1.5E+	3.0E	1.3E-02		5.0E	5.0E	1.0E-01 1.0E-01	1.0E-03	C 2.0E-03	1.0E-03 5.0E-03	6.0E	5.0E-02 6.0E-04	5.0E	2.0E-04 2.0E-04	5.0E	2.0E-02 5.0E+00	5.0E-03 2.0E-01 2.5E-02		OC	- c	C 1.5E-01 7.0E-03	4.0E	7.0E-04 1.0E-02 P 2.0E-04	4.0E-04 1.0E-02 2.0E-02	1 9.0E-03 3.0E-04	۵	Д.
IUR RfD _o	2 _	8.9E-07 C 1.5 2.0	6.9E-02 C					C 8.4E-02 S	0 50 30 6	6.2E-04					6.3E-05 (6.9E-05	3.7E-05	5.1E-06		6.0E-03		6.0E-04	4.2E-03	1.2E-03

	MCL	(ng/L)	600	2		5	70	100	70	'																							٢	-		3.00E-05	
Noncarcinogenic SI	Child	(ug/L)	3.0E+02 5.7E+03	30.1 = 10.5	7.8E+01 2.0E+02	3.8E+03 1.3E+01	2.8E+02 3.6E+01	3.6E+02 4.6E+01	1.7E+02 8.2E+00	3.7E+02	5.9E+01 3.9E+01	9.9E+00	6.3E-01	3.8E-01	4.0E+01 6.0E+02	1.2E+03 2.0E+01	1.7E+03	8.3E+04	6.3E+04	1.5E+03	4.4E+02 4.4E+01	1.2E+03	3.8E+01 3.5E+01	6.1E+01	3.6E+02	1.1E+01	1.5E+00	2.3E+01 1.9E+00	2.0E+00	2.0E+00 3.9E+01	3.8E+01 5.7E+00	3.9E+01	3.9E+01 1.1E+01	5.7E+01		1.2E-05 5.3E+02 8.3E-04	1 5F±01
ermal SL Inhalation SL N		(ng/L)	4.2E+02	204	2.1E+02	1.5E+01	4.2E+02		8.3E+00		4.2E+01		6.3E-01					8.3E+04	6.3E+04	1.5E+03				6.3E+01 4.2E-03										6.3E+01		8.3E-05	0.3E-01
Dermal SL		(ug/L)	2.9E+03	2021	1.4E+02 3.8E+04	5.8E+04 2.8E+03	8.5E+03 3.6E+02	3.6E+03 1.9E+02	1.4E+03 9.6E+03	4.6E+03	5.0E+03 6.6E+03	5.6E+02	3.5E+03	6.1E-01	8.4E+04 8.7E+04	7.8E+05 4.3E+03	7.5E+05	1.05+0.3		1.3E+05	2.6E+05 7.0E+03	8.1E+05	8.0E+02 3.1E+02	1.8E+06	3.1E+03	1.7E+02	2.6E+01	5.4E+01 5.3E+01	7.3E+01	7.6E+01 1.2E+03	7.5E+02 9.3E+01	1.0E+03	3.0E+03	1.9E+05		4.2E+03	20.30
Ingestion SL		(ug/L)	1.8E+03	2044	1.8E+02 4.0E+03	4.0E+03 1.2E+02	1.0E+03 4.0E+01	4.0E+02 6.0E+01	2.0E+02 8.0E+02	4.0E+02	6.0E+01 6.0E+02	1.0E+01	1.6E+03	1.0E+00	4.0E+01 6.0E+02	1.2E+03 2.0E+01	1.7E+03	4.05+02		1.6E+03	4.4E+02 4.4E+01	1.2E+03	4.0E+01 4.0E+01	2.0E+03	4.0E+02	2.0E+01	1.6E+00	4.0E+01 2.0E+00	2.0E+00	2.0E+00 4.0E+01	4.0E+01 6.0E+00	4.0E+01	1.8E+01	6.0E+02		1.4E-05 6.0E+02	Lo
	Carci	(ug/L)	2 PE-04	1.3E-01		2.8E+00 1.7E-01			8.5E-01		4.7E-01	2.6E-01	i i	1.8E-03		7. 7.07			3.0E-01			4.7E-02 4.6E+01 5.0E-03	1.3E-01 3.7E-01 2.5E+00	6.5E-03	2.8E-05		3.3E-01			1.1E-01	2.4E-01 4.9E-02		1.0E-01	4.6E-01	1.3E-05	1.2E-07	
	Inhalation SL TR=1E-06	(ng/L)	7. 10.	2		3.5E+00 2.2E-01			1.5E+00		1.4E+00								4.3E-01						3.5E-05		4.3E-01							1.1E+00		1.5E-07	
	Dermal SL TR=1E-06	(ug/L)	9.00 10 1	4.5E-01		1.8E+02 1.8E+01			2.3E+01		7.8E+00	1.4E+01	i i	2.7E-03		80. 70.	8		2.3E+00			1.6E+00 2.8E+04 7.2E-03	5.2E+02 7.1E+00 2.0E+01	8.5E-02	5.0E-02		6.5E+00			1.5E+00	4.3E+00 7.4E-01		2.6E-01	2.3E+02			
	Ingestion SL TR=1E-06	(ug/L)	1.05+00	1.7E-01		1.4E+01 8.6E-01			2.1E+00		7.8E-01	2.7E-01		4.9E-03		2.2E_04			1.8E+00			4.9E-02 4.6E+01 1.7E-02	1.3E-01 3.9E-01 2.9E+00	7.1E-03	1.4E-04		1.7E+00			1.1E-01	2.5E-01 5.2E-02		1.7E-01	7.8E-01	1.3E-05	6.0E-07	
		CAS No.	95-50-1	91-94-1	90-98-2 75-71-8	75-34-3 107-06-2	75-35-4	156-60-5	94-75-7	142-28-9	616-23-9 542-75-6	62-73-7	77-73-6	60-57-1 E17136615	111-42-2	111-90-0 617-84-5 56-53-1	43222-48-6	75-37-6	420-45-1 94-58-6	1445-75-6	55290-64-7 60-51-5	119-90-4 756-79-6 60-11-7	21436-96-4 95-68-1 121-69-7	119-93-7 68-12-2 57-14-7	540-73-8 105-67-9	95-65-8	513-37-1 534-52-1	131-89-5 528-29-0	99-65-0	100-25-4 51-28-5 E1615210	121-14-2	35572-78-2	19406-51-0 25321-14-6	123-91-1		1746-01-6 957-51-7 101-84-8	0-4-0-101
		Analyte													\	\ \			>																Φ		
		Dicklomanatic Acid	Dichlorobenzene, 1,2-	Dichlorobenzidine, 3,3'-	Dichlorobenzophenone, 4,4'- Dichlorodifluoromethane	Dichloroethane, 1,1- Dichloroethane, 1,2-	Dichloroethylene, 1,1- Dichloroethylene, 1,2-cis-	Dichloroethylene, 1,2-trans- Dichlorophenol, 2,4-	Dichlorophenoxy Acetic Acid, 2,4- Dichloropropane, 1.2-	Dichloropropane, 1,3-	Dichloropropanol, 2,3- Dichloropropene, 1,3-	Dichlorvos	Dicyclopentadiene	Dieldrin Diesel Engine Exhaust	Diethanolamine Diethylene Glycol Monobutyl Ether	Diethylene Glycol Monoethyl Ether Diethylformamide	Difenzoquat	Difluoroethane, 1,1-	Diffuoropropane, 2,2- Dihydrosafrole	Diisopropyl Ether Diisopropyl Methylphosphonate	Dimethipin Dimethoate	Dimethoxybenzidine, 3,3 ¹⁻ Dimethyl methylphosphonate Dimethylamino azobenzene [p-]	Dimethylaniline HCI, 2,4- Dimethylaniline, 2,4- Dimethylaniline, N,N-	Dimethylbenzidine, 3,3'- Dimethylformamide Dimethylbudrazine 11-	Dimethylhydrazine, 1,2- Dimethylphenol, 2,4- Dimethylphenol, 2,4-	Dimethylphenol, 3,4-	Dimethylvinylchloride Dinitro-o-cresol, 4,6-	Dinitro-o-cyclohexyl Phenol, 4,6- Dinitrobenzene, 1,2-	Dinitrobenzene, 1,3-	Dinitrobenzene, 1,4- Dinitrophenol, 2,4- Dinitrofoluene Mixture, 2,4/2,6-	Dinitrotoluene, 2,4-	Dinitrotoluene, 2-Amino-4,6-	Dinitrotoluene, 4-Amino-2,6- Dinitrotoluene, Technical grade	Dioxane, 1,4-	Dioxins ~Hexachlorodibenzo-p-dioxin, Mixture	~TCDD, 2,3,7,8- Diphenamid Diphenyl Ether	Dipitieriyi Ettiel
		FA EPD?		ľ					1 Yes						1 Yes	1 Yes		Yes	, Yes	1 Yes		Yes Yes			Yes		1 Yes 1 Yes	0.9 Yes 1 Yes	1 Yes	×es ×es ×es	Yes	Yes		Yes		0.5 No 1 Yes	163
		GIABS								-																-			-						-		_
		gen LOGP	3.43	3.51	4.44 2.16	1.79	2.13	3.06			2.04	1.43	3.16	5.4	-1.43 0.56	-0.54 0.05	0.65	0.75	3.58	1.03	-0.17 0.78	1.81 -0.61 4.58	2.17 1.68 2.31	2.34	2.3	2.23	2.58 2.13	4.12	1.49	1.46 1.67 2.18	1.98	1.84	2.18 2.18	-0.27	8.21	6.8 2.17	4.21
	> 0 ·	(mg/m²) y	1 2.0E-01 H V	0.0	× I 1.0E-01 X V	V V 7.0E-03 P V	1 2.0E-01 I V	· >	I P 4.0E-03 I V		 2.0E-02 V		P 3.0E-04 X V	5.0E-03	P 2.0E-04 P P 1.0E-04 P	P 3.0E-04 P P V	0 -	4.0E+01	3.0E+01 × V	V.0E-01 P V	00	۵	> ×-	P 3.0E-02 V X 2.0E-06 X V			> ×	– а	- 0	r –	- ×	(W (ω×-	3.0E-02 I V		1 4.0E-08 C V 1 4.0E-04 X V	4.0E-04 A V
,	e RfD。	(mg/kg-day)			9.0E-03 2.0E-01		5.0E-02 2.0E-03	2.0E-02 3.0E-03	1.0E-02 4.0E-02	2.0E-02	3.0E-03 3.0E-02				2.0E-03 3.0E-02		8.3E-02 (2.2E-02 2.2E-03	6.0E-02	2.0E-03			1.0E-03	8.0E-05	2.0E-03 1.0E-04		1.0E-04 2.0E-03	2.0E-03		2.0E-03 9.0E-04	3.0E-03		7.0E-10 3.0E-02	
				O		ပ –			۵		_	O		- U		C)5 C			ပ			O 10)5 C				S			- 9	- 00	C C	
	IUR	(ng/m′)	- 1 1 1 1 1 1 1	3.4E-04		C 1.6E-06 I 2.6E-05			P 3.7E-06		1 4.0E-06	1 8.3E-05	i i	3.0E-04		10 10 10			C 1.3E-05			P P C 1.3E-03	ILL	<u>a</u>	C 1.6E-01		C 1.3E-05			_	C 8.9E-05 P		×	1 5.0E-06	1 1.3E+00 I	3.8E±	

appiied (see		MCL	(ag/c)	20					100	2						002	007				0007	4000								200		4.0	2.0
= See FALX, W = See User glude Section 2.35. E = See User glude Section 2.35. E = See User squide Section 3.25. M = MURGEN 5.15. E = See User glude Section 5.15. E = See User glude Section 5.12. 1. SOL Laubes are based on DAF=1; m = Concentration may exceed celling limit (see user's guide Section 5.13); s = concentration may exceed Csat (see User's guide Section 5.12). Contaminant Contaminant Noncancer CHILD Hazard Index (HI) = 1 Carcinogenic Taget Risk (TR) = IE-06		Child	(365)	4.4E+01	5.0E-01	2.0E+02	3.6E+01 4.0E+02	7.5E+02	1.0E+02 3.8E+02	2.3E+00	2.0E+00 4.2E+01 8.0E+02	1.0E+02	4.3E+00 1.2E+02	3.4E+02 1.4E+02 1.4E+01	2.1E+04 3.9E+03	8.9E-02	0.1E+02 1.4E+03	1.8E+03 4.0E+04 2.0E+03	6.3E+01 1.6E+00	5.8E+04 4.4E+00 6.4E+01	5.0E+02 2.4E+02	1.2E+03	1.4E+03 6.9E+02	3.1E+01 7.9E+03 2.0E+02	1.6E+03 4.8E+01 2.4E+01	2.0E+01 6.3E-01 5.0E+04	7.9E+00 1.9E+01	3.4E+03	3.0E+0.1	2.0E+03 1.7E+00 2.0E+03	2.0E+02 4.0E+02 6.0E+02	7.6E-01 1.3E+00 1.2E-01	6.3E+00
section 5; V = ee user's guid CHILD Hazar	Dermal SL Inhalation SL No	Child THQ=1	(agr)							L	2.1E+00 4.2E+01		1.3E+02	4.2E+02 1.5E+02 1.7E+01	2.1E+04	0.35+02	Z.1E 1 U3		6.3E+01							2.0E+01 6.3E-01		4.2E+03	704407	2.1E+00			6.3E+00
s user's guide xceed Csat (s Noncancer	Dermal SL	Child THQ=1	(agr)		1 3F±00	1.6E+04	3.6E+02 5.3E+04	3.0E+03	6.3E+02 8.5E+03	3.7E+00	3.9F+05	4.2E+04	7.7E+00 2.3E+05	6.3E+05 1.2E+06 3.0E+03	2.0E+05	1.6E-01	3.8E+03	5.7E+07	1.0E+03	1.5E+06 3.4E+01 7.3E+01	3.4E+03	2.7E+05	1.4E+04 4.8E+03	1.4E+02 3.7E+04	1.9E+04 1.2E+03 6.3E+01	3.2E+05 6.4E+06	1.3E+01 4.8E+02	1.7E+06		6.0E+05 1.8E+03	4.2E+05	3.1E+00 1.5E+00	Z:4E-01
ragen; s = ser ntration may e	lng	THQ=1	(agr)	4.4E+01	8 OF-01	2.0E+02	4.0E+01 4.0E+02	1.0E+03	1.2E+02 4.0E+02	6.0E+00	1.ZE+0Z	1.0E+02	1.0E+01 2.0E+03	1.8E+03 1.8E+04	4.0E+03	2.0E-01	1.4E+03	1.8E+03 4.0E+04	1.6E+00	6.0E+04 5.0E+00 5.0E+02	5.0E+02 2.6E+02	1.2E+03	1.6E+03 8.0E+02	4.0E+01 1.0E+04 2.0E+02	1.8E+03 5.0E+01 4.0E+01	4.0E+03 1.8E+04 5.0E+04	2.0E+01 2.0E+01	1.8E+04	1.2E+02	2.0E+03 8.0E+00 2.0E+03	2.0E+02 4.0E+02 6.0E+02	1.0E+00 1.0E+01	Z.0E-0.1
sction 5.2; M = mu 5.13); s = concer = 1E-06		Carci ∓	7.8E-02	1.1E-02 1.1E-02	1.2E-02					L	2.9E+00					1 55+00	1.35+00		6.7E-04 1.7E+00 2.4E-04							4.3E-01		2.0E-02	5.1E-02 1.1E+00			1.4E-03	
e user's guide Se er's guide Sectior Target Risk (TR)		TR=1E-06	(1/6n)							L	4./E+00					001200	Z.ZE+00		6.8E-04 3.0E-04							4.3E-01						4.3E-03	Z.ZE-00
rz.s.o, L = see us j limit (see user's Carcinogenic Tar	,	Dermal SL TR=1E-06	3.9E-01							1	7.9E+02					1001	1.25+01		1.7E+01 1.0E+03 2.5E-01									1.0E+01	1.9E+00 2.0E+00			2.3E-03	7.1E-00
sed ceiling lim		Ingestion SL TR=1E-06	9.7E-02	1.1E-02 1.1E-02	1.2E-02					L	7.9E+00					7.45.00	/. IE+00		8.1E-02 1.7E+00 1.2E-03									2.1E-02	5.2E-02 2.6E+00			1.7E-02	0.01
see user gurd tion may exce		OA SAO	122-66-7	85-00-7 1937-37-7 2602-46-2	16071-86-6	505-29-3	330-54-1 2439-10-3	759-94-4	115-29-7 145-73-3	72-20-8	106-89-8 106-88-7 111-77-3	16672-87-0	563-12-2 111-15-9	110-80-5 141-78-6 140-88-5	75-00-3 60-29-7	2104-64-5	109-78-4	107-15-3 107-21-1 111-76-2	75-21-8 96-45-7 151-56-4	84-72-0 22224-92-6 39515-41-8	51630-58-1 2164-17-2	7782-41-4	59756-60-4 56425-91-3	85509-19-9 66332-96-5 69409-94-5	133-07-3 72178-02-0 944-22-9	50-00-0 64-18-6 39148-24-8	132-64-9	109-99-9 67-45-8	531-82-8 60568-05-0 77182-82-2	111-30-8 765-34-4 1071-83-6	113-00-8 50-01-1 506-93-4	69806-40-2 76-44-8 1024-57-3	111-71-7
ection 2.3.5; E = ; m = Concentra																				1													
e user guide S ased on DAF=1 nant																							t		•								
values are based		Applyte	Allalyte																														
0X c SL; SSL			2-								ethoxv)-	(fyoung)	e, 2-		oethane)	osphonate		hitki Ether		ycolate	b	oride)							Ę				
where n SL < 1			Diphenylhydrazine, 1,	Diquat Direct Black 38 Direct Blue 6	Direct Brown 95	e, 1,4-		:	ulfan all		Epicnioronydrin Epoxybutane, 1,2- Ethanol. 2-(2-methoxyethoxy).	on - (=	Ethion Ethoxyethanol Acetate,	Ethoxyethanol, 2- Ethyl Acetate Ethyl Acrylate	Ethyl Chloride (Chloroethane) Ethyl Ether	Ethyl-p-nitrophenyl Phosphonate	anzene ne Cyanohydrir	Ethylene Diamine Ethylene Glycol Ethylene Glycol Monobital Ether	ne Oxide ne Thiourea neimine	Ethylphthalyl Ethyl Glycolate Fenamiphos Fenpropathrin	erate	Fluorine (Soluble Fluoride)	ne nidol	zole nil nate	afen	Formaldehyde Formic Acid Fosetyl-AL	Furans ~Dibenzofuran ~Furan	~Tetrahydrofuran Furazolidone	Furium Furmecyclox Glufosinate, Ammonium	Glutaraldehyde Glycidyl Glyphosate	Guanidine Guanidine Chloride Guanidine Nitrate	Haloxyfop, Methyl Heptachlor Hentachlor Enoxide	al, n-
(c SL; ** =		- 6	+=														s Ethyler	S Ethyler	Ethyler is Ethyler is Ethyler		7			Flusilazole Flutolanil	s Folpet s Fomesafen								
SL < 100)		LA FPD3	- 1		Z >		1 Yes			0.8 Yes	7 × es		0.8 Yes 1 Yes	1 Yes	1 Yes	0.8 Yes	- 1 Ye		1 Yes	1 Yes 0.9 Yes 0.8 Yes	0.7 No	1 Yes		0.9 Yes 0.9 Yes 0.6 No	1 Yes 1 Yes 0.9 Yes	1 Yes	1 Yes	1 Yes	1 Yes 0.9 Yes 1 No	No Yes	Yes No No	0.9 Yes	
where: n		QIABO	1			-		-		-																							
ncer; * =			_	4.6 4.9 2.6	-6.53	0.77	1.15	3.21	3.83 1.91	5.2	0.86 1.18	-0.22	5.07	0.73	0.89	4.78	-0.94	-2.04	-0.66 -0.28	2.19 3.23 5.7	6.2	9	3.16	3.7 3.7 6.81	2.85	0.35	1.34	0.46	4.38 4.38 4.81	-0.33 -0.12 -3.4	-1.63 -3.56 -8.35	6.1	2.29
ic Information		e v c	1			>		> :	>		> >		>	> > > - a a	>>>	> >	>	> o -	> > O			υ				> > 4 ×	>>	> ?	>	> 0 I	>	>>	> ×
cancer; r		RfC _i									1.0E-03 2.0E-02		6.0E-02	2.0E-01 7.0E-02 8.0E-03	1.0E+01		1.0E±00	4.0E-01	3.0E-02		д С	1.3E-02				9.8E-03 3.0E-04		2.0E+00		8.0E-05 1.0E-03			3.0E-03 X V
= OPF; A = A ISDR; C = Cal Section 5.10); c = cancer; n = oxicity and Chemical-specific		RfD。 e	ý	2.2E-03	0F-05	0E-02	2.0E-03 2.0E-02 O	0E-02 O	0E-03 0E-02	- 0	6.0E-03 P		– ₾	9.0E-02 P	_	1.0E-05 1	- Ф	9.0E-02 P 2.0E+00 I	-	3.0E+00 2.5E-04 2.5E-02	2.5E-02 1.3E-02			2.0E-03 O 5.0E-01 O 1.0E-02 I	9.0E-02 O 2.5E-03 O 2.0E-03 I	- <u>-</u> □			- 0	∢ – –	1.0E-02 X 2.0E-02 P 3.0E-02 X	0E-05 0E-04	-
v; O = OP uide Sectic Toxicity		× 0 >	<u> </u>	00	O	1.1	2 2	5.0	.5.6	-	-	5.0		ன் ன் ம	2.0	ر)	2.2	- 0 0	3.0	2 + 4	9.0	œ 4.	2.50.5	9.2	_	1 2 2	ன் <i>ம</i>	υo	<u>+</u> 4 +	5.2. 3.6.		-
P = PPK I user's g		e IUR	<u>_</u>	C 1.4E-01	C 1.4E-(1.ZE-06					2 5E-08			C 3.0E-03 C 1.3E-05 C 1.9E-02							1.3E-05		I	C 4.3E-04			1 1.3E-03	1 4.0L
Reg. 1 = INIS; P = PPR 10 S = OPP-7 A = A 15 DR; C = Carber A, S = A PPENDIX PPR 10 S CREEN (See FU #3.1); H = HEAA.1; P User's guide Section 5.10); C = cancer, n = noncancer, "= where: n SL < 100X c SL; "* = where n SL < 10X c SI Toxicity and Chemical-specific information		SFO (ma/kg-dav) ⁻¹	8.0E-01	7.1E+00 7.4E+00	6.7E+00					L	9.9 -0.3					1 1 1 1 1 1 1 1	1.15-02		3.1E-01 4.5E-02 6.5E+01									3.8E+00	1.5E+00 3.0E-02			4.5E+00	9.1E+00

eed Csat (see user's guide Section 5.12) Noncancer CHILD Hazard Index (HI) = 1 ermal SI I Inhalation SI Noncarcinopenic SI	Child Child MCL THQ=1 THQ=1 (uo/L) (uo/L)	8.3E+02 6.0E+00 4.0E+01		9.7E+01	3.6E+00 0.2 1 4.2E-01 4.1E-01 50	0.35+01	1.5E+03	3 6.3E+01 3.8E+01 6.4E+02 1.1E+02	6.3E-02	4.2E+01 4.2E+01 5 2.9E+01 2.8E+01 4.2E+00 4.2E+00					4.2E+02	4.2E+02 6.3E+02	4.2E+02 6.3E+02	4.2E+02 6.3E+02	6.3E+02	4.2E+02 6.3E+02	4.2E+03 4.7E+04 2.0E+02 7.4E+02 1.4E+02 1.4E+02 1.4E+03 3.8E+03 4.0E+01 4.2E+02 6.3E+02 6.3E+02 6.3E+02 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 1.4E+02 1.4E+02 1.4E+03 3.8E+03 4.0E+01 7.3E+02 6.3E+02 1.0E+03 1.0E+02 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 7.4E+02 7.4E+02 1.4E+03 3.8E+03 3.8E+03 4.0E+01 1.0E+02 1.0E+01 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 1.4E+04 1.4E+04 1.4E+04 1.4E+03 3.8E+03 4.0E+01 1.3E+02 6.3E+02 1.0E+01 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 1.4E+02 1.4E+02 6.9E+03 3.8E+03 4.0E+01 7.3E+02 6.3E+02 6.3E+02 1.0E+01 1.0E+02 1.0E+01 1.0E+01 1.0E+02 1.0E+01 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 1.4E+02 1.4E+02 4.0E+03 3.8E+03 4.0E+03 6.3E+02 6.3E+02 1.0E+01 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+03 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+02 1.0E+03 1.0E+02 1.0E+03 1.0E+03 1.0E+04 1.0	4.2E+03 4.7E+04 2.0E+02 7.4E+02 7.4E+02 1.4E+03 3.8E+03 3.8E+03 4.2E+03 4.2E+03 4.2E+03 1.0E+02 1.0E+03 1.0E+04 1.0
ntration may exceed Csat Noncano	با ح		4.0E+00 1.6E+01 2.0E+01 9.5E+00		1.2E+02 4.2E+01		8.0E+00 2.0E+03 4.0E+04 1.1E+07	1.0E+02 2.8E+03 6.6E+02 2.4E+04 5.0E+02 1.4E+02		8.0E+02 1.8E+05																	
Section 5.13); s = concersk (TR) = 1E-06	ion SL Carcinogenic SL E-06 TR=1E-06 (uo/L)		:-02 9.8E-03						:-03 1.1E-03 2.6E-02		1.3E+00 9.0E-01			7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01	7.8E+01 9.1E+00 9.2E+00	9.1E+00 9.2E+00	7.8E+01 9.1E+00 9.2E+00	7.8E+01 9.1E+00 9.2E+00	7.8E+01 9.1E+00 9.2E+00	9.1E+00 9.2E+00 9.2E+00	9.1E+00 9.2E+00	9.1E+00 9.2E+00 9.2E+00	9.2E+00 9.2E+00 9.2E+00
d ceiling limit (see user's guide Section Carcinogenic Target Risk (TR)	Ingestion SL Dermal SL Inhalation SL TR=1E-06 TR=1E-06 (uo/L) (uo/L)	î b	4.9E-02 1.2E-02 1.0E+00 4.4E-01 2.6E-01			1.2E+02			2.6E-02 1.1E+02 1.1E-03 2.6E-02 4.9E+00		1.3E+00 1.2E+02 1.3E+00 3.1E+00				8.2E+01 1.6E+03												
ncentration may exceed	CAS No.	142-82-5	9-2	(O. b.	608-73-1 77-47-4 67-77-1	40	680-31-9 110-54-3 124-04-9	591-78-6 51235-04-2 78587-05-0		7647-01-0 7664-39-3 7783-06-4		81335-77-5 7553-56-2 36734-19-7	0 00 00										0 7 4 10 8 7	0 2 4 10 8 2		0 7 4 10 8 7	0 2 4 1082
use's guide Section 5.10); c = cancer; n = noncancer; " = where n. SL < 100X c. SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (see user's guide Section 5.13); s = concentration may exceed Csat (see user's guide Section 5.12) and Charlest Cha	Analyte	Heptane, N-Hexabromobenzene	Hexabromodiphenyl ether, 2,2',4,4',5,5'. (BDE-153) Hexachlorobersene Hexachloroblariene	Haxachlorocyclohexane, Alpha- Hexachlorocyclohexane, Beta-	Hexachlorocylchexane, Gamma- (Lindane) Hexachlorocylchexane, Technical Hexachlorocylchentadiene	rexacilorostitarie Hexachlorophene Hexanydro-1,3,5-trinitro-1,3,5-triazine (RDX)		Hexanone, 2- Hexanone Hexathiazox	Hydramethylnon Hydrazine Hydrazine Sulfate	Hydrogen Chloride Hydrogen Fluoride Hydrogen Sulfide	Hydroquinone Imazalil Imazaquin	Imazethapyr Lodine Inodine		ironi Scondorone	Isobutyl Alcohol Isobutyl Alcohol Isophorone Isopropalin Isopropalin Isopropalin Isopropalin Acid	Isobuty Alcohol Isophorone Isopho	isobutyl Alcohol isobutyl Alcohol isobutyl Alcohol isopropalin iso	Isobutyl Alcohol Isobutyl Alcohol Isophone Isoph	Isobutyl Alcohol Isobutyl Alcohol Isobutyl Alcohol Isobotogalin Isopropanin Is	Isobuvi Alcohol Isobuvi Alcohol Isobhoron Isop	Isobuyi Alcohol Isobuyi Alcohol Isoboyi Charles Isopropri Metry Phosphonic Acid Isopropri Metry Phosphonic Acid Isopropri Metry Phosphonic Acid Isopropri Metry Phosphonic Acid Isopropri Metry Phosphonic Acid Isopropri Metry Phosphonic Anhydrous Isopropri I	isophorone isophorone	Alcohol alin alin alin alin alin alin alin ali	Isophorone Isophorone	nosphonic Aci e Heptahydrate e. Amhydrous Hexahydrate unds	Alcohol one anol anol yi Methyi Phosphonic Aci intile num Chloride Heptahydrau num Chloride Heptahydrau num Chloride, Anhydrous num Nitrate Hevahydrau ompounds Plosphate and Compounds and Compounds flyyl Lead and Compounds Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride Anhydride	nosphonic Aci Hydrate le Heptahydrate le, Anhydrous Hexahydrate unds
< 100X c SL;	A EPD?	9 S	No No	Yes	Yes Yes	V Yes		Yes	Yes Hy Yes Hy		Yes Yes Yes	Yes Yes	T		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	× × × × × × × × × × × × × × × × × × ×	S S S S S S S S S S S S S S S S S S S	S S S S S S S S S S S S S S S S S S S	Y 68 S Y	Y 68 S S S S S S S S S S S S S S S S S S	Y 65 Y 65 Y 65 Y 65 Y 65 Y 65 Y 65 Y 65	Y 68 S Y	Y S S S S S S S S S S S S S S S S S S S	N N N N N N N N N N N N N N N N N N N	Y 68 S Y 7 S S S Y 7 S S S Y 8	N N N N N N N N N N N N N N N N N N N	N
= where: n SL	P GIABS FA				0.0			1 1 1 1 0.8			1 1 0.9		,		0.0												
; n = noncancer; * =	k v e o muta v I gen LOGP	- > >	V 5.73 V 4.78	3.8	3.72 3.72 1.7 4.14 4.14 7.14	> >	> >	1 V 1.38 1.85 5.57	> 4	C V 0.23	0.59 3.82 1.86	1.49 2.49 3		> 0	> O	> O	>	> > > >	> O a 4	> > > > >	>	> O 4 4	> 0 4 4	>	>	>	> o a <
Section 5.10); c = cancer; n : oxicity and Chemical-specific	k RfC _i	× -	. — — a.	. 4	2.0E-04		۵ ۵	3.0E-02	0	2.0E-02 C 1.4E-02 2.0E-03	g 0 –	0 < -	· а.			0	- a - - O × a a	- a - - 0 × a a a a a	a - - 0 × a a a a a			0 × σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ	- a - - 0 × a a a a a - a 0 a - 0				
Toxicity and C	k e RfD _o v (ma/ka-dav)		2.0E-04 1 8.0E-04 1 1.0E-03	c	6.0E-03	ر	4.0E-04	5.0E-03 3.3E-02 2.5E-02		4.0E-02	4.0E-02 2.5E-03 2.5E-01	2.5E+00 1.0E-02 4.0E-02	7.0E-01	3.0E-01 2.0E-01	3.0E-01 2.0E-01 1.5E-02 2.0E+00 1.0E-01	3.0E-01 2.0E-01 1.5E-02 2.0E+00 1.0E-01 5.0E-02 8.0E-03	3.0E-01 2.0E-01 1.0E-07 1.0E-07 5.0E-02 8.0E-03 2.0E-04 2.0E-04 2.1E-05	3.0E-01 1.0E-01 1.0E-01 1.0E-01 5.0E-02 2.0E-04 2.0E-04 2.0E-04 5.0E-05 5.0E-05 1.9E-0	00	000	000	000	000			000	
,	k e IUR v (ua/m³)-1		4.6E-04	1.8E-03 5.3E-04	5.1E-04 1 5.1E-04				1 4.9E-03 1 4.9E-03		a 0								1.2E-05	1.2E-05 1.2E-05 1.2E-05	1.2E-05 1.2E-05	12E-05 12E-05	C 12E-05 C 1.2E-	1.2E-05 1.2E-05	1.2E-05 1.2E-05 1.2E-05	12E-05 12E-05	1.2E-05 1.2E-05

		MCL	(ng/r)	1 2							40	5													S							4000									0000	10000	1000
uses yours death and the state of the state	Noncarcinogenic SL	Child Child Child THQ=1 THQ=1 THI=1	(ug/L)	6.3E-01	1.6E+00	6.0E-01 2.8E-01	1.2E+03	1.9E+00 1.0E+00	2.0E+04 2.9E+01	5.0E+02	275.01	2.1E+00	2.9E+01	2.0E+04 4.2E+01	5.6E+03	4.2E-02 6.3E+03	2.1E+00 1.4E+03	4.5E+00	2.3E+03	6.3E+03 6.0E+00	6.3E+03	3.8E+02	2.0E+02 4.0E+00	6.0E+00	1.1E+02 2.6E+01		7.8E+02	2.7E+03 4.9E+02	4.9E+03	6.0E+04 4.0E+00	3.0E+01 1.0E+02	2.0E+03	3.8E+01 4.5E+02 3.6E+00	4.0E+01	1.5E+02	2.0E+03	2.2E+02 2.2E+02	2.9E-02	2.0E+02 2.0E+02	2.2E+02 3.9E+02	2.2E+02 2.2E+02	3.2E+04	2.0E+03 1.9E+02
ee usei s gui CHILD Hazai	nhalation SL	Child THQ=1	(ng/L)	6.3E-01			L	6.3E+01	4.2E+04			2.1E+00	4.2E+01	4.2E+01	1.0E+04	4.2E-02 6.3E+03	2.1E+00 1.5E+03		8.3E+01	6.3E+03	6.3E+03				1.3E+03										2.1E+02			2.9E-02					
Noncance	Dermal SL	Child THQ=1	(ug/L)	4 6F±02	5.7E+02	3.3E-01	6.4E+04	1.3E+02 1.0E+03	1.8E+07 8.7E+02	6.8E+04	101101	3.5E+04	6.3E+04	Z.9E+06	1.5E+06	1.5E+04	7.7E+05	1.05+01	4.3E+01	5.9E+04		7.3E+03	3.6E+05		3.7E+03 7.5E+01		1.7E+03	2.6E+04 1.8E+04	2.4E+05		1.2E+02 2.3E+04	4.6E+05	7.5E+02 4.7E+03	6.8E+03		1.1E+04	6.8E+05 1.4E+06	L	2.0E+03 2.0E+03	1.0E+04 1.8E+04	1.0E+04	7.3E+06	4.6E+05 3.4E+03
III allon III ay	=	Child THQ=1	(ug/L)	2 OE+00	1.6E+00	6.0E-01	1.2E+03	2.0E+00 1.0E+00	4.0E+04	5.0E+02	4 01-02	1.6E+02	1.0E+02	Z.0E+04	1.2E+04	Z.UE+01	2.8E+04	3.0E+00	1.2E+02	6.0E+00		4.0E+02	2.0E+02 4.0E+00	6.0E+00	1.2E+02 4.0E+01		1.4E+03	3.0E+03 5.0E+02	5.0E+03	6.0E+04 4.0E+00	4.0E+01 1.0E+02	2.0E+03	5.0E+02 6.0E+02	4.0E+01	6.0E+02	2.4E+03	2.2E+02 2.2E+02	2.2E+02	2.2E+02 2.2E+02	2.2E+02 4.0E+02	2.2E+02 2.2E+02	3.2E+04	2.0E+03 2.0E+02
13), s = curce E-06	1 00	Carcinogenic SL TR=1E-06	(ug/L)								1.5E+00				00 10	5.0E-03			7.9E-01	1.4E+01		8.2E+00 9.4E-03 6.0E-01		7.8E-01	1.1E-03 1.1E+01 1.6E-01	4.8E-01 4.7E-02				8.8E-04					3.9F-02			2.2E-02			4.5E-UZ		
Garcinogenic Target Risk (TR) = 1E-06		S 6	(ng/r)												C L	.oE-03				2.2E+01					2.0E+02					1.1E-03								2.2E-02					
odenic Target		, 9	(ng/L)								5.4E+01					D			4.8E+02			1.4E+02 1.1E+01 3.9E+03			3.5E+02 2 4.3E-01	6.7E-01 1.7E+00				1					3.6F-01						1./E+00		
Carcin		Ingestion SL D TR=1E-06 T	(ng/L)								1.6E+00 (7.9E-01			8.7E+00 9.4E-03		7.8E-01	1.1E-03 1.3E+01 2.5E-01					4.3E-03					4.3F-02						4.6E-0Z		
JI IIIay excee		<u> </u>		7439-97-6	62-38-4	150-50-5	57837-19-1	126-98-7 10265-92-6	67-56-1 950-37-8	16752-77-5	9-59-2	110-49-6	09-86-4	79-20-9 96-33-3	8-93-3	08-10-1	624-83-9 80-62-6	90-00-0	25013-15-4 66-27-3	1634-04-4 615-45-2	108-11-2	99-55-8 70-25-7 636-21-5	24-58-3 4612-12-7				8-83-9	51218-45-2 21087-64-9	74223-64-6	012-95-1 385-85-5	2212-67-1 7439-98-7	10599-90-3	100-61-8 88671-89-0 74-31-7	300-76-5	64742-95-6 91-59-8	15299-99-7	73-02-4 333-67-3	13463-39-3	12054-48-7 1313-99-1	E715532 7440-02-0	1271-28-9	14797-55-8 E701177	14797-65-0 88-74-4
				. ~ 0	9	1	. 12			7	00 1			6	7	1	ω ω α	7 0	» C/ O	1		6	7	9	0 1 -		- 65 1	ω (λ	7	2	2		- & r	. 6	90	,	, e			1		1 E	18
												-						4									1																
Contaminant		ç	/te	î												none)				de. 2-			nloride, 2-	ì																			
or, oor value		4	Analy or Mercury sa												none)	ethyl-2-penta			ers)	E) dihydrochlori		nidine, N- 2-	monohydroch	sulfate, 2-	ie), 4,4'-) Aniline, 4,4'- 4,4'-	late						edimei	Ildinine.	tic (HFAN)								
3F < 10A C			ride (and oth	nental)	ric Acetate	a.		S Te			oaniline, 2-	ol Acetate, 2-	ol, 2-	M	etone (2-Buta	rie I Ketone (4-m	ate rylate	Onio Acid	Onic Acid (Mixed Isomesulfonate	yl Ether (MTB zenediamine	anol, 4-	aniline, 2- N-nitrosogual Avdrochloride	acid 9,1-4-diamine	-1,4-diamine	irene, 3- oride 2-chloroanilin	N,N-dimethyl, enzenamine,	Alpha-		ethyl			Je.	iline 1 4-benzened	יייייייייייייייייייייייייייייייייייייי	Flash Aroma	1	ate	_	ep ep	/ Dust Salts	epi	(as N)	
= Mide			Mercuric Chloride (and other Mercury salts)	~Metcury (elemental)	~Phenylmercuric Acetate	Merphos Merphos Oxide	Metalaxyl	Methacrylonitrile Methamidophos	Methanol Methidathion	Methomyl	Methoxy-5-nitroaniline, 2-	Methoxyethanol Acetate,	Methoxyethanol, 2	Methyl Acetate Methyl Acrylate	Methyl Ethyl Ketone (2-Butar	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	Methyl Isocyanate Methyl Methacrylate	Methyl Paramion	Metnyl Prospronic Acid Methyl Styrene (Mixed Isome Methyl methanesulfonate	Methyl tert-Butyl Ether (MTBE) Methyl-1.4-benzenediamine dihydrochloride. 2-	Methyl-2-Pentanol, 4-	Methyl-5-Nitroaniline, 2- Methyl-N-nitro-N-nitrosoguanidine, N- Methylaniline Hydrochloride, 2-	Methylarsonic acid Methylbenzene,1-4-diamine mc	Methylbenzene-1,4-diamine sulfate, 2-	Methylcholanthrene, 3- Methylene Chloride Methylene-bis(2-chloros	Methylene-bis(N,N-dimethyl) Aniline, 4,4'- Methylenebisbenzenamine, 4,4'- Methylenedisham/ Discovariate	Methylstyrene, Alpha-	Metolachlor Metribuzin	Metsulfuron-methyl	Mirex Mirex	Molinate Molybdenum	Monochloramine	Monomet ryl aniline Myclobutanil N Ni-Dinbenyi-1 4-benzenediamine	Naled	Naphtha, High Flash Aromatic (HFAN) Naphthylamine 2-	Vapropamide	Nickel Acetate Nickel Carbonate	Nickel Carbonyl	Nickel Hydroxide Nickel Oxide	Nickel Refinery Dust Nickel Soluble Salts	Nickelocene	Nitrate Nitrate + Nitrite (as N)	Nitrite Nitroaniline, 2-
5		드			Yes	No Yes	Yes				Yes		Yes		Yes		Xes Xes	Т				Yes Yes			V .	Yes Yes		7					X es					Yes			Yes		Yes Y
G. = OL V		0				0.3				1	- 3		1						- 1.8		-		- 0	0	0.8		20,			1 0.5		-	5	; -	0 -	0.0		0 -	04 0	0.04 0	- 0	1 0	
M M		9		0.62	. 17.	7.67	. 65	 89: 8: 8:	-0.77	. 9.0	1.47	ş - .	. 22'	 8 8:		.31	0.79	00.	3.44	0.94	.43	1.87 -0.92 -0.92	84.	Ì	6.42 1.25 3.91	1.59	4 8 9	3.13		6.89	.21	`	2.94	1.38		. 36	-1.38		j ö	Ö Ö	j `	, ,	1.85
ormation			gen L	0	0	L *	, - 0	י כ	γ		- μ	, –	Ŷ	5 ~	0 `	1	0 - 0	7	, w h	0 %	, -	- 4 -	7		o − ∞	4 tr	0 00	ω.	.,,	9	3		- 0 4		^	l m	T 19						1
Section 3: 10), c = cancer, n = noncancer. [oxicity and Chemical-specific Information		x 0 :	- > 0	3.0E-04 I V		>	(3.0E-02 P V	2.0E+01 I V			1.0E-03 P V	2.0E-02 I V	2.0E-02 P V	0E+00 I V	0E+03 X V	1.0E-03 C V 7.0E-01 I V		4.0E-02 H V	3.0E+00 I V	3.0E+00 X V				1 6.0E-01 1 V P	2.0E-02 C	> -		>	> >				>	1.0E-01 P V		1.4E-05 C 1.4E-05 C		1.4E-05 C 2.0E-05 C	1.4E-05 C 9.0E-05 A	4E-05 C		5.0E-05 X
or $10/3$, $C = C$ and Chemica		∡ o :	-	-	-02	-05 -			– c	5E-02	-	- 0	٠ :	×	- 0	L			< I	×	:	-02 X	-02 -04 -04				Ι.		- 6		-03 -		× – ۳	-03	×	0	ပ ပ	O	ပ ပ	0 –	ပ -	1 00+	-×
Toxicitya		e RfD。	y (mg/kg-day)	, to to to to to to to to to to to to to	8.0E	3.0E-05	6.0E	5.0	2.0E+00		O E	8.0E-03	5.0E-03	1.0E-	6.0E-01		1.4E+00	7.35	O 00 00 O 00 00 O 00 00	3.0E-04	5	2.0E-02 C	1.0E-02 2.0E-04		C 6.0E-03 2.0E-03	ပပ	7.0E-02	1.5E-01 2.5E-02	2.5E-01	3.0E+00 C 2.0E-04	2.0E-03 5.0E-03	1.0E	2.0E-03 2.5E-02 3.0E-04	2.0E	3.0E-02	,	C 1.1E-02 C 1.1E-02	000	ပ ပ	1.1E-02 C 2.0E-02	- o	1.6E-	1.0E-01 1.0E-02
ned a guid		IUR	(ug/m)								C 1.4E-05				, T				2.8E-05	C 2.6E-07		2.4E-03			6.3E-03 1.0E-08 4.3E-04	1.3E-05 4.6E-04				5.1E-03					0.0F+00		2.6E-04 2.6E-04	2.6E-04	2.6E-04 2.6E-04	2.4E-04 2.6E-04	2.6E-04		
		SFO e	(riig/kg-day) y								4.9E-02 C								E-02 C	1.8E-03 C		9.0E-03 P 8.3E+00 C 1.3E-01 C			2.2E+01 C 2.0E-03 I 1.0E-01 P	E+00 C				1.8E+01 C					1.8F+00						1./E+00 C		
		S 2	A/K								4.								9.9	1.8		9.0 8.3.	É	1.0	2.2	1.6				1.8					8	2					1.7		

		MCL (ug/L)																					200								1			15.0/5)	(1)0:01														
Toxicity and Chemical-specific Information Contaminant Contaminant Carcinogenic Target Risk (TR) = 1E-06 Noncarcer CHILD Hazard Index (HI) = 1	ngeston SL Dermal SL Inhalaton SL Noncarcinogenic SL Child C	THI=1 (ug/L)	7.8E+01	1.3E+01 6.0E+07	1.45403	2.0E+00 2.0E+03	1.0E+01 4.2E+01				1	5.5E-02				1.7E+00	1.6E+01	7.1E+01 5.3E+00	2.9E+02	6.0E+01	4.0E+01	2.3E+03 4.7E+01	5.0E+02	3.2E+02 2.3E+02	9.0E+01	8.6E+01 5.6E+02	1.4E+03	2.0E+00	3.2E+00	2.6E+01	2.3E+01	2.1E+03	1.4E+01	1.4E+01	1.4E+01	1.4E+01	4.0E+02	1.0E+03		5.8E+03	7.8E+01	4.3E+00 2.6E+00	1.2E+02	2.0E+01	1	3.0E+00 6.3E-01	3.7E+02	9.7F±05	9.71-02
CHILD Hazard	Child	THQ=1 (ug/L)		1.9E+01			1.0E+01 4.2E+01					8.3E-02						4.2E+01														2.1E+03														6.3E-01			
Noncancer	Child	THQ=1 (ug/L)	2.8E+03	6.2E+02	00400	8.7E+01 1.8E+06					:	7.4E+01				1.4E+01	1.5E+02	6.2E+02	7.5E+03	6.3F±05	1.4E+05	1.2E+04	5.1E+05	6.7E+02 1.7E+03	L	3.0E+02 1.3E+03	1.8E+03		3.9E+00	4.4E+01	2.9E+01	3.05+02	3.2E+03	3.2E+03	1.6E+03	3.2E+03			F 0	1.4E+05	3.6E+03	7.6E+00 7.6E+00	4.8E+04	7.6E+03		1.2E+01	5.3E+03	2.2F±08	2.21.400
	Ingestion SL Child	THQ=1 (ug/L)	8.0E+01	4.0E+01 6.0E+07	201	2.0E+00 2.0E+03						1.6E-01				2.0E+00	1.8E+01	8.0E+01 6.0E+00	3.0E+02	6.0E+01	4.0E+01	2.8E+03	5.0E+02	6.0E+02 2.6E+02	9.0E+01	1.0E+03	6.0E+03	2.0E+00	1.6E+01	6.0E+01	1.0E+02	4.01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	4.0E+02 4.0E+02	1.0E+03	P 0	6.0E+03	8.0E+01	1.0E+01 4.0E+00	1.2E+02	2.0E+01		4.0E+00	4.0E+02	9.7F±05	9.7 1.03
1E-06	Carcinogenic SL	TR=1E-06 (ug/L)	3.8E+00	1.4E-01	6.0E-02	4.5E+00	6.4E-01 2.1E-03	9.2E-04	2.7E-03	1.1E-02	1.7E-04	1.1E-04	7.1E-04	1.2E-02	8.2E-03	3.7E-02	3.1E-01	4.3E+00				7.9E+00		5.4E-01					200	1.2E-01	4.1E-02	1.35+01							3.4E+01				6 57 04	5	3.0E+01				
Carcinogenic Target Risk (TR) = 1E-06	Inhalation SL Ca	rR=1E-06 (ug/L)		1.4 E -01			6.4E-01 2.1E-03		3.5E-03			1.4E-04	8.9E-04																																				
inogenic Targ	Dermal SL	TR=1E-06 (ug/L)			1.7E+01	1.8E+02		1.5E-01	7.9E-02	3.5E-01	1.7E-02	2.0E-01	6.4E-01	5.3E+00	1.1E+00	1.04	2.8E+00	3.4E+01				3.8E+01		1.1E+00					001336	2.0E-01	5.2E-02	4.35.402							1.1E+03				20.71	1.15402	1.2E+02				
Carc	Ingestion SL	TR=1E-06 (ug/L)	3.9E+00		6.0E-02	4.6E+00	L	9.3E-04	1.4E-02	1.1E-02	1.7E-04	4.9E-04	3.5E-03	1.2E-02	8.3E-03	3.75-02	3.5E-01	4.9E+00				1.0E+01		1.1E+00					20.77	3.0E-01	1.9E-01	1.32							3.5E+01				10	5.5	4.0E+01				
				98-95-3 9004-70-0	59-87-0	55-63-0 556-88-7	75-52-5 79-46-9	759-73-9	924-16-3	621-64-7	55-18-5	62-75-9	10595-95-6	59-89-2	100-75-4	99-08-1	88-72-2	99-99-0	27314-13-2	32536-52-0	152-16-9	19044-88-3	23135-22-0	42874-03-3 76738-62-0	1910-42-5	36-38-2 1114-71-2	40487-42-1	60348-60-9	608-93-5	82-68-8	87-86-5	109-66-0	7790-98-9	7791-03-9	7778-74-7	7601-89-0	375-73-5 45187-15-3	52645-53-1	62-44-2	108-95-2	114-26-1	92-84-2 103-72-0	108-45-2	106-50-3	90-43-7	298-02-2 75-44-5	732-11-6	13776-88-0	200010
Contaminant		Analyte														\				zocine (HMX)								3DE-99)													amate								
				Nitrobenzene Nitrocellulose Nitrocellulose	Nitrofurazone	Nitroglycerin Nitroguanidine	Nitropropane, 2-	Nitroso-N-ethylurea, N-	Nitroso-di-N-butylamine, N-	Nitroso-di-N-propylamine, N-	Nitrosodiethylamine, N-	Nitrosodimethylamine, N-	Nitrosomethylethylamine, N-	Nitrosomorpholine [N-]	Nitrosopiperidine [N-]	Nitrosopyrollere, In- Nitrotoluene, m-	Nitrotoluene, o-	Nitrotoluene, p- Nonane, n-	Norflurazon	Octabromodiphenyl Ether Octabyotro-1 3 5 7-tetrazocine (HMX)	Octamethylpyrophosphoramide	Oryzalin	Oxadiazori	Oxyfluorfen	Paraquat Dichloride	Paramion Pebulate	Pendimethalin	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	Pentachlorobenzene	Pentachloronitrobenzene	Pentachlorophenol	Pentane, n-	Perchlorates ~Ammonium Perchlorate	~Lithium Perchlorate	~Potassium Perchlorate		Perfluorobutane suironic acid (PFBS) Perfluorobutanesulfonate	Permethrin	Phenacetin		Phenol, 2-(1-methylethoxy)-, methylcarbamate	Phenothiazine Phenyl Isothiocyanate	Phenylenediamine, m-	Phenylenediamine, or Phenylenediamine, p-	Phenylphenol, 2-	Phosaene	Phosmet	Phosphates, Inorganic 	Alumination moraphicate
		ш		S S S	Yes	Yes	Yes	Yes	Xes :	Yes	Xes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	S No			Yes	Yes	٥ N	Yes			Yes		Yes Yes	Yes	Yes	Yes	Yes		Yes				Yes	Yes	Yes	Yes		Yes		Yes	
		GIABS FA	1		- (-)									1			1		-	1 0.3				1 0.8	- 3		1 0.0	1 0.6		1 0.9	1 0.		←					1 0.	- 5		.				L .	1 0.9	-	-	
ion		LOGP	1.39	1.85 -4.56	0.23	1.62	0.93	0.23	2.63	1.36	0.48	-0.57	0.0	-0.44	0.36	2.45	2.3	2.37	2.3	8.71	-1.01	3.73	-0.47	3.2	4.5	3.83	5.2	7.66	5.17	4.64	5.12	3.39						6.5	1.58	1.46	1.52	4.15 3.28	-0.33	.0 5.0	3.09	3.56	2.78		
Toxicity and Chemical-specific Information	>	riC ₁ e o muta ig/m³) y l gen	1 1	0E-03 V			5.0E-03 P V 2.0E-02 I V	≥ ≥	>		:	4.0E-05 X V M	>				>	2.0E-02 P V								>	^	•	>>	>>		1.0E+00 P V								2.0E-01 C		>				3.0E-04 I V	1		
y and Chemica	×	o >	Д	3.0E+03 P 9.		1.0E-04 P					-	8.0E-06 P 4.				.0E-04 X		4.0E-03 P	0	3.0E-03 1	.0E-03 H	1.4E-01 O		3.0E-02 O		5.0E-03 H	.0E-01 O	1.0E-04	8.0E-04 I	.0E-03 I	5.0E-03 I	_	.0E-04	.0E-04	7.0E-04		2.0E-02 P			3.0E-01 2.	- >	5.0E-04 X 2.0E-04 X	6.0E-03 I	1.0E-03 X		2.0E-04 H	2.0E-02 I	4 9F+01 P	
Toxici	¥	(ug/m³) ⁻¹ y (mg		4.0E-05 2.	3.7E-04 C		8.8E-06 P 2.7E-03 H	030	1.6E-03	-03 -04 -04) – .	_ c	0 0	E-03 C	2.7E-03 C	- +0-1	6	4 K	. —	en π	2	← ια	2	. ε - ΄	4 0	מו ט	8	1 —	Φ		5.1E-06 C 5.	7	7	7		7	N 6		6.3E-07 C	ν ω	4 1	io 62	9	T ←		N	2	4	
		y (ug/		0.4	C 3.7	•		C 7.7E		2.0E-03	4.3E-02	1.4E	6.3E	C 1.9	C 2.7		<u>ا</u> ۵					0		0							1 5.1								O 9						I				

MCL (ug/L)																9			500										0.5	0.5
oncarcinogenic SL Child THI=1 (ug/L)	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05 9.7E+05	5.7E-01 9.7E+05 4.0F-01	4.0E+02 1.7E+03	1.3E+04 9.0E+02 1.5E+04	1.9E+03 2.0E+02 1.9E+04	3.9E+04 1.4E+03	1.8E+01 8.5E-01	1.4E+00		4.0E-01	1.2E+01 4.0E-01	4.0E-01	4.0E-01	4.0E-01	4.0E-01 4.0E-01 4.0E-01	1.2E-04	
Inhalation SL N Child THQ=1 (ug/L)															6.3E-01									2.8E+00	2.8E+00	2.8E+00	2.8E+00	2.8E+00 2.8E+00 2.8E+00	8.3E-04	
Child THQ=1 (ug/L)	2.2E+08 2.2E+08	2.2E+08 2.2E+08	2.2E+08	2.2E+08	2.2E+08 2.2E+08	2.2E+08	2.2E+08 2.2E+08	2.2E+08 2.2E+08	2.2E+08	2.2E+08 2.2E+08	2.2E+08 2.2E+08	2.2E+08 2.2E+08	2.2E+08 2.2E+08	2.2E+08 2.2E+08 2.2E+08	1.4E+03 2.2E+08 9.1E+01	2.9E+03	4.1E+04 1.6E+03 2.0E+05	2.7E+04	1.1E+06 4.3E+04 2.1E+02	1.2E+03 2.2E+00										
Ingestion SI Child THQ=1 (ug/L)	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05	9.7E+05	9.7E+05 9.7E+05	9.7E+05 9.7E+05 9.7E+05	6.0E+00 9.7E+05 4.0F-01	4.0E+02 4.0E+03	2.0E+04 2.0E+03 1.6E+04	2.0E+03 2.0E+02 2.0E+04	4.0E+04 1.4E+03	1.8E+01 1.4E+00	1.4E+00		4.0E-01	1.2E+01 4.7E-01	4.7E-01	4.7E-01 4.7E-04	4.7E-01	4.7E-01 4.7E-01	1.4E-04	
Carcinogenic SL TR=1E-06 (ug/L)																5.6E+00 1.6E+01				2.6E-03	2.2E-01 4.7E-03	4.7E-03 7.8E-03 7.8F-03	7.8E-03 7.8E-03	4.0E-03	4.0E-03 4.0E-03	4.0E-03	4.0E-03	4.0E-03 4.0E-03 4.0E-03	1.2E-06	4.4E-02
Inhalation SL TR=1E-06 (ug/L)																					2.8E-01 9.8E-03	9.8E-03 9.8E-03	9.8E-03 9.8E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03 4.9E-03 4.9E-03	1.5E-06	5.6E-02
Dermal SL Ir TR=1E-06 (ug/L)																2.7E+01					1.2E-02	1.2E-02								
Ingestion SL TR=1E-06 (ug/L)																5.6E+00 4.1E+01				2.6E-03	1.1E+00 3.9E-02	3.9E-02 3.9E-02	3.9E-02 3.9E-02	2.0E-02	2.0E-02 2.0E-02	2.0E-02	2.0E-02	2.0E-02 2.0E-02 2.0E-02	90-30.9	1.9E-01
CAS No.	7790-76-3 7783-28-0	7757-93-9 7782-75-4	7558-79-4	7722-76-1	7758-23-8	7558-80-7	8017-16-1 13845-36-8	7758-16-9 7785-88-8	10305-76-7	10124-56-8 68915-31-1	7785-84-4 7758-29-4	7320-34-5	15136-87-5 7758-87-4	7757-87-1 7778-53-2 7601-54-9	7803-51-2 7664-38-2 7723-14-0	117-81-7 85-68-7	85-70-1 84-74-2 84-66-2	120-61-6 117-84-0 100-21-0	85-44-9 1918-02-1 96-91-3	88-89-1 29232-93-7 59536-65-1	12674-11-2 11104-28-2	11141-16-5 53469-21-9 12672-29-6	11097-69-1	11126-42-4	52663-72-6 69782-90-7	38380-08-4 32774-16-6	65510-44-3	31506-00-6 32598-14-4 74472-37-0	57465-28-8 1336-36-3	1336-36-3
	12 12	12121		1)			12 12 12					ω τ σ	, w (4 a)		. 40 (4, 6			7 (7) [2	۵, ۲-	
Ingestion SL Demail SL D													cahydrogenoctaorthophosphate (dihydrate)	>					+					(6)						
Analyte								icidic)	etrahydrate)			V	nydrogenoctao						Cloredoo					5.5'- (PCB 18	5'- (PCB 167) 5'- (PCB 157)	5- (PCB 156)	(PCB 123)	(PCB 105) (PCB 114)	· (PCB 126) risk)	isk) st risk)
	ohate sphate	ate sphate	te	hosphate	sphate phosphate	phate	id hosphate	hosphate phosphate (a	phosphate (t	phosphate hate	sphate sphate	osphate	m tetra decal ate	sphate phate	•	nthalate Ilate	glycolate	late -N-	e oio-46-dinitr	initrophenol)	nenyls (PCBs)			IVI. 2.3.3'.4.4'	yl, 2,3',4,4',5,	yl, 2,3,3,4,4',	1yl, 2',3,4,4',5	1yl, 2,3,4,4,4' 1yl, 2,3,4,4',5' 1yl, 2,3,4,4',5'	ny, 3,3',4,4',5	ohenyls (low i
	~Calcium pyrophosphate ~Diammonium phosphate	~Dicalcium phosphate ~Dimagnesium phosphate	~Disodium phosphate	-Monoammonium phosphate	~Monocalcium phosphate ~Monomagnesium phosphate	-Monosodium phosphate	~Polyphosphoric acid ~Potassium tripolyphosphate	~Sodium acid pyrophosphate ~Sodium aluminum phosphat	~Sodium aluminum phosphate (arriyarous)	~Sodium hexametaphosphate ~Sodium polyphosphate	Sodium trimetaphosphate Sodium tripolyphosphate	~Tetrapotassium phosphate ~Tetrasodium pyrophosphate	Trialuminum sodium tTricalcium phosphate	~Trimagnesium phosphate ~Tripotassium phosphate ~Trisodium phosphate	Phosphine Phosphoric Acid Phosphoris White	Phthalates -Bis(2-ethylhexyl)phthalate -Butyl Benzyl Phthalate	~Butylphthalyl Butylglycolate ~Dibutyl Phthalate ~Diethyl Phthalate	~Dimethylterephthalate ~Octyl Phthalate, di-N- ~Phthalic Acid P-	~Phthalic Anhydride Picloranic Acid (2-Amino-4 6-dinitronhand)	Picric Acid (2,4,6-Trinitrophenol) Pirmiphos, Methyl Polybrominated Biphenyls	Polychlorinated Biphenyls (Pr ~Aroclor 1016 ~Aroclor 1221	~Aroclor 1232 ~Aroclor 1242 ~Aroclor 1248	~Aroclor 1254	-Aroclor 5460 -Heptachlorobipher	~Hexachlorobiphenyl, 2,5,5,4,4,5,7, (DC 103) ~Hexachlorobiphenyl, 2,3,4,4,5,5- (PCB 167) ~Hexachlorobiphenyl, 2,3,3,4,4,5- (PCB 157)	achlorobiphen	rexacrificion proprieta (1923) - (1923) - (1923) - (1923) - Pentachlorobipheny, 2',3',4',5' (1923) - (1923)	~Pentachloropiphenyl, 2,3,4,4,5- (PCB 118) ~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105) ~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126) ~Polychlorinated Biphenyls (high risk)	chlorinated Bi
In EPD?		Yes Dim					Yes -Poly				Yes -Sod				Yes Phos	No ~Bis(Yes Picloram			Yes -Aro						No Pen		No Poly
S FA				. ~			0.9	← ← c			 -		0.8			0.9	0.9	- 0 -	<u>.</u>	- 6.0		1 0.7		0.7	000	0 0	0.4	0.5	0.4	0.7
															1 1 2	. c				7	6 2			4 7			- 8 -		- 4	
SP GIABS															3.08	4.7	4.4	8.22	6.1 6.1 6.2 8.0 8.0	4.2	5.69	4.4 6.34 6.34	6.7	6.3	, 2, 2	7.7	6.9	6.79 6.79 6.98	6.9	7.1
nuta gen LOGP GIAB															> >			>	O		>>	>>>	>>	> >	· > >	>>	· > >	>>>	>>	>>
tC ₁ k v g/m³) y I gen LOGP GIAB																			E-02					E-03	E-03	E-03	E-03	1 E O S E O	E-07	
k v k v k v k v k v k v k v k v k v k v	<u>a</u> a	9 P P P			<u></u> φ φ φ			<u> </u>			Ф Ф :			9 9 P	1 3.0E-04 1 P 1.0E-02 1	02		01 P					1 50	X W 1.3E-03	W 1.3E-03 W 1.3E-03	: > >	W 1.3E-03	W 1.3E-03 W 1.3E-03 W 1.3E-03	W 4.0E-07	
K KID, RIC, e o muta V (mg/kg-day) y (mg/m²) y 1 gen LOGP GIAB	4.9E+01 P 4.9E+01 P	4.9E+01 P 4.9E+01 P			4.9E+01 P			4.9E+01 P				4.9E+01 P 4.9E+01 P		4.9E+01 P 4.9E+01 P 4.9E+01 P	1 3.0E-04 1 P 1.0E-02 1	O	1.0E+00 1.0E-01 8.0E-01		×	9.0E-04 7.0E-05 C 7.0E-06	S 7.0E-05	o o o	S 2.0E-05 I	6.0E-04 X 2.3E-05 W 1.3E-03	2.3E-05 W 1.3E-03 2.3E-05 W 1.3E-03	2.3E-05 W 2.3E-08 W	2.3E-05 W 1.3E-03 2.3E-05 W 1.3E-03	2.3E-05 W 1.3E-03 2.3E-05 W 1.3E-03 2.3E-05 W 1.3E-03	7.0E-09 W 4.0E-07	_ -
RfD _o RfC R v W uta	4.9E+01 P 4.9E+01 P														1 3.0E-04 1 P 1.0E-02 1		1.0E+00 1.0E-01 8.0E-01		×	9.0E-04 7.0E-05	2.0E-05 S 7.0E-05 5.7E-04 S	S 5.7E-04 S S 5.7E-04 S S 5.7E-04 S	5.7E-04 S 5.7E-04 S	6.0E-04 X 1.1E-03 W 2.3E-05 W 1.3E-03	W 1.3E-03 W 1.3E-03	1.1E-03 W 2.3E-05 W 1.1E+00 W 2.3E-08 W	1.1E-03 W 2.3E-05 W 1.3E-03 1.1E-03 W 2.3E-05 W 1.3E-03	W 1.3E-03 W 1.3E-03 W 1.3E-03	3.8E+00 W 7.0E-09 W 4.0E-07 5.7E-04 I	1 1.0E-04 1

				0.2																	90		4		4000			100
oncarcinogenic SL Child	THI=1 (ug/L)	5.3E+02	1.8E+03	6.0E+00	7.5F±02		0	2.9E+02	6.2E+02 3.6E+01 6.1E+00	1.2E+02 4.0E+02 1.3E+02	2.6E+01 2.5E+02	6.0E+02 1.2E+03	2.5E+02 8.2E+01	3.3E+02 4.0E+01 3.4E+02	3.5E+02 1.6E+03 1.7E+01	6.6E+02 6.3E+03 4.0E+05	3.2E+03 6.3E+01	2.0E+01 5.1E+00	1.2E+02 6.7E+01	4.1E+02 6.1E+01	1.0E+02 1.0E+02 1.0E+02	1.6E+03	9.4E+01 9.4E+01	2.6E+02 8.0E+01	6.0E+02 1.0E+03	2.0E+01 1.6E+01	1.6E+01 5.2E+02 1.2E+04 5 9E+00	1.2E+03 4.8E+01
Inhalation SL N Child	THQ=1 (ug/L)								6.3E+00						1 7E+01	2.1E+03 6.3E+03	4.2E+03 6.3E+01											2.1E+03
Child	THQ=1 (ug/L)	9.6E+02	2.5E+03		1 4F+03			4.6E+02	1.1E+03 6.5E+01 7.0E+02	1.5E+02 5.1E+02	3.3E+01 1.6E+03	5.5E+03	4.3E+03 4.4E+02	5.5E+02 1.2E+04 2.4E+03	2.8E+03 8.2E+03	1.8E+03	3.9E+06	1.5E+03 1.0E+01	3.8E+02 7.6E+01	6.8E+02 2.6E+02	2.3E+04 2.3E+04 2.3E+04	3.8E+03	1.5E+03 1.6E+03	2.1E+05 1.8E+04	1.9E+06 2.3E+05	4.6E+03 3.6E+03	3.8E+03 3.8E+03 2.7E+06	1.0E+04 2.4E+02
Ingestion SI Child	THQ=1 (ug/L)	1.2E+03	6.0E+03	6.0E+00	1 6F+03		0	8.0E+02	8.0E+01 4.0E+02	6.0E+02 4.0E+02	1.2E+02 3.0E+02	8.0E+02 1.5E+03	2.6E+02 1.0E+02	8.0E+02 4.0E+01 4.0F+02	4.0E+02 2.0E+03	2.0E+03	1.4E+04	2.0E+01 1.0E+01	1.8E+02 6.0E+02	1.0E+03 8.0E+01	1.0E+02 1.0E+02 1.0E+02	2.8E+03	1.0E+02 1.0E+02	2.6E+UZ 8.0E+01	6.0E+02 1.0E+03	2.0E+01 1.6E+01	1.6E+01 6.0E+02 1.2E+04 6.0F+00	4.0E+03 6.0E+01
Sarcinogenic SI	TR=1E-06 (ug/L)		3.0E-02	6.5E-02 2.5E-02 2.5E-01	2.5E+00	2.5E+01 2.5E-02	6.5E-03 1.0E-04	2.5E-01	1.7E-01 1.7E-01	3.8E-01				1.6E-01			2.7E-01	2.4E-02		9.6E-02			6.1E-01		2.9E-01		2.8E+00	
nhalation SL (TR=1E-06 (ug/L)		3.4E-02						1.7E-01								1.5E+00											
Dermal SL	TR=1E-06 (ug/L)								2.0E+00	1.4E+00				2.5E-01			4.7E+01	2.9E-01		6.0E-01			9.3E+00		8.5E+02		1.9E+01	
Ingestion SI	TR=1E-06 (ug/L)		2.5E-01	2.5E-02 2.5E-01	2.5E+00	2.5E+01 2.5E-02	6.5E-03 1.0E-04	2.5E-01									3.2E-01						6.5E-01		2.9E-01		3.2E+00	
	CAS No.	9016-87-9	120-12-7 56-55-3	205-82-3 50-32-8 205-99-2	207-08-9	218-01-9	192-65-4 57-97-6	86-73-7	90-12-0 91-57-6 91-20-3 57835-92-4	129-00-0 29420-49-3 67747-09-5	26399-36-0	23950-58-5	1918-16-7 709-98-8	2312-35-8 107-19-7 139-40-2	122-42-9 60207-90-1 123-38-6	103-65-1 115-07-1 57-55-6	6423-43-4 107-98-2 75-56-9	110-86-1 13593-03-8 91-22-5	76578-14-8 E715557 10453-86-8	299-84-3 83-79-4 94-59-7	7783-00-8 7782-49-2 7446-34-6	74051-80-2	122-34-9	62476-59-9 26628-22-8	148-18-5 7681-49-4	13718-26-8	10213-10-2 961-11-5 7440-24-6 57-24-9	100-42-5 57964-39-3
														_														
																		7										
	Analyte	yanate (PMDI (PAHs)								0						1			bers)									
	,	iphenyl Diisod Iydrocarbons			eta-	2 av	acene, 7,12-	<u>a</u>		tane Sulfonat	4	4					ate methyl Ether		ers (units in fi			rable)			rbamate		/drate nphos)	AN) Trimer
		s Methylene D sar Aromatic F nthene	ene anthracene	fluoranthene Ipyrene]fluoranthene	a,h]anthracen	(a,e)pyrene Ibenz(a)anthr	e 1,2,3-cd]pyren	aphthalene, 1- aphthalene, 2- alene	n Perfluorobu	. .	u e	or	e I Alcohol	azole	inzene e Glycol	e Glycol Dinitre e Glycol Monc e Oxide	so	p-ethyl y Ceramic Fib rin	X	s Acid	im ⁄stalline, respi		cifluorten zide	Diethyldithioca Tuoride	Netavanadate ungstate	ungstate Diny Tetrachlorovir 1, Stable	Styrene Styrene-Acrylonitrile (SAN) Tri
																1 Yes	1 Yes				1 Yes		1 Yes	1 Yes	7 × es	7 × es		1 Yes
																							0.04					
	LOGP		4.45 5.76	6.13	6.11	5.81	5.8	6.7	3.86	4.88	5.58	3.43	3.07	-0.38	3.72	3.69	1.83 -0.49 0.03	0.65 4.44 2.03	4.28	4.88 4.1 3.45		4.38	2.18	0.37	-1.43	5	3.53	3.1
> 0	0 –		∑	≥≥	∑ >	ΣΣ	Σ	∑ > :	> > >	>	>			>	>	.>>	>>	>		>								>
ğ	(mg/m³)	6.0E-04		2.0E-06					3.0E-03								2.7E-04 2.0E+00 3.0E-02		3.0E-02 A		2.0E-02 2.0E-02	3.0E-03			1.3E-02 C			1.0E+00 I V
Σ (ەر -day) y	E-02	E-01 I	3.0E-04	F-02		- -							_		1.0E-01 X		1.0E-03 I 5.0E-04 I	9.0E-03 I		5.0E-03 5.0E-03 5.0E-03		OE-03	3E-02 I	3.0E-02 5.0E-02 A		3.0E-04 P 3.0E-02 6.0E-01	2.0E-01 3.0E-03 P
ς ,	KIL mg/kg	0.0	3.0	3.0	8	5	-	4 4 1	2.0	3.0	9. –.	4 /	− . ₹.	4. 4. 4	2, ←	- 0	7.	- rc	o 0	70, 4,	5 5 5	√ 1	r, 57 (5)	← 4.	റവന	2.6		9 0 m
= =)-1 V	0.9	ш	1.1E-04 C 6.0E-04 I 6.0E-05 E	6.0E-06 E	6.0E-07 E 6.0E-04 E	ပပ	4.0 E 6.0E-05 E	3.4E-05 C		<u>6</u>	7.		0	Ø ₽	- 0	3.7E-06 I		о к	5. C 6.3E-05 C		₹ 1	T S		riui n	1.0	±	i (vi (vi
1	k by Child C	RBC, k V RBC, E Omuta In In In In In In In I	K K K K K K K K K K	Record R	RFC K V V RFC K V V V V V V V V V	Record R	R R K K K K K K K K	R R V R V R V R V R R	RCC K V No. Polymeric Methylene Diphenyl Discopaniate (PMD) Relation SL Local Diphenyl Discopaniate (PMD) Relation SL Local Diphenyl Discopaniate (PMD) Relation SL Local Diphenyl Discopaniate (PMD) Relation SL Local Diphenyl Discopaniate (PMD) Relation SL Relation SL Carcinogenic SL Child	FINAL No. Permatic Methylene Diptenty Discopaniae (PMD) Permatic Methylene (PMD)	RC K W W W W W W W W W	Fig. K M M M M M M M M M	Figure 1 1 1 1 1 1 1 1 1	Fig. K V V V V V V V V V	Part Part	Part Column Col	Fig.	Fig.	Fig. Col.	Part Part	Record Column C	Part Part	State 1 1 1 1 1 1 1 1 1	Record R	Fig. 1 1 1 1 1 1 1 1 1	Reg Reg	No.	March Marc

applied (see	MCL	(ng/L)						ω		0					1000				ო					09		20
Section 5.12)	oncarcinogenic SL Child THI=1	(ug/L) 2.0E+01	1.1E+01 2.1E+00	4.5E+02 4.8E+02 1.4E+03	4.0E+02 2.5E+02 2.4F-01	1.3E+01	1.7E+00 4.8E+02	3.6E+02 4.1E+01 2.4E+02	7.1E+00 1.7E+05 3.9E+01	4.0E-01 2.0E-01	2.0E-01 4.0E-01	2.0E-01 4.0E-01 8.6E+02	1.6E+02 1.4E+03 5.3E+00	5.3E+02 2.9E+02 1.2E+04	2.1E-01 1.1E+03 1.7E-02	4.0E+00 1.7E-02 9.0E+01	7.7E+01 6.0E+04	1.3E+03 1.0E+02 8.0E+02	3.3E+01 5.5E+00 1.8E+00	6.0E-01 1.5E+02 3.7E+00	1.6E+06 6.3E+02 2.3E+02	2.0E+02 1.6E+02 4.5E+01	1.2E+02 1.2E+02 6.0E+00	5.7E+00 1.0E+04 3.9E+02	4.0E-01 7.0E+00	4.0E+00
see user's guide CHILD Hazard	nhalation SL Ni Child THQ=1	(ng/L)	2.1E+00					8.3E+01	1.7E+05						2.1E-01 1.0E+04 1.7E-02	1.7E-02		1.3E+03 2.1E+02	6.3E+01 6.3E+00					1.0E+04		4.2E+00
xceed Csat (Noncance	Dermal SL Child	(ug/L) 1.7E+04	3.5E+01	8.2E+02 2.4E+03 4.7E+04	7.0E+03	4.1E+01	2.4E+00 2.4E+03	3.6E+03 2.3E+02 3.9E+02	2.4E+01	9.1E+01 4.6E+01	1.7E+02 9.3E+04 4.6E+01	4.6E+01 9.1E+01	7.7E+02 9.7E+05 4.4E+01	6.8E+04 1.2E+04 2.7E+06	5.3E+03	8.3E+02 8.9E+02	2.3E+03		6.1E+02 9.0E+01	9.9E+00	5.3E+08 7.8E+03 4.2E+02	6.0E+04 5.0E+03 8.1E+01	3.7E+02 3.3E+02	9.5E+01 1.9E+06 1.8E+04	1.2E+00 1.3E+01	1.6E+02
itration may e	Ingestion SL Child THQ=1	(ug/L) 2.0E+01	1.6E+01	1.0E+03 6.0E+02 1.4E+03	4.0E+02 2.6E+02 5.0E-01	2.0E+01	6.0E+00 6.0E+02	4.0E+02 1.2E+02 6.0E+02	1.0E+01	4.0E-01 2.0E-01	2.0E-01 4.0E-01	2.0E-01 4.0E-01 8.6E+02	2.0E+02 1.4E+03 6.0E+00	5.4E+02 3.0E+02 1.2E+04	1.6E+03	4.0E+00 1.0E+02	8.0E+01 6.0E+04	2.0E+02 8.0E+02	8.0E+01 8.0E+01 1.8E+00	6.0E-01 1.5E+02 6.0E+00	1.6E+06 6.8E+02 5.0E+02	2.0E+02 1.6E+02 1.0E+02	1.8E+02 2.0E+02 6.0E+00	6.0E+00 6.0E+05 4.0E+02	6.0E-01 1.6E+01	2.0E+02
n 5.13); s = concer = 1E-06	Carcinogenic SL TR=1E-06	(ng/L)		1.3E+00		3.3E+00	5.7E-01	7.6E-02 1.1E+01	1.3E-03					6.7E+00	5.1E-01	4.3E-01 5.1E-01	4.7E+00 2.5E+00		7.1E-02		4.7E-01		5.2E+00	1.1E+00	2.7E+00 7.1E+00	1.2E+00
s guide Section rget Risk (TR)	Inhalation SL (TR=1E-06	(ng/L)				4.3E+00	7.6E-01	9.7E-02 2.2E+01							5.1E-01	5.1E-01										
nit (see user's cinogenic Ta	Dermal SL TR=1E-06	(ng/L)		2.3E+00		2.4E+02	1.1E+01	3.3E+00 6.5E+01	2.0E-03					7.9E+02		8.2E+01	1.4E+02 6.8E+01				8.3E-01		1.3E+01	4.6E+01	3.7E+03 2.0E+01	2.0E+00
ed ceiling lin Car	Ingestion SL ITR=1E-06	(ng/L)		3.1E+00		1.6E+01	3.0E+00	3.7E+01	3.9E-03					6.7E+00		4.3E-01	4.9E+00 2.6E+00		7.1E-02		1.1E+00		8.7E+00	1.1E+00	2.7E+00 1.1E+01	2.7E+00
ion may exce		CAS No.	80-07-9 7446-11-9 7664-93-9	140-57-8 21564-17-0 34014-18-1	3383-96-8 5902-51-2	886-50-0 540-88-5 5436-43-1	95-94-3 630-20-6	79-34-5 127-18-4 58-90-2	5216-25-1 3689-24-5 811-97-2 479-45-8	1314-32-5 10102-45-1 7440-28-0	563-68-8 6533-73-9 7791-12-0	12039-52-0 7446-18-6 79277-27-3	28249-77-6 111-48-8 39196-18-4	23564-05-8 137-26-8 7440-31-5	7550-45-0 108-88-3 584-84-9	95-70-5 91-08-7 99-94-5	95-53-4 106-49-0 E1790670	E1790666 E1790668 E1790676	E1790672 E1790674 8001-35-2	E1841606 66841-25-6 688-73-3	102-76-1 43121-43-3 2303-17-5	82097-50-5 101200-48- 615-54-3	118-79-6 126-73-8 E1790678	56-35-9 76-13-1 76-03-9	33663-50-2 634-93-5 87-61-6	120-82-1
W = See user guide coursi cocci, so are based on DAF=1; m = Concent Sontaminant		че		2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl		-47)										4	(injury)	Low) Medium) High)	Low) Medium)							
L; ** = where n SL < 10X c SL; SSL value		Analyte Sulfolane	Sulfonylbis(4-chlorobenzene), 1,1'- Sulfur Trioxide	id, 2-chloroethyl	Temephos Terbacil Terbufos	Terbuttyn Tert-Butyl Acetate Terrahromodinpanyl ether 2 2'4 4'- (RDE-47)	, Ω <u>1</u>	letrachloroethane, 1,1,2,2- Tetrachloroethylene Tetrachlorophenol, 2,3,4,6-	Tetrachlorotoluene, p- alpha, alpha, alpha Tetraethyl Dithiopyrophosphate Tetrafluoroethane, 1,1,1,2, Tetrol (Trinitrophenylmethylnitramine)	Thallic Oxide Thallium (1) Nitrate Thallium (Soluble Salts)	Thallium Acetate Thallium Carbonate Thallium Chloride	Thallium Selenite Thallium Sulfate Thienseulfurnamethyl	Thiobencarb Thiodiglycol Thiofanox	Thiophanate, Methyl Thiram Tin	Titanium Tetrachloride Toluene Toluene-2,4-diisocyanate	Toluene-2,5-diamine Toluene-2,6-diisocyanate Toluic Acid, p-	Toluidine, o- (Methylaniline, 2-) Toluidine, p- Total Petroleum Hydrocarbons (Aliphatic	Total Petroleum Hydrocarbons (Aliphatic Low) Total Petroleum Hydrocarbons (Aliphatic Medium) Total Petroleum Hydrocarbons (Aromatic High)	Total Petroleum Hydrocarbons (Aromatic Low) Total Petroleum Hydrocarbons (Aromatic Medium) Toxaphene	Toxaphene, Weathered Tralomethrin Tri-n-butyltin	Triacetin Triadimefon Triallate	Triasulfuron Tribenuron-methyl Tribromobenzene, 1,2,4-	Tribromophenol, 2,4,6- Tributyl Phosphate Tributyltin Compounds	Tribuyitin Oxide Trichloro-1,2,2-trifluoroethane, 1,1,2- Trichloroacetic Acid	Trichloroaniline HCI, 2,4,6- Trichloroaniline, 2,4,6- Trichlorobenzene, 1,2,3-	Trichlorobenzene, 1,2,4-
< 100X c S	٤	EPD? Yes	Yes	Yes	Ves Yes	Yes	Yes		Yes Yes	Yes		X Kes	Yes	X Kes				S S S	Yes No	X No Yes	Yes Yes Yes	Yes Yes	Yes No			
ere: n SL		1 1	1 0.9	1 0.9	1 - 1 - 20.	1 0.9			0.0	1 1 0.9		1 0.9								1 0.8	1 1 1 0.5	0.0	1 0.9			1
r; * = wt		LOGP GIABS	3.9	4.82 3.3	5.96 1.89 4.48	3.74	2.93	2.39 3.4 4.45	3.99		-0.17	<u>ر</u> بر	3.4 -0.63	1.73	2.73	0.16 3.74 2.27	1.32 1.39 6.1	3.9 5.65 5.16	2.13 3.58 5.9	5.9 7.56 4.1	0.25 2.77 4.6	1.1 0.78 4.66	4.13	4.05 3.16 1.33	-0.67 3.52 4.05	4.02
ance atio	g	_																								
= cancer; n = noncance 	RfC ₁ e o muta	(mg/m²) y gen 2.0E-03 X	1.0E-03 C V		>	>	>>:	V 4.0E-02 V	8.0E+01 1 V		>>				1.0E-04 A V 5.0E+00 I V 8.0E-06 C V	8.0E-06 C V		6.0E-01 P V 1.0E-01 P V	3.0E-02 P V 3.0E-03 P V	>	>	>		5.0E+00 P V	>	2.0E-03 P V
be Section 5.10); c = cancer; n = noncance Toxicity and Chemical-specific Information	k RfD, k K W muta	y (mg/kg-day) y (mg/m³) y 1 gen 1.0E-03 P 2.0E-03 X	OC	1 5.0E-02 H 3.0E-02 H 7.0E-02 I	> I - I	C 1.0E-03 C 1.0E-04	3.0E-04 V	6.0E-02 4.0E-02 3.0E-02 1.0E-02	8.0E+01	2.0E-05 S 1.0E-05 X 1.0E-05 X	×××	1.0E-05 S 2.0E-05 X 4.3E-02 O		001	1.0E-04 A 8.0E-02 5.0E+00 C 8.0E-06 C	2.0E-04 X C 8.0E-06 C 5.0E-03 P	C 4.0E-03 X 3.0E+00 P	6.0E-01 X 1.0E-01 P	4.0E-03 P 3.0E-02 4.0E-03 P 3.0E-03 I 9.0E-05 P	3.0E-05 X 7.5E-03 I 3.0E-04 A	×00		9.0E-03 X 1.0E-02 P 3.0E-04 P	I I 5.0E+00 P I	3.0E-05 X 8.0E-04 X V	1.0E-02 2.0E-03 P V
Ney. I = IND. C. = CATCH, A. ATTENDIA CHARLY SCALEN USE TAWAY. I = See User guide Section 5.1.3.5. L. = See User guide Sec	SFO K K K K K K K K C C C C C C C C C C C	(ug/m³) ⁻¹ y (mg/kg-day) y (mg/m³) y 1 gen 1.0E-03 P 2.0E-03 X	1.0E-03 C	 	> I - I	1.0E-03 V	3.0E-04 V	5.8E-05 C 2.0E-02 2.6E-07 6.0E-03 4.0E-02 3.0E-02	8.0E+01		×××			001	1.0E-04 A 8.0E-02 5.0E+00 1.1E-05 C 8.0E-06 C	2.0E-04 X C 8.0E-06 C 5.0E-03 P	4.0E-03 X 3.0E+00 P	6.0E-01 X 1.0E-01 P	P 3.0E-02 P 3.0E-03 P	3.0E-05 X 7.5E-03 I 3.0E-04 A	×00			3.0E-04 3.0E+00 P 3.0E+01 5.0E+00 P 1.0E+00 P	H X 3.0E-05 8.0E-04	

	icity and Chem	Toxicity and Chemical-specific Information	mation			Toxicity and Chamical-spacific Information		Carc	Carcinopenic Target Risk (TR) = 1F-06	sk (TR) = 1F-06		Noncan	Noncancer CHII D Hazard Index (HI) = 1	Contaminant Carcinonenic Taraet Risk (TR) = 1E-06 Noncanoe CHII D Hazard Index (H) = 1	
	alony and orien	lical specific				COLICATION		Cal	anogame ranger in	34 (M) = 12-00	Ingestion	S Dermal S	Inhalation St N	notestion SI Dermal SI Inhalation SI Noncarcinopenic SI	
S R T	RfD,	R C S C	Į.		<u></u>			Ingestion SL TR=1F-06	Dermal SL Inhala	Ingestion SL Dermal SL Inhalation SL Carcinogenic SL TR=1F-06 TR=1F-06 TR=1F-06		Child THO=1	Child THO=1	Child THI=1	Ö
(ug/m³) ⁻¹ y	3y)	(mg/m³) y I	gen LOGP	GIABS FA	ш	Analyte	CAS No.	(ug/L)	(ug/L) (ug/L)	(lug/L) (ug/L)			(ng/L)	(ng/L)	(ug/L)
16F-05	2.0E+00 I	5.0E+00 V	2.49		X ≺es	Trichloroethane, 1,1,1-	71-55-6	1 4F±00	2 0F±01 3 5F	3 5E-01 2 8E-01	4.0E+04	14 2.5E+05	1.0E+04	8.0E+03	200
- -	5.0E-04		2.42	- -	Yes	Trichloroethylene	79-01-6	1.2E+00			1.0E+01		4.2E+00	2.8E+00	2 2
	3.0E-01	>	2.53	_	Yes	Trichlorofluoromethane	75-69-4				6.0E+03			5.2E+03	
	1.0E-01		3.72	1	Yes	Trichlorophenol, 2,4,5-	95-95-4							1.2E+03	
3.1E-06 I	1.0E-03 P		3.69	- 3		Trichlorophenol, 2,4,6-	88-06-2	7.1E+00	9.8E+00	4.1E+00				1.2E+01	
	1.0E-02		. S. S.	20.0	Yes	Trichlorophenoxyacetic Acid, 2,4,5- Trichlorophenoxyaropionic acid -2.4.5	93-76-5				2.0E+02 1.6E+02	8.7E+02		1.6E+02 1.1E+02	20
	5.0E-03	>	2.43	1	Yes	Trichloropropane, 1,1,2-	9-2-2-9-2-9-2-9-2-9-3-3-3-3-3-3-3-3-3-3-				1.0E+02			8.8E+01	
	4.0E-03	>	M 2.27	-	Yes	Trichloropropane, 1,2,3-	96-18-4	8.4E-04	7.3E-03	7.5E-04			6.3E-01	6.2E-01	
	3.0E-03 X	3.0E-04 P V	2.78	- t	Yes	Trichloropropene, 1,2,3-	96-19-5				6.0E+01	11 2.6E+02	6.3E-01	6.2E-01	
-	3.0E-03		. r		ĺ	Tridinane	58138-08-2				A.0E+02			1.0E+02	
	-	7.0E-03 I V	1.45		Yes	Triethylamine	121-44-8				-		1.5E+01	1.5E+01	
	2.0E+00 P		-1.75	1	Yes	Triethylene Glycol	112-27-6				4.0E+04	1.8E+08		4.0E+04	
		2.0E+01 P V	1.74	- ;	Yes	Trifluoroethane, 1,1,1-	420-46-2			1			4.2E+04	4.2E+04	
- a	7.5E-03 I	>	5.34	1 0.8	Yes	Irrifurain Trimethyl Phoenhate	1582-09-8	3 9E+01	3.4E+00	3.9E+00	1.5E+02	2 5.5E+01		2.0E+01	
	1.0F-02	6.0F-02 I V	3.66		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Trimethylbenzene, 1.2.3-	526-73-8	3.35400	2.0E-T03	0.92400		•	1.3F+02	5.5F+01	
	1.0E-02		3.63		Yes	Trimethylbenzene, 1,2,4-	95-63-6				2.0E+02		1.3E+02	5.6E+01	
	1.0E-02	6.0E-02 I V	3.42	1	Yes	Trimethylbenzene, 1,3,5-	108-67-8				2.0E+02		1.3E+02	6.0E+01	
,	1.0E-02 X	>	8.4		Yes	Trimethylpentene, 2,4,4-	25167-70-8				2.0E+02			6.5E+01	
	3.0E-02		2.18	- •	Yes	Irinitrobenzene, 1,3,5-	99-35-4	00.700	00.11	00.				5.9E+02	
	5.0E-04		o. c		Yes Yes	Trintenvinhosenhine Oxide	794-28-6	Z.6E+00	1.1=+02	Z.5E+00	1.0E+01	1 4.5E+02		3.6E+00	
•	2.0E-02 A		3.65	1 0.9	Yes	Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8				4.0E+02			3.6E+02	
	1.0E-02 X	:	2.59	1	Yes	Tris(1-chloro-2-propyl)phosphate	13674-84-5				2.0E+02	12 3.8E+03		1.9E+02	
C 6.6E-04 C	7.0F-03 P	>	4.29 4.29		S ×	Tris(2,3-dibromopropyl)phosphate Tris(2-chloroethyllphosphate	126-72-7	3.4E-02	8.5E	8.5E-03 6.8E-03	1 4F+02	12F+04		1 4F+02	
	1.0E-01 P		9.49	1 0	8	Tris(2-ethylhexyl)phosphate	78-42-2	2.4E+01		2.4E+01				2.0E+03	
_				-	Yes	Tungsten	7440-33-7				1.6E+01			1.6E+01	
	2.0E-04 A	4.0E-05 A		1	Yes	Uranium (Soluble Salts)	E715565				4.0E+00	0 9.1E+02		4.0E+00	30
O i	L	ı	M -0.15	- 200	Yes	Urethane	51-79-6	2.5E-02	6.1E+00	2.5E-02				L	
	9.0E-03 S	7.0E-06 P		0.026	Yes Yes	Vanadium Pentoxide Vanadium and Compounds	1314-62-1				1.8E+02 1.0E+02	1.1E+03 2 6.0E+02		1.5E+02 8.6E+01	
		>	3.84	1		Vernolate	1929-77-7				2.0E+01			1.1E+01	
•	1.2E-03 O	2000	3.1	1 0.9	Yes	Vinciozolin	50471-44-8				2.4E+01	1.8E+02	- L	2.1E+01	
10 10 0		2.0E-01	0.73	- -	res	Vinyl Acetate	108-03-4		4 07	1 0 0 0 0 0			4.ZE+0Z	4.1E+02	
c –	3 0F-03	3.0E-03 V	M 1.37		X Po	Vinyl Blothide	75-01-4	2 1E-02	28F-01 3.4F		6 0F+01	11 8 9F±02	9.3E+00	6.3E+00 4.4E+01	c
	-				Yes	Warfarin	81-81-2	i i					1	5.6E+00	
	တ	1.0E-01 S	3.15	1	Yes	Xylene, P-	106-42-3				4.0E+03	ľ	2.1E+02	1.9E+02	
. •	2.0E-01		3.2	<u> </u>	Yes	Xylene, m-	108-38-3				4.0E+03		2.1E+02	1.9E+02	
		1.0E-01 S	3.12		Yes	Xylene, o-	9547-6				4.0E+03		Z.1E+0Z	1.9E+02	00000
,,	3.0E-01	1.0E-01 V	3.16		Yes	Aylenes Zinc Phosphide	1330-20-7				6.0E+03	3 7.5E+03	Z.1E+0Z	1.9E+0Z	00001
•	3.0E-01				Yes	Zinc and Compounds	7440-66-6				6.0E+03			6.0E+03	
	5.0E-02		1.3	1	Yes	Zineb	12122-67-7				1.0E+03			9.9E+02	
	8.0E-05 X			1	Yes	Zirconium	7440-67-7				1.6E+00			1.6E+00	

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX D SUMMARY OF EPA / NMED / NMOCD / RCRA ACTIVITY

Appendix D Summary of EPA / NMED / NMOCD / RCRA Activity

January 12, 2018 - Submittal to EPA - Consent Agreement and Final Order - Request for Termination

January 25, 2018 - Submittal to NMED - Response to Approval with Modifications - 2014 Annual Groundwater Monitoring Report

January 31, 2018 - Submittal to NMED - Hydrocarbon Seep Interim Measures 2017 4th Quarter Status Report

February 1, 2018 - Submittal to NMOCD - Sanitary Lagoon Investigation

February 5, 2018 thru March 1, 2018 - First quarter groundwater monitoring and surface water sampling

February 20, 1018 - Submittal to NMOCD - Voluntary Disclosure of Shipments of Listed Waste to Gandy Marley, Inc.

March 5, 2018 thru March 21, 2018 - Subsurface investigation and installation of observation wells OW-61 thru OW-65

March 23, 2018 - Submittal to NMED - 2018 Financial Assurance

March 29, 2018 - Submittal to NMED - Annual Facility-Wide Ground Water Monitoring Work Plan - Updates for 2018

April 29, 2018 thru May 16, 2018 - Second quarter groundwater monitoring

April 30, 2018 - Submittal to NMED - Second Disapproval Sanitary Lagoon Investigation – Revised Interim Measures Report Hydrocarbon Seep Area

May 1, 2018 - Submittal to NMED - Hydrocarbon Seep Interim Measures 2018 1st Quarter Status Report

May 31, 2018 - Submittal to NMED - Second Response to NMED and NMOCD - Second Response to NMED Disapproval Sanitary Lagoon Investigation

June 29, 2018 - Central OCD Landfarm Semiannual Soil Sampling

July 16, 2018 - Submittal to NMED - Response to Disapproval Facility-Wide Groundwater Monitoring Work Plans - Updates for 2016, 2017, and 2018

July 30, 2018 - Submittal to NMED - Hydrocarbon Seep Interim Measures 2018 2nd Quarter Status Report

July 31, 2018 - Submittal to NMED - Response to Comments - Disapproval Facility-Wide Groundwater Monitoring Work Plans - Updates for 2016, 2017, and 2018

August 2, 2018 - Submittal to NMED - Investigation Work Plan for Installation of Well OW-58 Twin Well

August 17, 2018 thru September 19, 2018 - Third quarter groundwater monitoring and surface water sampling

Appendix D Summary of EPA / NMED / NMOCD / RCRA Activity (continued)

August 20, 2018 - Submittal to NMED - Investigation Report North Drainage Ditch and OW-29 & OW-30 Areas

August 22, 2018 - Submittal to NMED - Investigation Work Plan SMW-1 and GWM-1

September 19, 2018 - Submittal to NMED - Investigation Work Plan for Area of Concern 35

September 19, 2018 - Submittal to NMED - Investigation Work Plan for Upgradient MKTF Wells

October 4, 2018 - Submittal to NMED - Response to Disapproval Investigation Work Plan Sanitary Lagoon

October 19, 2018 - Submittal to NMED - Response to Disapproval Investigation Report SWMU No. 4 (Old Burn Pits) and No. 5 (Landfill Areas)

October 31, 2018 - Submittal to NMED - Work Plan 2015 Annual Groundwater Report Comments

November 7, 2018 thru December 3, 2018 - Fourth quarter groundwater monitoring

November 7, 2018 - Submittal to NMED - Response to Disapproval Hydrocarbon Seep Interim Measures 2018 2nd Quarter Status Report

November 28, 2018 - Submittal to NMED - Investigation Work Plan Background Concentrations

November 28, 2018 - Submittal to NMED - Response to Disapproval Investigation Work Plan SWMU No. 1 (Aeration Basin) and SWMU No. 14 (Old API Separator)

November 28, 2018 - Submittal to NMED - Response to Approval with Modifications Revised Facility Wide Groundwater Monitoring Work Plan 2018 - Updates for 2018

November 29, 2018 - Submittal to NMED - 2017 Annual Groundwater Monitoring Report

December 6, 2018 - Submittal to NMED - Update Regarding October 19, 2018 Disapproval Letter Item 2 Investigation Work Plan OW-58 Twin Well

December 6, 2018 - Land Treatment Unit Post Closure Groundwater Sampling

December 10, 2018 - Central OCD Landfarm Semiannual Soil Sampling

December 11, 2018 - Land Treatment Unit Post Closure Soil Sampling

December 11, 2018 - Submittal to NMED - Railroad Loading-Unloading Facility Assessment Report Area of Concern 17

December 12, 2018 - Submittal to NMED - Investigation Work Plan SWMU No. 9 – Drainage Ditch and Inactive Landfarm

December 13, 2018 - Submittal to NMED - Hydrocarbon Seep Interim Measures 2018 3rd Quarter Status Report

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX E SUMMARY OF ALL LEAKS, SPILLS AND RELEASES

APPENDIX E

SUMMARY OF ALL LEAKS, SPILLS, AND RELEASES

February 6, 2019 - Naphtha Release

At approximately 11:00 am on February 6, 2018 a mixture of petroleum produce (20%) and water was found releasing out of a 4" diameter PVC pipe that discharges into a stormwater drainage ditch south of STP-1. Sample analysis indicated the product to be naphtha. The flow from the pipe was estimated to be 1.7 gallons per minute. The drainage ditch feeds into a small collection pond equipped with a drain valve. The valve remained closed and no product was discharged from the pond. A catch basin was placed beneath the PVC pipe to prevent any further release of product to the ground. Site personnel monitored the catch basin and utilized a vacuum truck to transfer the contents back into the process. Based on the flow rate and 20% content of naphtha, the release to the ground was estimated to be less than 25 barrels. Investigation into the source upstream of the discharge point continued into the following day (February 7, 2018).

After obtaining drawing of project work that had taken place near STP-1, site personnel began excavating a suspect area. At approximately 5 feet below ground level, hydrocarbon saturated soil was encountered in the area east of STP-1. At 08:30 pm, it was determined that the catch basins were not preventing any further release to the ground.

According to the initial calculations, the on-going release was estimated to be greater that 25 barrels after 10:00 am on February 8, 2018. Due to safety concerns, excavation work was stopped.

Notification of the release was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on February 7, 2018 at 9:15 pm. An initial written report (Form C-141) was completed on February 8, 2018.

November 27, 2018 – Gasoline Spill at Tank 563

While transferring gasoline, a level gauge malfunctioned causing Tank 563 to overfill and spill onto the ground. Approximately 35 barrels of gasoline was spilled to the soil. All material was contained inside the containment dikes. The material was removed by a vacuum truck.

Notification of the release was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on November 23, 2018 at 10:09 am. An initial written report (Form C-141) was completed on November 29, 2018.

<u>December 22, 2018 – Wastewater Spill at Wastewater Treatment Plant</u>

On December 22, 2018 a crack in a welded seam was discovered in the bottom of the North Carbon Canister at the wastewater treatment plant. Approximately 5 barrels of treated wastewater leaked to the ground.

Notification of the release was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on December 26, 2018 at 1:44 pm. An initial written report (Form C-141) was completed on December 26, 2018 at 1:44 pm.



APPENDIX F

OCD CENTRAL LANDFARM – SOIL ANALYTICAL DATA (ON ATTACHED CD)



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

August 06, 2018

Cheryl Johnson Western Refining Southwest, Gallup 92 Giant Crossing Road Gallup, NM 87301 TEL: (505) 722-3833

TEL: (505) 722-3833 FAX (505) 722-0210

RE: Central OCD Landfarm Semiannual Sampling OrderNo.: 1807001

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/29/2018 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued August 01, 2018.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 9:20:00 AM

Lab ID: 1807001-001

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.052	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1221	ND	0.095	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1232	ND	0.095	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1242	ND	0.095	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1248	ND	0.095	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1254	ND	0.095	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Aroclor 1260	ND	0.045	0.095		mg/Kg	1	7/18/2018 1:27:03 PM	39114
Surr: Decachlorobiphenyl	112	0	26.3-128		%Rec	1	7/18/2018 1:27:03 PM	39114
Surr: Tetrachloro-m-xylene	124	0	20.7-151		%Rec	1	7/18/2018 1:27:03 PM	39114
EPA METHOD 8015M/D: DIESEL RANGE O	ORGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	460	1.9	9.9		mg/Kg	1	7/10/2018 11:28:48 AM	39058
Motor Oil Range Organics (MRO)	540	49	49		mg/Kg	1	7/10/2018 11:28:48 AM	39058
Surr: DNOP	128	0	70-130		%Rec	1	7/10/2018 11:28:48 AM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	7/5/2018 6:07:24 PM	39039
Surr: BFB	90.4	0	15-316		%Rec	1	7/5/2018 6:07:24 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	9.3	0.030	0.30		mg/Kg	1	7/11/2018 3:14:18 PM	39148
Chloride	310	8.2	30		mg/Kg	20	7/11/2018 3:26:43 PM	39148
Nitrogen, Nitrate (As N)	2.3	0.17	0.30		mg/Kg	1	7/11/2018 3:14:18 PM	39148
Sulfate	550	17	30		mg/Kg	20	7/11/2018 3:26:43 PM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	0.032	0.0065	0.032		mg/Kg	1	7/6/2018 5:13:40 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	4.5	12		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Barium	240	0.11	0.50		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Cadmium	ND	0.16	0.50		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Chromium	15	0.20	1.5		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Copper	2.5	1.5	1.5		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Iron	19000	250	250		mg/Kg	100	7/10/2018 9:13:48 AM	39100
Lead	3.5	1.2	1.2		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Manganese	320	0.50	0.50		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Selenium	ND	5.0	12		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Silver	ND	0.16	1.2		mg/Kg	5	7/10/2018 9:11:51 AM	39100
Uranium	ND	25	25		mg/Kg	5	7/10/2018 10:47:31 AM	39100
Zinc	24	12	12		mg/Kg	5	7/10/2018 10:47:31 AM	39100

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

PQL Practical Quanitative Limit

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 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 9:20:00 AMLab ID:1807001-001Matrix: SOILReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
Acenaphthene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Acenaphthylene	ND	0.98	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Aniline	ND	0.94	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Anthracene	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Azobenzene	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benz(a)anthracene	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzo(a)pyrene	ND	1.5	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzo(b)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzo(g,h,i)perylene	ND	1.6	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzo(k)fluoranthene	ND	1.6	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzoic acid	ND	1.4	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Benzyl alcohol	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Bis(2-chloroethoxy)methane	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Bis(2-chloroethyl)ether	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Bis(2-chloroisopropyl)ether	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Bis(2-ethylhexyl)phthalate	ND	2.7	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
4-Bromophenyl phenyl ether	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Butyl benzyl phthalate	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Carbazole	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
4-Chloro-3-methylphenol	ND	1.3	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
4-Chloroaniline	ND	1.1	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
2-Chloronaphthalene	ND	1.1	2.4	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
2-Chlorophenol	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
4-Chlorophenyl phenyl ether	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
Chrysene	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Di-n-butyl phthalate	ND	2.7	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Di-n-octyl phthalate	ND	1.1	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Dibenz(a,h)anthracene	ND	1.6	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
Dibenzofuran	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
1,2-Dichlorobenzene	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	A 39166
1,3-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
1,4-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
3,3´-Dichlorobenzidine	ND	0.96	2.4	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Diethyl phthalate	ND	1.5	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Dimethyl phthalate	ND	0.99	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
2,4-Dichlorophenol	ND	1.2	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
2,4-Dimethylphenol	ND	0.92	2.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
4,6-Dinitro-2-methylphenol	ND	0.89	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166
2,4-Dinitrophenol	ND	0.62	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PM	<i>I</i> 39166

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
- PQL Practical Quanitative Limit
- 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 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 9:20:00 AM

Lab ID: 1807001-001 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	M
2,4-Dinitrotoluene	ND	0.99	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
2,6-Dinitrotoluene	ND	1.2	4.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Fluoranthene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Fluorene	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Hexachlorobenzene	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Hexachlorobutadiene	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Hexachlorocyclopentadiene	ND	0.96	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Hexachloroethane	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Indeno(1,2,3-cd)pyrene	ND	1.4	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
Isophorone	ND	1.2	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	<i>I</i> 39166
1-Methylnaphthalene	ND	1.4	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
2-Methylnaphthalene	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
2-Methylphenol	ND	1.3	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
3+4-Methylphenol	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
N-Nitrosodi-n-propylamine	ND	1.5	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
N-Nitrosodiphenylamine	ND	0.99	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
Naphthalene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
2-Nitroaniline	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
3-Nitroaniline	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	A 39166
4-Nitroaniline	ND	0.94	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Nitrobenzene	ND	1.1	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
2-Nitrophenol	ND	1.2	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Pentachlorophenol	ND	0.98	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Phenanthrene	ND	0.99	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Phenol	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Pyrene	ND	1.0	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Pyridine	ND	1.2	3.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
1,2,4-Trichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
2,4,5-Trichlorophenol	ND	1.1	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
2,4,6-Trichlorophenol	ND	1.3	1.9	D	mg/Kg	1	7/23/2018 6:43:21 PN	
Surr: 2-Fluorophenol	0	1.0	41.1-115	SD	%Rec	1	7/23/2018 6:43:21 PN	
Surr: Phenol-d5	0		46.8-124	SD	%Rec	1	7/23/2018 6:43:21 PN	
Surr: 2,4,6-Tribromophenol	0		49.3-130	SD	%Rec	1	7/23/2018 6:43:21 PN	
Surr: Nitrobenzene-d5	0		44.6-124	SD	%Rec	1	7/23/2018 6:43:21 PN	
Surr: 2-Fluorobiphenyl	0		46.1-123	SD	%Rec	1	7/23/2018 6:43:21 PN	
Surr: 4-Terphenyl-d14	0		29.8-107	SD	%Rec	1	7/23/2018 6:43:21 PN	
	0		20.0 107	OD	701100	•		
EPA METHOD 8260B: VOLATILES		0.00.	0.00:				Analyst: DJ I	
Benzene	ND	0.0047	0.024		mg/Kg	1	7/5/2018 1:39:05 PM	39039

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
- PQL Practical Quanitative Limit
- 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 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 9:20:00 AM

Lab ID: 1807001-001 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0073	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Naphthalene	ND	0.0048	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2018 1:39:05 PM	39039
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Acetone	ND	0.052	0.72		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Bromodichloromethane	ND	0.0062	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Bromoform	ND	0.012	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Bromomethane	0.0087	0.0083	0.14	J	mg/Kg	1	7/5/2018 1:39:05 PM	39039
2-Butanone	0.083	0.028	0.48	J	mg/Kg	1	7/5/2018 1:39:05 PM	39039
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Carbon tetrachloride	ND	0.0047	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Chloroethane	ND	0.016	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/5/2018 1:39:05 PM	39039
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
4-Chlorotoluene	ND	0.0043	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
cis-1,3-Dichloropropene	ND	0.0036	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Dibromomethane	ND	0.0023	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
2,2-Dichloropropane	ND	0.0054	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 4 of 71

Analyte detected in the associated Method Blank

Sample container temperature is out of limit as specified

Page 5 of 71

Analyte detected below quantitation limits

Value above quantitation range

Sample pH Not In Range

Reporting Detection Limit

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Sample Diluted Due to Matrix

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

Date Reported: 8/6/2018

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 9:20:00 AM

Lab ID: 1807001-001 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	=
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
2-Hexanone	ND	0.0093	0.48		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
4-Isopropyltoluene	ND	0.0036	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2018 1:39:05 PM	39039
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/5/2018 1:39:05 PM	39039
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
sec-Butylbenzene	ND	0.0049	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Styrene	ND	0.0083	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2,4-Trichlorobenzene	ND	0.0048	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	7/5/2018 1:39:05 PM	39039
Surr: Dibromofluoromethane	98.8		70-130		%Rec	1	7/5/2018 1:39:05 PM	39039
Surr: 1,2-Dichloroethane-d4	104		70-130		%Rec	1	7/5/2018 1:39:05 PM	39039
Surr: Toluene-d8	99.4		70-130		%Rec	1	7/5/2018 1:39:05 PM	39039
Surr: 4-Bromofluorobenzene	111		70-130		%Rec	1	7/5/2018 1:39:05 PM	39039
EPA METHOD 418.1: TPH							Analyst: CLI	P
Petroleum Hydrocarbons, TR	460	38	200		mg/Kg	10	7/12/2018	39126
CYANIDE-TOTAL							Analyst: SU l	В
Cyanide	ND	0.25	0.25		mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	A 228-SUBBED						Analyst: SU l	В
Radium-226	0.956	0.173	0.173		pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.24	0.173	0.173		pCi/L	1	8/1/2018	R53202
Radium-228	1.602	0.372	0.372		pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.432	0.372	0.372		pCi/L	1	8/1/2018	R53202
Refer to the QC Summary repor	rt and sample log	gin checklis	t for flagg	ged QC da	ata and	prese	rvation information.	

Ε

J

P

RL

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 9:50:00 AM

Lab ID: 1807001-002

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual U	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.011	0.020	ı	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1221	ND	0.020	0.020	ı	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1232	ND	0.020	0.020	ı	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1242	ND	0.020	0.020	1	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1248	ND	0.020	0.020	1	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1254	ND	0.020	0.020	1	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Aroclor 1260	ND	0.0092	0.020	ı	mg/Kg	1	7/18/2018 4:27:58 AM	39114
Surr: Decachlorobiphenyl	68.0	0	26.3-128	C	%Rec	1	7/18/2018 4:27:58 AM	39114
Surr: Tetrachloro-m-xylene	57.2	0	20.7-151	(%Rec	1	7/18/2018 4:27:58 AM	39114
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	19	1.9	10	1	mg/Kg	1	7/9/2018 7:06:40 PM	39058
Motor Oil Range Organics (MRO)	ND	50	50	1	mg/Kg	1	7/9/2018 7:06:40 PM	39058
Surr: DNOP	108	0	70-130	C	%Rec	1	7/9/2018 7:06:40 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.8	ı	mg/Kg	1	7/5/2018 6:30:51 PM	39039
Surr: BFB	91.3	0	15-316	C	%Rec	1	7/5/2018 6:30:51 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	3.9	0.030	0.30	1	mg/Kg	1	7/11/2018 3:39:07 PM	39148
Chloride	170	8.2	30	ı	mg/Kg	20	7/11/2018 3:51:32 PM	39148
Nitrogen, Nitrate (As N)	2.9	0.17	0.30	ı	mg/Kg	1	7/11/2018 3:39:07 PM	39148
Sulfate	340	17	30	1	mg/Kg	20	7/11/2018 3:51:32 PM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	ND	0.0067	0.033	1	mg/Kg	1	7/6/2018 5:15:22 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	4.4	12	1	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Barium	270	0.11	0.49	1	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Cadmium	ND	0.15	0.49	1	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Chromium	15	0.20	1.5	ı	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Copper	2.1	1.5	1.5	ı	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Iron	19000	240	240	ı	mg/Kg	100	7/10/2018 9:29:52 AM	39100
Lead	2.0	1.2	1.2	ı	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Manganese	420	0.49	0.49		mg/Kg	5	7/10/2018 9:15:45 AM	39100
Selenium	ND	4.9	12		mg/Kg	5	7/10/2018 9:15:45 AM	39100
Silver	ND	0.16	1.2	1	mg/Kg	5	7/10/2018 9:15:45 AM	39100
Uranium	ND	24	24	1	mg/Kg	5	7/10/2018 10:49:05 AM	39100
Zinc	21	12	12	ı	mg/Kg	5	7/10/2018 10:49:05 AM	39100

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

PQL Practical Quanitative Limit

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 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ01

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 9:50:00 AM
Lab ID: 1807001-002 Matrix: SOIL Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DA	M
Acenaphthene	ND	0.10	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Acenaphthylene	ND	0.094	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Aniline	ND	0.090	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Anthracene	ND	0.099	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Azobenzene	ND	0.12	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benz(a)anthracene	ND	0.13	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	<i>I</i> 39166
Benzo(a)pyrene	ND	0.14	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benzo(b)fluoranthene	ND	0.14	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benzo(g,h,i)perylene	ND	0.15	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benzo(k)fluoranthene	ND	0.15	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benzoic acid	ND	0.13	0.46	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Benzyl alcohol	ND	0.12	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Bis(2-chloroethoxy)methane	ND	0.10	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
Bis(2-chloroethyl)ether	ND	0.11	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Bis(2-chloroisopropyl)ether	ND	0.11	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Bis(2-ethylhexyl)phthalate	ND	0.26	0.46	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
4-Bromophenyl phenyl ether	ND	0.12	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Butyl benzyl phthalate	ND	0.12	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Carbazole	ND	0.11	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
4-Chloro-3-methylphenol	ND	0.13	0.46	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
4-Chloroaniline	ND	0.10	0.46	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
2-Chloronaphthalene	ND	0.10	0.23	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
2-Chlorophenol	ND	0.12	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
4-Chlorophenyl phenyl ether	ND	0.097	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Chrysene	ND	0.099	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Di-n-butyl phthalate	ND	0.25	0.37	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Di-n-octyl phthalate	ND	0.11	0.37	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Dibenz(a,h)anthracene	ND	0.15	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Dibenzofuran	ND	0.11	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
1,2-Dichlorobenzene	ND	0.11	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
1,3-Dichlorobenzene	ND	0.10	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
1,4-Dichlorobenzene	ND	0.10	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
3,3´-Dichlorobenzidine	ND	0.092	0.23	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Diethyl phthalate	ND	0.14	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	A 39166
Dimethyl phthalate	ND	0.094	0.19	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
2,4-Dichlorophenol	ND	0.12	0.37	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
2,4-Dimethylphenol	ND	0.087	0.28	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
4,6-Dinitro-2-methylphenol	ND	0.085	0.37	mg/Kg	1	7/16/2018 6:47:44 PM	Л 39166
2,4-Dinitrophenol	ND	0.059	0.46	mg/Kg	1	7/16/2018 6:47:44 PM	<i>I</i> 39166

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
- PQL Practical Quanitative Limit
- 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 7 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 9:50:00 AMLab ID:1807001-002Matrix: SOILReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	. PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	M
2,4-Dinitrotoluene	ND	0.094	0.46		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
2,6-Dinitrotoluene	ND	0.12	0.46		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Fluoranthene	ND	0.10	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Fluorene	ND	0.098	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Hexachlorobenzene	ND	0.11	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Hexachlorobutadiene	ND	0.098	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Hexachlorocyclopentadiene	ND	0.092	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Hexachloroethane	ND	0.11	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Indeno(1,2,3-cd)pyrene	ND	0.13	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Isophorone	ND	0.12	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
1-Methylnaphthalene	ND	0.13	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
2-Methylnaphthalene	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
2-Methylphenol	ND	0.13	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
3+4-Methylphenol	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
N-Nitrosodi-n-propylamine	ND	0.14	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
N-Nitrosodiphenylamine	ND	0.094	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
Naphthalene	ND	0.11	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
2-Nitroaniline	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
3-Nitroaniline	ND	0.099	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	M 39166
4-Nitroaniline	ND	0.089	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	
Nitrobenzene	ND	0.11	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	
2-Nitrophenol	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	
4-Nitrophenol	ND	0.14	0.23		mg/Kg	1	7/16/2018 6:47:44 PI	
Pentachlorophenol	ND	0.093	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	
Phenanthrene	ND	0.094	0.19		mg/Kg	1	7/16/2018 6:47:44 Pl	
Phenol	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	
Pyrene	ND	0.10	0.19		mg/Kg	1	7/16/2018 6:47:44 Pl	
Pyridine	ND	0.11	0.37		mg/Kg	1	7/16/2018 6:47:44 PI	
1,2,4-Trichlorobenzene	ND	0.11	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	
2,4,5-Trichlorophenol	ND	0.11	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	
2,4,6-Trichlorophenol	ND	0.12	0.19		mg/Kg	1	7/16/2018 6:47:44 PI	
Surr: 2-Fluorophenol	33.8		41.1-115	S	%Rec	1	7/16/2018 6:47:44 P	
Surr: Phenol-d5	37.4		46.8-124	S	%Rec	1	7/16/2018 6:47:44 PI	
Surr: 2,4,6-Tribromophenol	43.4		49.3-130	S	%Rec	1	7/16/2018 6:47:44 PI	
Surr: Nitrobenzene-d5	40.8		44.6-124	S	%Rec	1	7/16/2018 6:47:44 PI	
Surr: 2-Fluorobiphenyl	38.8		46.1-123	S	%Rec	1	7/16/2018 6:47:44 Pl	
Surr: 4-Terphenyl-d14	57.2		29.8-107	-	%Rec	1	7/16/2018 6:47:44 Pl	
			· - ·					
EPA METHOD 8260B: VOLATILES							Analyst: DJ	
Benzene	ND	0.0047	0.024		mg/Kg	1	7/5/2018 2:08:34 PM	39039

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
- PQL Practical Quanitative Limit
- 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 8 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 9:50:00 AMLab ID:1807001-002Matrix: SOILReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Naphthalene	ND	0.0049	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2018 2:08:34 PM	39039
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Acetone	ND	0.052	0.72		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Bromoform	ND	0.012	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Bromomethane	ND	0.0083	0.14		mg/Kg	1	7/5/2018 2:08:34 PM	39039
2-Butanone	0.051	0.029	0.48	J	mg/Kg	1	7/5/2018 2:08:34 PM	39039
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Carbon tetrachloride	ND	0.0048	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Chloroethane	ND	0.016	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/5/2018 2:08:34 PM	39039
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
4-Chlorotoluene	ND	0.0044	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
cis-1,3-Dichloropropene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Dibromomethane	ND	0.0024	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
2,2-Dichloropropane	ND	0.0055	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- $\begin{tabular}{ll} I & Analyte detected below quantitation limits & Page 9 of 71 \end{tabular}$
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF VZ01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 9:50:00 AMLab ID:1807001-002Matrix: SOILReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2018 2:08:34 PM	39039
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/5/2018 2:08:34 PM	39039
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Styrene	ND	0.0084	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	7/5/2018 2:08:34 PM	39039
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/5/2018 2:08:34 PM	39039
Surr: 1,2-Dichloroethane-d4	107		70-130		%Rec	1	7/5/2018 2:08:34 PM	39039
Surr: Toluene-d8	98.3		70-130		%Rec	1	7/5/2018 2:08:34 PM	39039
Surr: 4-Bromofluorobenzene	114		70-130		%Rec	1	7/5/2018 2:08:34 PM	39039
EPA METHOD 418.1: TPH							Analyst: CL	Р
Petroleum Hydrocarbons, TR	7.1	3.8	20	J	mg/Kg	1	7/12/2018	39126
CYANIDE-TOTAL							Analyst: SU	В
Cyanide	ND	0.25	0.25		mg/Kg	1	7/11/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBED						Analyst: SU	В
Radium-226	1.104	0.246	0.246		pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.249	0.246	0.246		pCi/L	1	8/1/2018	R53202
Radium-228	1.77	0.264	0.264		pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.431	0.264	0.264		pCi/L	1	8/1/2018	R53202

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 10 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Matrix: SOIL

Central OCD Landfarm Semiannual Sam

CLIENT: Western Refining Southwest, Gallup

1807001-003

Project:

Lab ID:

Client Sample ID: CENTRAL OCD LF TZ02

Collection Date: 6/29/2018 10:35:00 AM **Received Date:** 6/29/2018 3:25:00 PM

	1,14(11)11	OIL	110						
Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID	
EPA METHOD 8082A: PCB'S							Analyst: TOM		
Aroclor 1016	ND	0.010	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1221	ND	0.018	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1232	ND	0.018	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1242	ND	0.018	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1248	ND	0.018	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1254	ND	0.018	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Aroclor 1260	ND	0.0086	0.018		mg/Kg	1	7/18/2018 6:07:08 AM	39114	
Surr: Decachlorobiphenyl	82.0	0	26.3-128		%Rec	1	7/18/2018 6:07:08 AM	39114	
Surr: Tetrachloro-m-xylene	83.6	0	20.7-151		%Rec	1	7/18/2018 6:07:08 AM	39114	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: TOM		
Diesel Range Organics (DRO)	ND	1.9	9.9		mg/Kg	1	7/6/2018 5:38:42 PM	39058	
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	7/6/2018 5:38:42 PM	39058	
Surr: DNOP	110	0	70-130		%Rec	1	7/6/2018 5:38:42 PM	39058	
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB		
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	7/5/2018 7:40:41 PM	39039	
Surr: BFB	92.6	0	15-316		%Rec	1	7/5/2018 7:40:41 PM	39039	
EPA METHOD 300.0: ANIONS							Analyst: MRA		
Fluoride	8.5	0.030	0.30		mg/Kg	1	7/11/2018 4:53:35 PM	39148	
Chloride	110	8.2	30		mg/Kg	20	7/11/2018 5:05:59 PM	39148	
Nitrogen, Nitrate (As N)	4.3	0.17	0.30		mg/Kg	1	7/11/2018 4:53:35 PM	39148	
Sulfate	500	17	30		mg/Kg	20	7/11/2018 5:05:59 PM	39148	
EPA METHOD 7471: MERCURY							Analyst: rde		
Mercury	0.018	0.0064	0.032	J	mg/Kg	1	7/6/2018 5:20:32 PM	39078	
EPA METHOD 6010B: SOIL METALS							Analyst: ELS		
Arsenic	ND	4.3	12		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Barium	340	0.11	0.48		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Cadmium	ND	0.15	0.48		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Chromium	12	0.20	1.5		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Copper	3.5	1.5	1.5		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Iron	16000	240	240		mg/Kg	100	7/10/2018 9:33:50 AM	39100	
Lead	ND	1.2	1.2		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Manganese	400	0.48	0.48		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Selenium	ND	4.9	12		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Silver	ND	0.16	1.2		mg/Kg	5	7/10/2018 9:31:50 AM	39100	
Uranium	ND	24	24		mg/Kg	5	7/10/2018 11:35:31 AM		
Zinc	26	12	12		mg/Kg	5	7/10/2018 10:59:38 AM	39100	

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

PQL Practical Quanitative Limit

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 11 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1807001

Received Date: 6/29/2018 3:25:00 PM

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

1807001-003

Lab ID:

CLIENT:Western Refining Southwest, GallupClient Sample ID: CENTRAL OCD LF TZ02Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 10:35:00 AM

Matrix: SOIL

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAI	И
Acenaphthene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Acenaphthylene	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Aniline	ND	0.096	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Anthracene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Azobenzene	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Benz(a)anthracene	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Benzo(a)pyrene	ND	0.15	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Benzo(b)fluoranthene	ND	0.15	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Benzo(g,h,i)perylene	ND	0.16	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Benzo(k)fluoranthene	ND	0.16	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Benzoic acid	ND	0.14	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Benzyl alcohol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Bis(2-chloroethoxy)methane	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Bis(2-chloroethyl)ether	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Bis(2-chloroisopropyl)ether	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Bis(2-ethylhexyl)phthalate	ND	0.27	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
4-Bromophenyl phenyl ether	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Butyl benzyl phthalate	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Carbazole	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
4-Chloro-3-methylphenol	ND	0.13	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
4-Chloroaniline	ND	0.11	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
2-Chloronaphthalene	ND	0.11	0.25	mg/Kg	1	7/23/2018 7:13:32 PM	39166
2-Chlorophenol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
4-Chlorophenyl phenyl ether	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
Chrysene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Di-n-butyl phthalate	ND	0.27	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Di-n-octyl phthalate	ND	0.12	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Dibenz(a,h)anthracene	ND	0.16	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Dibenzofuran	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
1,2-Dichlorobenzene	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
1,3-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
1,4-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
3,3´-Dichlorobenzidine	ND	0.098	0.25	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Diethyl phthalate	ND	0.15	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
Dimethyl phthalate	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	39166
2,4-Dichlorophenol	ND	0.12	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
2,4-Dimethylphenol	ND	0.093	0.30	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
4,6-Dinitro-2-methylphenol	ND	0.091	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	J 39166
2,4-Dinitrophenol	ND	0.063	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	I 39166

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 12 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 10:35:00 AM

Lab ID: 1807001-003

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DA	М
2,4-Dinitrotoluene	ND	0.10	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
2,6-Dinitrotoluene	ND	0.12	0.49	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Fluoranthene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Fluorene	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Hexachlorobenzene	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Hexachlorobutadiene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Hexachlorocyclopentadiene	ND	0.098	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Hexachloroethane	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Indeno(1,2,3-cd)pyrene	ND	0.14	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Isophorone	ND	0.13	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
1-Methylnaphthalene	ND	0.14	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
2-Methylnaphthalene	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
2-Methylphenol	ND	0.14	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
3+4-Methylphenol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
N-Nitrosodi-n-propylamine	ND	0.15	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
N-Nitrosodiphenylamine	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Naphthalene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
2-Nitroaniline	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
3-Nitroaniline	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
4-Nitroaniline	ND	0.095	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	
Nitrobenzene	ND	0.11	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	
2-Nitrophenol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
4-Nitrophenol	ND	0.15	0.25	mg/Kg	1	7/23/2018 7:13:32 PM	
Pentachlorophenol	ND	0.10	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	
Phenanthrene	ND	0.10	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
Phenol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
Pyrene	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
Pyridine	ND	0.12	0.40	mg/Kg	1	7/23/2018 7:13:32 PM	
1,2,4-Trichlorobenzene	ND	0.12	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
2,4,5-Trichlorophenol	ND	0.11	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
2,4,6-Trichlorophenol	ND	0.13	0.20	mg/Kg	1	7/23/2018 7:13:32 PM	
Surr: 2-Fluorophenol	47.0		41.1-115	%Rec	1	7/23/2018 7:13:32 PM	
Surr: Phenol-d5	56.2		46.8-124	%Rec	1	7/23/2018 7:13:32 PM	
Surr: 2,4,6-Tribromophenol	54.3		49.3-130	%Rec	1	7/23/2018 7:13:32 PM	<i>I</i> 39166
Surr: Nitrobenzene-d5	59.9		44.6-124	%Rec	1	7/23/2018 7:13:32 PM	
Surr: 2-Fluorobiphenyl	59.4		46.1-123	%Rec	1	7/23/2018 7:13:32 PM	
Surr: 4-Terphenyl-d14	79.8		29.8-107	%Rec	1	7/23/2018 7:13:32 PM	
EPA METHOD 8260B: VOLATILES			-			Analyst: DJ	
Benzene	ND	0.0047	0.024	mg/Kg	1	7/5/2018 3:37:06 PM	39039
DOMEGNO	ND	0.0047	0.024	mg/ixg	'	17012010 3.31.00 FIVI	55055

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 13 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 10:35:00 AM

Lab ID: 1807001-003

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Naphthalene	ND	0.0049	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2018 3:37:06 PM	39039
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Acetone	ND	0.052	0.72		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Bromoform	ND	0.012	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Bromomethane	ND	0.0083	0.14		mg/Kg	1	7/5/2018 3:37:06 PM	39039
2-Butanone	0.067	0.029	0.48	J	mg/Kg	1	7/5/2018 3:37:06 PM	39039
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Carbon tetrachloride	ND	0.0048	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Chloroethane	ND	0.016	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/5/2018 3:37:06 PM	39039
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
4-Chlorotoluene	ND	0.0044	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
cis-1,3-Dichloropropene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Dibromomethane	ND	0.0024	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
2,2-Dichloropropane	ND	0.0055	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 14 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/6/2018

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ02 **Project:** Central OCD Landfarm Semiannual Sam Collection Date: 6/29/2018 10:35:00 AM Lab ID: 1807001-003 Matrix: SOIL Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ I	F
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2018 3:37:06 PM	39039
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/5/2018 3:37:06 PM	39039
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Styrene	ND	0.0084	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	7/5/2018 3:37:06 PM	39039
Surr: Dibromofluoromethane	104		70-130		%Rec	1	7/5/2018 3:37:06 PM	39039
Surr: 1,2-Dichloroethane-d4	108		70-130		%Rec	1	7/5/2018 3:37:06 PM	39039
Surr: Toluene-d8	97.6		70-130		%Rec	1	7/5/2018 3:37:06 PM	39039
Surr: 4-Bromofluorobenzene	116		70-130		%Rec	1	7/5/2018 3:37:06 PM	39039
EPA METHOD 418.1: TPH							Analyst: CL l	P
Petroleum Hydrocarbons, TR	4.6	3.7	20	J	mg/Kg	1	7/12/2018	39126
CYANIDE-TOTAL							Analyst: SU	В
Cyanide	ND	0.25	0.25		mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	A 228-SUBBED						Analyst: SU	В
Radium-226	1.129	0.203	0.203		pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.328	0.203	0.203		pCi/L	1	8/1/2018	R53202
Radium-228	1.321	0.589	0.589		pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.524	0.589	0.589		pCi/L	1	8/1/2018	R53202
Refer to the QC Summary report	rt and sample log	gin checklis	t for flagg	ged QC	data and	prese	rvation information.	

Qualifiers: Value exceeds Maximum Contaminant Level.

D

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Ε Value above quantitation range

J Analyte detected below quantitation limits Page 15 of 71

P Sample pH Not In Range

RLReporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/6/2018

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 10:45:00 AM

Lab ID: 1807001-004

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed H	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TOM	
Aroclor 1016	ND	0.010	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1221	ND	0.019	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1232	ND	0.019	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1242	ND	0.019	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1248	ND	0.019	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1254	ND	0.019	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Aroclor 1260	ND	0.0088	0.019	mg/Kg	1	7/18/2018 6:40:12 AM	39114
Surr: Decachlorobiphenyl	77.6	0	26.3-128	%Rec	1	7/18/2018 6:40:12 AM	39114
Surr: Tetrachloro-m-xylene	66.4	0	20.7-151	%Rec	1	7/18/2018 6:40:12 AM	39114
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS					Analyst: TOM	
Diesel Range Organics (DRO)	ND	1.9	10	mg/Kg	1	7/6/2018 6:03:11 PM	39058
Motor Oil Range Organics (MRO)	ND	50	50	mg/Kg	1	7/6/2018 6:03:11 PM	39058
Surr: DNOP	105	0	70-130	%Rec	1	7/6/2018 6:03:11 PM	39058
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.3	4.6	mg/Kg	1	7/5/2018 8:03:55 PM	39039
Surr: BFB	90.1	0	15-316	%Rec	1	7/5/2018 8:03:55 PM	39039
EPA METHOD 300.0: ANIONS						Analyst: MRA	
Fluoride	3.9	0.030	0.30	mg/Kg	1	7/11/2018 5:18:24 PM	39148
Chloride	210	8.2	30	mg/Kg	20	7/11/2018 5:30:49 PM	39148
Nitrogen, Nitrate (As N)	1.2	0.17	0.30	mg/Kg	1	7/11/2018 5:18:24 PM	39148
Sulfate	780	17	30	mg/Kg	20	7/11/2018 5:30:49 PM	39148
EPA METHOD 7471: MERCURY						Analyst: rde	
Mercury	ND	0.0063	0.031	mg/Kg	1	7/6/2018 5:22:15 PM	39078
EPA METHOD 6010B: SOIL METALS						Analyst: ELS	
Arsenic	ND	4.3	12	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Barium	270	0.11	0.48	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Cadmium	ND	0.15	0.48	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Chromium	16	0.20	1.5	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Copper	1.9	1.5	1.5	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Iron	20000	240	240	mg/Kg	100	7/10/2018 9:37:53 AM	39100
Lead	2.0	1.2	1.2	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Manganese	410	0.48	0.48	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Selenium	ND	4.9	12	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Silver	ND	0.16	1.2	mg/Kg	5	7/10/2018 9:35:48 AM	39100
Uranium	ND	24	24	mg/Kg	5	7/10/2018 11:36:48 AM	39100
Zinc	24	12	12	mg/Kg	5	7/10/2018 11:01:14 AM	I 39100

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

PQL Practical Quanitative Limit

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 16 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup **Client Sample ID:** CENTRAL OCD LF VZ02

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 10:45:00 AM
Lab ID: 1807001-004
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAI	И
Acenaphthene	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Acenaphthylene	ND	0.10	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Aniline	ND	0.097	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Anthracene	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Azobenzene	ND	0.13	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benz(a)anthracene	ND	0.14	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzo(a)pyrene	ND	0.15	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzo(b)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzo(k)fluoranthene	ND	0.16	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzoic acid	ND	0.15	0.50		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Benzyl alcohol	ND	0.14	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Bis(2-chloroethyl)ether	ND	0.12	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Bis(2-chloroisopropyl)ether	ND	0.12	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Bis(2-ethylhexyl)phthalate	ND	0.28	0.50		mg/Kg	1	7/16/2018 8:48:55 PM	39166
4-Bromophenyl phenyl ether	ND	0.13	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Butyl benzyl phthalate	ND	0.13	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Carbazole	ND	0.12	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
4-Chloro-3-methylphenol	ND	0.14	0.50		mg/Kg	1	7/16/2018 8:48:55 PM	39166
4-Chloroaniline	ND	0.11	0.50		mg/Kg	1	7/16/2018 8:48:55 PM	39166
2-Chloronaphthalene	ND	0.11	0.25		mg/Kg	1	7/16/2018 8:48:55 PM	39166
2-Chlorophenol	ND	0.13	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
4-Chlorophenyl phenyl ether	ND	0.10	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Chrysene	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Di-n-butyl phthalate	0.34	0.27	0.40	J	mg/Kg	1	7/16/2018 8:48:55 PM	39166
Di-n-octyl phthalate	ND	0.12	0.40		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Dibenzofuran	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
1,2-Dichlorobenzene	ND	0.12	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
1,3-Dichlorobenzene	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
1,4-Dichlorobenzene	ND	0.11	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
3,3'-Dichlorobenzidine	ND	0.099	0.25		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Diethyl phthalate	0.20	0.15	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
Dimethyl phthalate	ND	0.10	0.20		mg/Kg	1	7/16/2018 8:48:55 PM	39166
2,4-Dichlorophenol	ND	0.13	0.40		mg/Kg	1	7/16/2018 8:48:55 PM	39166
2,4-Dimethylphenol	ND	0.095	0.30		mg/Kg	1	7/16/2018 8:48:55 PM	39166
4,6-Dinitro-2-methylphenol	ND	0.092	0.40		mg/Kg	1	7/16/2018 8:48:55 PM	39166
2,4-Dinitrophenol	ND	0.064	0.50		mg/Kg	1	7/16/2018 8:48:55 PM	39166

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 17 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 10:45:00 AM

Lab ID: 1807001-004 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: D	AM
2,4-Dinitrotoluene	ND	0.10	0.50	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
2,6-Dinitrotoluene	ND	0.13	0.50	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Fluoranthene	ND	0.11	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Fluorene	ND	0.11	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Hexachlorobenzene	ND	0.12	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Hexachlorobutadiene	ND	0.11	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Hexachlorocyclopentadiene	ND	0.099	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Hexachloroethane	ND	0.12	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Indeno(1,2,3-cd)pyrene	ND	0.15	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Isophorone	ND	0.13	0.40	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
1-Methylnaphthalene	ND	0.14	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
2-Methylnaphthalene	ND	0.13	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
2-Methylphenol	ND	0.14	0.40	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
3+4-Methylphenol	ND	0.13	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
N-Nitrosodi-n-propylamine	ND	0.15	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
N-Nitrosodiphenylamine	ND	0.10	0.20	mg/Kg	1	7/16/2018 8:48:55 P	M 39166
Naphthalene	ND	0.11	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
2-Nitroaniline	ND	0.13	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
3-Nitroaniline	ND	0.11	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
4-Nitroaniline	ND	0.096	0.40	mg/Kg		7/16/2018 8:48:55 P	M 39166
Nitrobenzene	ND	0.12	0.40	mg/Kg		7/16/2018 8:48:55 P	M 39166
2-Nitrophenol	ND	0.13	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
4-Nitrophenol	ND	0.15	0.25	mg/Kg		7/16/2018 8:48:55 P	M 39166
Pentachlorophenol	ND	0.10	0.40	mg/Kg		7/16/2018 8:48:55 P	M 39166
Phenanthrene	ND	0.10	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
Phenol	ND	0.14	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
Pyrene	ND	0.11	0.20	mg/Kg		7/16/2018 8:48:55 P	
Pyridine	ND	0.12	0.40	mg/Kg		7/16/2018 8:48:55 P	
1,2,4-Trichlorobenzene	ND	0.12	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
2,4,5-Trichlorophenol	ND	0.11	0.20	mg/Kg		7/16/2018 8:48:55 P	
2,4,6-Trichlorophenol	ND	0.13	0.20	mg/Kg		7/16/2018 8:48:55 P	M 39166
Surr: 2-Fluorophenol	53.8		41.1-115	%Rec	1	7/16/2018 8:48:55 P	M 39166
Surr: Phenol-d5	66.7		46.8-124	%Rec	1	7/16/2018 8:48:55 P	M 39166
Surr: 2,4,6-Tribromophenol	72.1		49.3-130	%Rec	1	7/16/2018 8:48:55 P	M 39166
Surr: Nitrobenzene-d5	68.8		44.6-124	%Rec	1	7/16/2018 8:48:55 P	
Surr: 2-Fluorobiphenyl	76.1		46.1-123	%Rec	1	7/16/2018 8:48:55 P	
Surr: 4-Terphenyl-d14	84.5		29.8-107	%Rec	1	7/16/2018 8:48:55 P	
EPA METHOD 8260B: VOLATILES						Analyst: D	JF
Benzene	ND	0.0045	0.023	mg/Kg	1	7/5/2018 4:06:38 PM	

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 18 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 10:45:00 AM

Lab ID: 1807001-004

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0037	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Ethylbenzene	ND	0.0032	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0071	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2,4-Trimethylbenzene	ND	0.0040	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,3,5-Trimethylbenzene	ND	0.0029	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0059	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Naphthalene	ND	0.0047	0.093		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	7/5/2018 4:06:38 PM	39039
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Acetone	ND	0.050	0.69		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Bromoform	ND	0.011	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Bromomethane	ND	0.0080	0.14		mg/Kg	1	7/5/2018 4:06:38 PM	39039
2-Butanone	0.055	0.027	0.46	J	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Carbon tetrachloride	ND	0.0046	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Chlorobenzene	ND	0.0028	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Chloroethane	ND	0.015	0.093		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Chloroform	ND	0.0028	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Chloromethane	ND	0.0097	0.14		mg/Kg	1	7/5/2018 4:06:38 PM	39039
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0064	0.093		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Dibromomethane	ND	0.0023	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,3-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,4-Dichlorobenzene	ND	0.0051	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1-Dichloroethane	ND	0.019	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1-Dichloroethene	ND	0.019	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2-Dichloropropane	ND	0.0029	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	7/5/2018 4:06:38 PM	39039
2,2-Dichloropropane	ND	0.0053	0.093		mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1-Dichloropropene	ND	0.0052	0.093		mg/Kg	1	7/5/2018 4:06:38 PM	39039

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
- PQL Practical Quanitative Limit
- 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 19 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF VZ02

Project: Central OCD Landfarm Semiannual Sam Collection Date: 6/29/2018 10:45:00 AM Lab ID: 1807001-004 Matrix: SOIL Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ l	F
Hexachlorobutadiene	ND	0.011	0.093	mg/Kg	1	7/5/2018 4:06:38 PM	39039
2-Hexanone	ND	0.0090	0.46	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Isopropylbenzene	ND	0.0031	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
4-Isopropyltoluene	ND	0.0035	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
4-Methyl-2-pentanone	ND	0.0099	0.46	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Methylene chloride	ND	0.019	0.14	mg/Kg	1	7/5/2018 4:06:38 PM	39039
n-Butylbenzene	ND	0.0041	0.14	mg/Kg	1	7/5/2018 4:06:38 PM	39039
n-Propylbenzene	ND	0.0029	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
sec-Butylbenzene	ND	0.0048	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Styrene	ND	0.0080	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
tert-Butylbenzene	ND	0.0037	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.013	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Tetrachloroethene (PCE)	ND	0.0037	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
trans-1,2-DCE	ND	0.019	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
trans-1,3-Dichloropropene	ND	0.0055	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2,3-Trichlorobenzene	ND	0.0042	0.093	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2,4-Trichlorobenzene	ND	0.0047	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1,1-Trichloroethane	ND	0.0060	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,1,2-Trichloroethane	ND	0.0049	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Trichloroethene (TCE)	ND	0.0056	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Trichlorofluoromethane	ND	0.0069	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
1,2,3-Trichloropropane	ND	0.023	0.093	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Vinyl chloride	ND	0.0039	0.046	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Xylenes, Total	ND	0.014	0.093	mg/Kg	1	7/5/2018 4:06:38 PM	39039
Surr: Dibromofluoromethane	104		70-130	%Rec	1	7/5/2018 4:06:38 PM	39039
Surr: 1,2-Dichloroethane-d4	108		70-130	%Rec	1	7/5/2018 4:06:38 PM	39039
Surr: Toluene-d8	96.5		70-130	%Rec	1	7/5/2018 4:06:38 PM	39039
Surr: 4-Bromofluorobenzene	114		70-130	%Rec	1	7/5/2018 4:06:38 PM	39039
EPA METHOD 418.1: TPH						Analyst: CL	P
Petroleum Hydrocarbons, TR	ND	3.8	20	mg/Kg	1	7/12/2018	39126
CYANIDE-TOTAL						Analyst: SU	В
Cyanide	ND	0.25	0.25	mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBED					Analyst: SU	В
Radium-226	1.311	0.262	0.262	pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.374	0.262	0.262	pCi/L	1	8/1/2018	R53202
Radium-228	1.877	0.216	0.216	pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.447	0.216	0.216	pCi/L	1	8/1/2018	R53202
D 4 4 000				1001			

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 20 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Trip Blank

Project: Central OCD Landfarm Semiannual Sam Collection Date:

Lab ID: 1807001-005 **Matrix:** AQUEOUS **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHOR	T LIST					Analyst: AG	ì
Benzene	ND	0.062	1.0	μg/L	1	7/6/2018 5:28:33 PM	C52504
Toluene	ND	0.064	1.0	μg/L	1	7/6/2018 5:28:33 PM	C52504
Ethylbenzene	ND	0.093	1.0	μg/L	1	7/6/2018 5:28:33 PM	C52504
Xylenes, Total	ND	0.32	1.5	μg/L	1	7/6/2018 5:28:33 PM	C52504
Surr: 4-Bromofluorobenzene	115	0	70-130	%Rec	1	7/6/2018 5:28:33 PM	C52504
Surr: Toluene-d8	101	0	70-130	%Rec	1	7/6/2018 5:28:33 PM	C52504

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

PQL Practical Quanitative Limit

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 21 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF TZ03

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:20:00 AM

Lab ID: 1807001-006

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TON	I
Aroclor 1016	ND	0.054	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1221	ND	0.099	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1232	ND	0.099	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1242	ND	0.099	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1248	ND	0.099	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1254	ND	0.099	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Aroclor 1260	ND	0.047	0.099		mg/Kg	1	7/18/2018 2:33:08 PM	39114
Surr: Decachlorobiphenyl	106	0	26.3-128		%Rec	1	7/18/2018 2:33:08 PM	39114
Surr: Tetrachloro-m-xylene	118	0	20.7-151		%Rec	1	7/18/2018 2:33:08 PM	39114
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: TON	I
Diesel Range Organics (DRO)	540	19	99		mg/Kg	10	7/9/2018 9:35:13 PM	39058
Motor Oil Range Organics (MRO)	850	490	490		mg/Kg	10	7/9/2018 9:35:13 PM	39058
Surr: DNOP	0	0	70-130	S	%Rec	10	7/9/2018 9:35:13 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.7		mg/Kg	1	7/5/2018 8:27:07 PM	39039
Surr: BFB	90.9	0	15-316		%Rec	1	7/5/2018 8:27:07 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MRA	١
Fluoride	6.7	0.61	6.0		mg/Kg	20	7/11/2018 5:55:37 PM	39148
Chloride	210	8.2	30		mg/Kg	20	7/11/2018 5:55:37 PM	39148
Nitrogen, Nitrate (As N)	6.5	3.3	6.0		mg/Kg	20	7/11/2018 5:55:37 PM	39148
Sulfate	1000	17	30		mg/Kg	20	7/11/2018 5:55:37 PM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	0.038	0.0065	0.032		mg/Kg	1	7/6/2018 5:24:00 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	4.5	12		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Barium	330	0.11	0.50		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Cadmium	ND	0.16	0.50		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Chromium	15	0.20	1.5		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Copper	10	1.5	1.5		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Iron	19000	250	250		mg/Kg	100	7/10/2018 9:46:12 AM	39100
Lead	6.4	1.2	1.2		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Manganese	400	0.50	0.50		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Selenium	ND	5.0	12		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Silver	ND	0.16	1.2		mg/Kg	5	7/10/2018 9:44:14 AM	39100
Uranium	ND	25	25		mg/Kg	5	7/10/2018 11:38:10 AM	1 39100
Zinc	64	12	12		mg/Kg	5	7/10/2018 11:02:48 AN	1 39100

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

PQL Practical Quanitative Limit

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 22 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:20:00 AM

Lab ID: 1807001-006 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	M
Acenaphthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Acenaphthylene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	И 39166
Aniline	ND	0.96	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Anthracene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Azobenzene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benz(a)anthracene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzo(a)pyrene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzo(b)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzo(k)fluoranthene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzoic acid	ND	1.4	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Benzyl alcohol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Bis(2-chloroethoxy)methane	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Bis(2-chloroethyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Bis(2-chloroisopropyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Bis(2-ethylhexyl)phthalate	ND	2.7	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
4-Bromophenyl phenyl ether	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Butyl benzyl phthalate	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Carbazole	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
4-Chloro-3-methylphenol	ND	1.3	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
4-Chloroaniline	ND	1.1	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
2-Chloronaphthalene	ND	1.1	2.5	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
2-Chlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
4-Chlorophenyl phenyl ether	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Chrysene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Di-n-butyl phthalate	ND	2.7	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Di-n-octyl phthalate	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Dibenzofuran	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
1,2-Dichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
1,3-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
1,4-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
3,3'-Dichlorobenzidine	ND	0.98	2.5	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Diethyl phthalate	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
Dimethyl phthalate	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
2,4-Dichlorophenol	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
2,4-Dimethylphenol	ND	0.93	3.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166
4,6-Dinitro-2-methylphenol	ND	0.91	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	
2,4-Dinitrophenol	ND	0.63	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PM	M 39166

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
- PQL Practical Quanitative Limit
- 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 23 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:20:00 AM

Lab ID: 1807001-006

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDI	. PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
2,4-Dinitrotoluene	ND	1.0	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2,6-Dinitrotoluene	ND	1.2	5.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Fluoranthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Fluorene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Hexachlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Hexachlorobutadiene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Hexachlorocyclopentadiene	ND	0.98	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Hexachloroethane	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Indeno(1,2,3-cd)pyrene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Isophorone	ND	1.3	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
1-Methylnaphthalene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2-Methylnaphthalene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2-Methylphenol	ND	1.4	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
N-Nitrosodi-n-propylamine	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
N-Nitrosodiphenylamine	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Naphthalene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2-Nitroaniline	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
3-Nitroaniline	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
4-Nitroaniline	ND	0.95	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Nitrobenzene	ND	1.1	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2-Nitrophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
4-Nitrophenol	ND	1.5	2.5	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Pentachlorophenol	ND	1.0	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Phenanthrene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Phenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Pyrene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Pyridine	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
1,2,4-Trichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2,4,5-Trichlorophenol	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
2,4,6-Trichlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 7:43:35 PN	A 39166
Surr: 2-Fluorophenol	0		41.1-115	SD	%Rec	1	7/23/2018 7:43:35 PN	A 39166
Surr: Phenol-d5	0		46.8-124	SD	%Rec	1	7/23/2018 7:43:35 PN	A 39166
Surr: 2,4,6-Tribromophenol	0		49.3-130	SD	%Rec	1	7/23/2018 7:43:35 PN	A 39166
Surr: Nitrobenzene-d5	0		44.6-124	SD	%Rec	1	7/23/2018 7:43:35 PN	
Surr: 2-Fluorobiphenyl	0		46.1-123	SD	%Rec	1	7/23/2018 7:43:35 PN	
Surr: 4-Terphenyl-d14	0		29.8-107	SD	%Rec	1	7/23/2018 7:43:35 PN	
EPA METHOD 8260B: VOLATILES							Analyst: DJ I	
Benzene	ND	0.0046	0.023		mg/Kg	1	7/5/2018 4:36:11 PM	39039

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 24 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:20:00 AM

Lab ID: 1807001-006

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	 F
Toluene	ND	0.0038	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Ethylbenzene	ND	0.0033	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0072	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2,4-Trimethylbenzene	ND	0.0041	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,3,5-Trimethylbenzene	ND	0.0030	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0049	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0060	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Naphthalene	ND	0.0047	0.094		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	7/5/2018 4:36:11 PM	39039
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Acetone	ND	0.051	0.70		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Bromobenzene	ND	0.0034	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Bromodichloromethane	ND	0.0061	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Bromoform	ND	0.011	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Bromomethane	ND	0.0081	0.14		mg/Kg	1	7/5/2018 4:36:11 PM	39039
2-Butanone	0.057	0.028	0.47	J	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Carbon disulfide	ND	0.0056	0.47		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Carbon tetrachloride	ND	0.0046	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Chlorobenzene	ND	0.0028	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Chloroethane	ND	0.015	0.094		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Chloroform	ND	0.0028	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Chloromethane	ND	0.0098	0.14		mg/Kg	1	7/5/2018 4:36:11 PM	39039
2-Chlorotoluene	ND	0.0036	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
4-Chlorotoluene	ND	0.0042	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
cis-1,2-DCE	ND	0.0060	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
cis-1,3-Dichloropropene	ND	0.0035	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0064	0.094		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Dibromochloromethane	ND	0.0039	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Dibromomethane	ND	0.0023	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2-Dichlorobenzene	ND	0.0024	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,3-Dichlorobenzene	ND	0.0041	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,4-Dichlorobenzene	ND	0.0052	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
Dichlorodifluoromethane	ND	0.019	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1-Dichloroethane	ND	0.019	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1-Dichloroethene	ND	0.019	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2-Dichloropropane	ND	0.0029	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,3-Dichloropropane	ND	0.012	0.047		mg/Kg	1	7/5/2018 4:36:11 PM	39039
2,2-Dichloropropane	ND	0.0053	0.094		mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1-Dichloropropene	ND	0.0053	0.094		mg/Kg	1	7/5/2018 4:36:11 PM	39039

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
- PQL Practical Quanitative Limit
- 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 25 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF TZ03

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:20:00 AM

Lab ID: 1807001-006

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	-
Hexachlorobutadiene	ND	0.012	0.094	mg/Kg	1	7/5/2018 4:36:11 PM	39039
2-Hexanone	ND	0.0091	0.47	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Isopropylbenzene	ND	0.0031	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
4-Isopropyltoluene	ND	0.0036	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
4-Methyl-2-pentanone	ND	0.010	0.47	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Methylene chloride	ND	0.019	0.14	mg/Kg	1	7/5/2018 4:36:11 PM	39039
n-Butylbenzene	ND	0.0042	0.14	mg/Kg	1	7/5/2018 4:36:11 PM	39039
n-Propylbenzene	ND	0.0029	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
sec-Butylbenzene	ND	0.0048	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Styrene	ND	0.0081	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
tert-Butylbenzene	ND	0.0038	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0053	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.013	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Tetrachloroethene (PCE)	ND	0.0037	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
trans-1,2-DCE	ND	0.019	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
trans-1,3-Dichloropropene	ND	0.0056	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2,3-Trichlorobenzene	ND	0.0043	0.094	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2,4-Trichlorobenzene	ND	0.0047	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1,1-Trichloroethane	ND	0.0061	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,1,2-Trichloroethane	ND	0.0050	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Trichloroethene (TCE)	ND	0.0057	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Trichlorofluoromethane	ND	0.0070	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
1,2,3-Trichloropropane	ND	0.023	0.094	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Vinyl chloride	ND	0.0039	0.047	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Xylenes, Total	ND	0.015	0.094	mg/Kg	1	7/5/2018 4:36:11 PM	39039
Surr: Dibromofluoromethane	103		70-130	%Rec	1	7/5/2018 4:36:11 PM	39039
Surr: 1,2-Dichloroethane-d4	115		70-130	%Rec	1	7/5/2018 4:36:11 PM	39039
Surr: Toluene-d8	96.6		70-130	%Rec	1	7/5/2018 4:36:11 PM	39039
Surr: 4-Bromofluorobenzene	114		70-130	%Rec	1	7/5/2018 4:36:11 PM	39039
EPA METHOD 418.1: TPH						Analyst: CLF	•
Petroleum Hydrocarbons, TR	1300	37	190	mg/Kg	10	7/12/2018	39126
CYANIDE-TOTAL						Analyst: SUE	3
Cyanide	ND	0.25	0.25	mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBED					Analyst: SUE	3
Radium-226	1.249	0.152	0.152	pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.264	0.152	0.152	pCi/L	1	8/1/2018	R53202
Radium-228	1.027	0.262	0.262	pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.336	0.262	0.262	pCi/L	1	8/1/2018	R53202
D 0							

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 26 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:30:00 AM

Lab ID: 1807001-007

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.011	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Aroclor 1260	ND	0.0091	0.019		mg/Kg	1	7/18/2018 7:46:20 AM	39114
Surr: Decachlorobiphenyl	88.8	0	26.3-128		%Rec	1	7/18/2018 7:46:20 AM	39114
Surr: Tetrachloro-m-xylene	82.8	0	20.7-151		%Rec	1	7/18/2018 7:46:20 AM	39114
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	12	1.9	10		mg/Kg	1	7/9/2018 10:24:31 PM	39058
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	7/9/2018 10:24:31 PM	39058
Surr: DNOP	104	0	70-130		%Rec	1	7/9/2018 10:24:31 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	5.0		mg/Kg	1	7/5/2018 8:50:20 PM	39039
Surr: BFB	91.1	0	15-316		%Rec	1	7/5/2018 8:50:20 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	4.7	0.030	0.30		mg/Kg	1	7/11/2018 6:08:02 PM	39148
Chloride	190	8.2	30		mg/Kg	20	7/11/2018 6:20:27 PM	39148
Nitrogen, Nitrate (As N)	5.8	0.17	0.30		mg/Kg	1	7/11/2018 6:08:02 PM	39148
Sulfate	790	17	30		mg/Kg	20	7/11/2018 6:20:27 PM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	0.010	0.0066	0.033	J	mg/Kg	1	7/6/2018 5:29:18 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	4.5	13		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Barium	350	0.11	0.50		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Cadmium	ND	0.16	0.50		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Chromium	15	0.21	1.5		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Copper	3.2	1.5	1.5		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Iron	18000	250	250		mg/Kg	100	7/10/2018 9:55:52 AM	39100
Lead	3.0	1.2	1.3		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Manganese	410	0.50	0.50		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Selenium	ND	5.0	13		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Silver	ND	0.16	1.3		mg/Kg	5	7/10/2018 9:53:55 AM	39100
Uranium	ND	25	25		mg/Kg	5	7/10/2018 11:39:33 AM	39100
Zinc	27	13	13		mg/Kg	5	7/10/2018 11:04:23 AM	39100

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

PQL Practical Quanitative Limit

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 Pa

Page 27 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:30:00 AM

Lab ID: 1807001-007 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA l	М
Acenaphthene	ND	0.10	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Acenaphthylene	ND	0.093	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Aniline	ND	0.089	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Anthracene	ND	0.099	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Azobenzene	ND	0.12	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benz(a)anthracene	ND	0.13	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzo(a)pyrene	ND	0.14	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzo(b)fluoranthene	ND	0.14	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzo(g,h,i)perylene	ND	0.15	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzo(k)fluoranthene	ND	0.15	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzoic acid	ND	0.13	0.46		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Benzyl alcohol	ND	0.12	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Bis(2-chloroethoxy)methane	ND	0.10	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Bis(2-chloroethyl)ether	ND	0.11	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Bis(2-chloroisopropyl)ether	ND	0.11	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Bis(2-ethylhexyl)phthalate	ND	0.26	0.46		mg/Kg	1	7/16/2018 9:19:14 PM	39166
4-Bromophenyl phenyl ether	ND	0.12	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Butyl benzyl phthalate	ND	0.12	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Carbazole	ND	0.11	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
4-Chloro-3-methylphenol	ND	0.13	0.46		mg/Kg	1	7/16/2018 9:19:14 PM	39166
4-Chloroaniline	ND	0.10	0.46		mg/Kg	1	7/16/2018 9:19:14 PM	39166
2-Chloronaphthalene	ND	0.10	0.23		mg/Kg	1	7/16/2018 9:19:14 PM	39166
2-Chlorophenol	ND	0.12	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
4-Chlorophenyl phenyl ether	ND	0.097	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Chrysene	ND	0.099	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Di-n-butyl phthalate	0.33	0.25	0.37	J	mg/Kg	1	7/16/2018 9:19:14 PM	39166
Di-n-octyl phthalate	ND	0.11	0.37		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Dibenz(a,h)anthracene	ND	0.15	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Dibenzofuran	ND	0.10	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
1,2-Dichlorobenzene	ND	0.11	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
1,3-Dichlorobenzene	ND	0.10	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
1,4-Dichlorobenzene	ND	0.10	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
3,3'-Dichlorobenzidine	ND	0.092	0.23		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Diethyl phthalate	0.24	0.14	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
Dimethyl phthalate	ND	0.094	0.19		mg/Kg	1	7/16/2018 9:19:14 PM	39166
2,4-Dichlorophenol	ND	0.12	0.37		mg/Kg	1	7/16/2018 9:19:14 PM	39166
2,4-Dimethylphenol	ND	0.087	0.28		mg/Kg	1	7/16/2018 9:19:14 PM	39166
4,6-Dinitro-2-methylphenol	ND	0.085	0.37		mg/Kg	1	7/16/2018 9:19:14 PM	39166
2,4-Dinitrophenol	ND	0.059	0.46		mg/Kg	1	7/16/2018 9:19:14 PM	39166

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 28 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:30:00 AM

Lab ID: 1807001-007 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual U	nits	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	ΛM
2,4-Dinitrotoluene	ND	0.094	0.46	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2,6-Dinitrotoluene	ND	0.12	0.46	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Fluoranthene	ND	0.10	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Fluorene	ND	0.098	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Hexachlorobenzene	ND	0.11	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Hexachlorobutadiene	ND	0.098	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Hexachlorocyclopentadiene	ND	0.092	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Hexachloroethane	ND	0.11	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Indeno(1,2,3-cd)pyrene	ND	0.13	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Isophorone	ND	0.12	0.37	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
1-Methylnaphthalene	ND	0.13	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2-Methylnaphthalene	ND	0.12	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2-Methylphenol	ND	0.13	0.37	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
3+4-Methylphenol	ND	0.12	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
N-Nitrosodi-n-propylamine	ND	0.14	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
N-Nitrosodiphenylamine	ND	0.094	0.19	m	ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Naphthalene	ND	0.11	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2-Nitroaniline	ND	0.12	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
3-Nitroaniline	ND	0.099	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
4-Nitroaniline	ND	0.089	0.37		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Nitrobenzene	ND	0.11	0.37		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2-Nitrophenol	ND	0.12	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
4-Nitrophenol	ND	0.14	0.23		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Pentachlorophenol	ND	0.093	0.37		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Phenanthrene	ND	0.094	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Phenol	ND	0.12	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Pyrene	ND	0.10	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	
Pyridine	ND	0.11	0.37		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
1,2,4-Trichlorobenzene	ND	0.11	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2,4,5-Trichlorophenol	ND	0.11	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
2,4,6-Trichlorophenol	ND	0.12	0.19		ıg/Kg	1	7/16/2018 9:19:14 P	M 39166
Surr: 2-Fluorophenol	61.7		41.1-115		Rec	1	7/16/2018 9:19:14 P	M 39166
Surr: Phenol-d5	75.1		46.8-124	%	Rec	1	7/16/2018 9:19:14 P	
Surr: 2,4,6-Tribromophenol	82.8		49.3-130	%	Rec	1	7/16/2018 9:19:14 P	
Surr: Nitrobenzene-d5	80.0		44.6-124		Rec	1	7/16/2018 9:19:14 P	M 39166
Surr: 2-Fluorobiphenyl	79.8		46.1-123		Rec	1	7/16/2018 9:19:14 P	
Surr: 4-Terphenyl-d14	92.9		29.8-107		Rec	1	7/16/2018 9:19:14 P	
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Benzene	ND	0.0049	0.025	m	ıg/Kg	1	7/5/2018 5:05:44 PM	

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 29 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:30:00 AM

Lab ID: 1807001-007 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0040	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Ethylbenzene	ND	0.0035	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0076	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2,4-Trimethylbenzene	ND	0.0043	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,3,5-Trimethylbenzene	ND	0.0031	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0052	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0063	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Naphthalene	ND	0.0050	0.099		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1-Methylnaphthalene	ND	0.0035	0.20		mg/Kg	1	7/5/2018 5:05:44 PM	39039
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Acetone	ND	0.054	0.74		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Bromobenzene	ND	0.0036	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Bromodichloromethane	ND	0.0065	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Bromoform	ND	0.012	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Bromomethane	ND	0.0086	0.15		mg/Kg	1	7/5/2018 5:05:44 PM	39039
2-Butanone	0.065	0.029	0.50	J	mg/Kg	1	7/5/2018 5:05:44 PM	39039
Carbon disulfide	ND	0.0059	0.50		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Carbon tetrachloride	ND	0.0049	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Chlorobenzene	ND	0.0030	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Chloroethane	ND	0.016	0.099		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Chloroform	ND	0.0030	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/5/2018 5:05:44 PM	39039
2-Chlorotoluene	ND	0.0039	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
4-Chlorotoluene	ND	0.0045	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
cis-1,2-DCE	ND	0.0063	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
cis-1,3-Dichloropropene	ND	0.0038	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0068	0.099		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Dibromochloromethane	ND	0.0042	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Dibromomethane	ND	0.0024	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2-Dichlorobenzene	ND	0.0025	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,3-Dichlorobenzene	ND	0.0044	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,4-Dichlorobenzene	ND	0.0055	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,1-Dichloroethane	ND	0.020	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,1-Dichloroethene	ND	0.020	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,2-Dichloropropane	ND	0.0031	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,3-Dichloropropane	ND	0.012	0.050		mg/Kg	1	7/5/2018 5:05:44 PM	39039
2,2-Dichloropropane	ND	0.0056	0.099		mg/Kg	1	7/5/2018 5:05:44 PM	39039
1,1-Dichloropropene	ND	0.0056	0.099		mg/Kg	1	7/5/2018 5:05:44 PM	39039

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
- PQL Practical Quanitative Limit
- 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 30 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project:

Lab ID:

Client Sample ID: CENTRAL OCD LF VZ03

Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 11:30:00 AM

1807001-007

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Result **MDL PQL** Analyses **Oual Units** DF **Date Analyzed Batch ID EPA METHOD 8260B: VOLATILES** Analyst: DJF 7/5/2018 5:05:44 PM Hexachlorobutadiene ND 0.012 0.099 mg/Kg 39039 1 2-Hexanone ND 0.0097 0.50 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND Isopropylbenzene 0.0033 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND 4-Isopropyltoluene 0.0038 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND 4-Methyl-2-pentanone 0.011 mg/Kg 7/5/2018 5:05:44 PM 39039 0.50 1 Methylene chloride ND 0.020 0.15 mg/Kg 1 7/5/2018 5:05:44 PM 39039 n-Butylbenzene ND 0.0044 0.15 mg/Kg 1 7/5/2018 5:05:44 PM 39039 n-Propylbenzene ND 0.0031 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 sec-Butylbenzene ND 0.0051 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND Styrene 0.0086 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 tert-Butylbenzene ND 0.0040 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 1,1,1,2-Tetrachloroethane ND 0.0056 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 1,1,2,2-Tetrachloroethane ND 0.014 0.050 7/5/2018 5:05:44 PM 39039 mg/Kg 1 ND Tetrachloroethene (PCE) 0.0040 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND trans-1,2-DCE 0.020 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND trans-1,3-Dichloropropene 0.0059 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 1,2,3-Trichlorobenzene ND 0.0045 0.099 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND 1,2,4-Trichlorobenzene 0.0050 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 1,1,1-Trichloroethane ND 0.0064 0.050 7/5/2018 5:05:44 PM 39039 mg/Kg 1 1,1,2-Trichloroethane ND 0.0053 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 ND 0.0060 Trichloroethene (TCE) 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 Trichlorofluoromethane ND 0.0075 0.050 mg/Kg 1 7/5/2018 5:05:44 PM 39039 1,2,3-Trichloropropane ND 0.025 39039 0.099 mg/Kg 1 7/5/2018 5:05:44 PM ND 0.0041 0.050 39039 Vinyl chloride mg/Kg 1 7/5/2018 5:05:44 PM ND 0.015 Xylenes, Total 0.099 mg/Kg 1 7/5/2018 5:05:44 PM 39039 Surr: Dibromofluoromethane 106 70-130 %Rec 1 7/5/2018 5:05:44 PM 39039 Surr: 1,2-Dichloroethane-d4 %Rec 7/5/2018 5:05:44 PM 39039 111 70-130 1 Surr: Toluene-d8 96.2 70-130 %Rec 1 7/5/2018 5:05:44 PM 39039 Surr: 4-Bromofluorobenzene 112 70-130 %Rec 1 7/5/2018 5:05:44 PM 39039 **EPA METHOD 418.1: TPH** Analyst: CLP Petroleum Hydrocarbons, TR 20 7/12/2018 52 3.7 mg/Kg 1 39126 **CYANIDE-TOTAL** Analyst: SUB Cyanide 0.25 0.25 mg/Kg 7/10/2018 R53202 1 EPA 903.1: RA 226 AND EPA 904.0: RA 228-SUBBED Analyst: SUB Radium-226 8/1/2018 1.324 0.165 0.165 pCi/L R53202 Radium-226 ± 0.327 0.165 pCi/L 8/1/2018 R53202 0.165 1 Radium-228 1.185 0.348 0.348 pCi/L 1 8/1/2018 R53202 Radium-228 ± 0.427 0.348 0.348 pCi/L 8/1/2018 R53202

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 31 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF TZ04

Project: Central OCD Landfarm Semiannual Sam Collection Date: 6/29/2018 12:00:00 PM Lab ID: 1807001-008 Matrix: SOIL Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.052	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1221	ND	0.096	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1232	ND	0.096	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1242	ND	0.096	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1248	ND	0.096	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1254	ND	0.096	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Aroclor 1260	ND	0.045	0.096		mg/Kg	1	7/18/2018 3:39:13 PM	39114
Surr: Decachlorobiphenyl	102	0	26.3-128		%Rec	1	7/18/2018 3:39:13 PM	39114
Surr: Tetrachloro-m-xylene	116	0	20.7-151		%Rec	1	7/18/2018 3:39:13 PM	39114
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	2400	19	99		mg/Kg	10	7/9/2018 11:13:51 PM	39058
Motor Oil Range Organics (MRO)	1700	490	490		mg/Kg	10	7/9/2018 11:13:51 PM	39058
Surr: DNOP	0	0	70-130	S	%Rec	10	7/9/2018 11:13:51 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.9		mg/Kg	1	7/5/2018 9:13:29 PM	39039
Surr: BFB	84.1	0	15-316		%Rec	1	7/5/2018 9:13:29 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	13	0.15	1.5		mg/Kg	5	7/13/2018 10:41:30 AM	39148
Chloride	850	8.2	30		mg/Kg	20	7/11/2018 7:10:07 PM	39148
Nitrogen, Nitrate (As N)	47	0.83	1.5		mg/Kg	5	7/11/2018 6:57:42 PM	39148
Sulfate	5000	42	75		mg/Kg	50	7/13/2018 10:53:54 AM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	0.41	0.033	0.16		mg/Kg	5	7/6/2018 5:38:16 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	8.9	25		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Barium	370	0.22	1.0		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Cadmium	ND	0.31	1.0		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Chromium	26	0.41	3.0		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Copper	8.5	3.0	3.0		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Iron	19000	250	250		mg/Kg	100	7/10/2018 9:59:56 AM	39100
Lead	160	2.4	2.5		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Manganese	410	1.0	1.0		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Selenium	ND	10	25		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Silver	ND	0.33	2.5		mg/Kg	10	7/10/2018 10:09:32 AM	39100
Uranium	ND	25	25		mg/Kg	5	7/10/2018 11:40:55 AM	39100
Zinc	130	12	12		mg/Kg	5	7/10/2018 11:05:58 AM	39100

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

PQL Practical Quanitative Limit

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 32 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ04

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 12:00:00 PM

Lab ID: 1807001-008

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
Acenaphthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Acenaphthylene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Aniline	ND	0.96	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Anthracene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Azobenzene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benz(a)anthracene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzo(a)pyrene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzo(b)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzo(k)fluoranthene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzoic acid	ND	1.4	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Benzyl alcohol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Bis(2-chloroethoxy)methane	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Bis(2-chloroethyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Bis(2-chloroisopropyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Bis(2-ethylhexyl)phthalate	ND	2.7	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
4-Bromophenyl phenyl ether	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Butyl benzyl phthalate	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Carbazole	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
4-Chloro-3-methylphenol	ND	1.3	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
4-Chloroaniline	ND	1.1	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
2-Chloronaphthalene	ND	1.1	2.5	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
2-Chlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
4-Chlorophenyl phenyl ether	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Chrysene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Di-n-butyl phthalate	ND	2.7	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Di-n-octyl phthalate	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Dibenzofuran	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
1,2-Dichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
1,3-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
1,4-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
3,3'-Dichlorobenzidine	ND	0.98	2.5	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Diethyl phthalate	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
Dimethyl phthalate	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
2,4-Dichlorophenol	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
2,4-Dimethylphenol	ND	0.93	3.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
4,6-Dinitro-2-methylphenol	ND	0.91	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166
2,4-Dinitrophenol	ND	0.63	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PM	1 39166

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

PQL Practical Quanitative Limit

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 33 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ04

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 12:00:00 PM
Lab ID: 1807001-008
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDI	. PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D A	M
2,4-Dinitrotoluene	ND	1.0	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
2,6-Dinitrotoluene	ND	1.2	5.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Fluoranthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Fluorene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Hexachlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Hexachlorobutadiene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Hexachlorocyclopentadiene	ND	0.98	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Hexachloroethane	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Indeno(1,2,3-cd)pyrene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Isophorone	ND	1.3	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
1-Methylnaphthalene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
2-Methylnaphthalene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
2-Methylphenol	ND	1.4	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
N-Nitrosodi-n-propylamine	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
N-Nitrosodiphenylamine	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
Naphthalene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
2-Nitroaniline	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
3-Nitroaniline	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
4-Nitroaniline	ND	0.95	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Nitrobenzene	ND	1.1	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	M 39166
2-Nitrophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
4-Nitrophenol	ND	1.5	2.5	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Pentachlorophenol	ND	1.0	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Phenanthrene	2.3	1.0	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Phenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Pyrene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Pyridine	ND	1.2	4.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
1,2,4-Trichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
2,4,5-Trichlorophenol	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
2,4,6-Trichlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:13:31 PI	
Surr: 2-Fluorophenol	0		41.1-115	SD	%Rec	1	7/23/2018 8:13:31 PI	
Surr: Phenol-d5	0		46.8-124	SD	%Rec	1	7/23/2018 8:13:31 PI	
Surr: 2,4,6-Tribromophenol	0		49.3-130	SD	%Rec	1	7/23/2018 8:13:31 PI	
Surr: Nitrobenzene-d5	0		44.6-124	SD	%Rec	1	7/23/2018 8:13:31 PI	
Surr: 2-Fluorobiphenyl	0		46.1-123	SD	%Rec	1	7/23/2018 8:13:31 PI	
Surr: 4-Terphenyl-d14	0		29.8-107	SD	%Rec	1	7/23/2018 8:13:31 PI	
EPA METHOD 8260B: VOLATILES	-		· - ·					
	ND	0.0040	0.004		m a/l/ =	4	Analyst: DJ	
Benzene	ND	0.0048	0.024		mg/Kg	1	7/5/2018 5:35:18 PM	39039

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

PQL Practical Quanitative Limit

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 34 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ04

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 12:00:00 PM
Lab ID: 1807001-008
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0039	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Ethylbenzene	ND	0.0034	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0075	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2,4-Trimethylbenzene	ND	0.0042	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0051	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0062	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Naphthalene	ND	0.0049	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1-Methylnaphthalene	0.081	0.0035	0.20	J	mg/Kg	1	7/5/2018 5:35:18 PM	39039
2-Methylnaphthalene	0.034	0.0040	0.20	J	mg/Kg	1	7/5/2018 5:35:18 PM	39039
Acetone	ND	0.053	0.73		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Bromodichloromethane	ND	0.0063	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Bromoform	ND	0.012	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Bromomethane	ND	0.0084	0.15		mg/Kg	1	7/5/2018 5:35:18 PM	39039
2-Butanone	0.064	0.029	0.49	J	mg/Kg	1	7/5/2018 5:35:18 PM	39039
Carbon disulfide	ND	0.0058	0.49		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Carbon tetrachloride	ND	0.0048	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Chloroethane	ND	0.016	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Chloroform	ND	0.0029	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/5/2018 5:35:18 PM	39039
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
cis-1,2-DCE	ND	0.0062	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
cis-1,3-Dichloropropene	ND	0.0037	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0067	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Dibromochloromethane	ND	0.0041	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,4-Dichlorobenzene	ND	0.0054	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1-Dichloroethane	ND	0.020	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1-Dichloroethene	ND	0.020	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2-Dichloropropane	ND	0.0030	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
2,2-Dichloropropane	ND	0.0055	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1-Dichloropropene	ND	0.0055	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039

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
- PQL Practical Quanitative Limit
- 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 35 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF TZ04

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 12:00:00 PM

Lab ID: 1807001-008

Matrix: SOIL

Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Hexachlorobutadiene	ND	0.012	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
2-Hexanone	ND	0.0095	0.49		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
4-Isopropyltoluene	ND	0.0037	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
4-Methyl-2-pentanone	ND	0.010	0.49		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Methylene chloride	ND	0.020	0.15		mg/Kg	1	7/5/2018 5:35:18 PM	39039
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	7/5/2018 5:35:18 PM	39039
n-Propylbenzene	ND	0.0030	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
sec-Butylbenzene	ND	0.0050	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Styrene	ND	0.0085	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
tert-Butylbenzene	ND	0.0039	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0055	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
trans-1,2-DCE	ND	0.020	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
trans-1,3-Dichloropropene	ND	0.0058	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2,3-Trichlorobenzene	ND	0.0045	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2,4-Trichlorobenzene	ND	0.0049	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1,1-Trichloroethane	ND	0.0063	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,1,2-Trichloroethane	ND	0.0052	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Trichloroethene (TCE)	ND	0.0059	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Trichlorofluoromethane	ND	0.0073	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
1,2,3-Trichloropropane	ND	0.024	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Xylenes, Total	ND	0.015	0.098		mg/Kg	1	7/5/2018 5:35:18 PM	39039
Surr: Dibromofluoromethane	102		70-130		%Rec	1	7/5/2018 5:35:18 PM	39039
Surr: 1,2-Dichloroethane-d4	113		70-130		%Rec	1	7/5/2018 5:35:18 PM	39039
Surr: Toluene-d8	96.8		70-130		%Rec	1	7/5/2018 5:35:18 PM	39039
Surr: 4-Bromofluorobenzene	111		70-130		%Rec	1	7/5/2018 5:35:18 PM	39039
EPA METHOD 418.1: TPH							Analyst: CL	Р
Petroleum Hydrocarbons, TR	2700	37	200		mg/Kg	10	7/12/2018	39126
CYANIDE-TOTAL							Analyst: SU	В
Cyanide	0.71	0.25	0.25		mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBED						Analyst: SU	В
Radium-226	1.226	0.192	0.192		pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.247	0.192	0.192		pCi/L	1	8/1/2018	R53202
Radium-228	1.65	0.307	0.307		pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.364	0.307	0.307		pCi/L	1	8/1/2018	R53202

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 36 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sam

Collection Date: 6/29/2018 12:10:00 PM

Lab ID: 1807001-009 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TON	Л
Aroclor 1016	ND	0.011	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	Л 39114
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	Л 39114
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	Л 39114
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	A 39114
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	<i>I</i> 39114
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	Л 39114
Aroclor 1260	ND	0.0091	0.019		mg/Kg	1	7/18/2018 11:05:43 AM	<i>I</i> 39114
Surr: Decachlorobiphenyl	92.0	0	26.3-128		%Rec	1	7/18/2018 11:05:43 AM	Л 39114
Surr: Tetrachloro-m-xylene	77.6	0	20.7-151		%Rec	1	7/18/2018 11:05:43 AM	<i>I</i> 39114
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: TON	1
Diesel Range Organics (DRO)	4.9	1.9	9.9	J	mg/Kg	1	7/6/2018 7:41:53 PM	39058
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	7/6/2018 7:41:53 PM	39058
Surr: DNOP	107	0	70-130		%Rec	1	7/6/2018 7:41:53 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.3	4.6		mg/Kg	1	7/5/2018 9:36:40 PM	39039
Surr: BFB	88.6	0	15-316		%Rec	1	7/5/2018 9:36:40 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: MR	4
Fluoride	2.4	0.030	0.30		mg/Kg	1	7/13/2018 11:06:19 AM	<i>I</i> 39148
Chloride	180	8.2	30		mg/Kg	20	7/11/2018 7:34:56 PM	39148
Nitrogen, Nitrate (As N)	12	0.17	0.30		mg/Kg	1	7/11/2018 7:22:31 PM	39148
Sulfate	480	17	30		mg/Kg	20	7/11/2018 7:34:56 PM	39148
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	ND	0.0067	0.033		mg/Kg	1	7/6/2018 5:32:57 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	i
Arsenic	ND	4.5	12		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Barium	250	0.11	0.50		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Cadmium	ND	0.16	0.50		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Chromium	14	0.20	1.5		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Copper	1.9	1.5	1.5		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Iron	18000	250	250		mg/Kg	100	7/10/2018 10:03:54 AM	<i>I</i> 39100
Lead	ND	1.2	1.2		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Manganese	410	0.50	0.50		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Selenium	ND	5.0	12		mg/Kg	5	7/10/2018 10:01:54 AM	<i>I</i> 39100
Silver	ND	0.16	1.2		mg/Kg	5	7/10/2018 10:01:54 AM	
Uranium	ND	25	25		mg/Kg	5	7/10/2018 11:42:11 AM	<i>I</i> 39100
Zinc	20	12	12		mg/Kg	5	7/10/2018 11:07:20 AM	A 39100

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

PQL Practical Quanitative Limit

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 37 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ04

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 12:10:00 PM
Lab ID: 1807001-009
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	M
Acenaphthene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Acenaphthylene	ND	0.099	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Aniline	ND	0.095	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Anthracene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Azobenzene	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benz(a)anthracene	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzo(a)pyrene	ND	0.15	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzo(b)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzo(k)fluoranthene	ND	0.16	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzoic acid	ND	0.14	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Benzyl alcohol	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Bis(2-chloroethyl)ether	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Bis(2-chloroisopropyl)ether	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Bis(2-ethylhexyl)phthalate	ND	0.27	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
4-Bromophenyl phenyl ether	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Butyl benzyl phthalate	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Carbazole	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
4-Chloro-3-methylphenol	ND	0.13	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
4-Chloroaniline	ND	0.11	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
2-Chloronaphthalene	ND	0.11	0.25		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
2-Chlorophenol	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
4-Chlorophenyl phenyl ether	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Chrysene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Di-n-butyl phthalate	0.43	0.27	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Di-n-octyl phthalate	ND	0.11	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Dibenzofuran	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
1,2-Dichlorobenzene	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
1,3-Dichlorobenzene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
1,4-Dichlorobenzene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
3,3'-Dichlorobenzidine	ND	0.097	0.25		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Diethyl phthalate	0.18	0.15	0.20	J	mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
Dimethyl phthalate	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
2,4-Dichlorophenol	ND	0.12	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
2,4-Dimethylphenol	ND	0.093	0.30		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
4,6-Dinitro-2-methylphenol	ND	0.090	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	A 39166
2,4-Dinitrophenol	ND	0.063	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	<i>I</i> 39166

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
- PQL Practical Quanitative Limit
- 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 38 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ04

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 12:10:00 PM
Lab ID: 1807001-009
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
2,4-Dinitrotoluene	ND	0.10	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2,6-Dinitrotoluene	ND	0.12	0.49		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Fluoranthene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Fluorene	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Hexachlorobenzene	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Hexachlorobutadiene	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Hexachlorocyclopentadiene	ND	0.097	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Hexachloroethane	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Indeno(1,2,3-cd)pyrene	ND	0.14	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Isophorone	ND	0.13	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
1-Methylnaphthalene	ND	0.14	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2-Methylnaphthalene	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2-Methylphenol	ND	0.14	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
N-Nitrosodi-n-propylamine	ND	0.15	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
N-Nitrosodiphenylamine	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Naphthalene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2-Nitroaniline	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
3-Nitroaniline	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
4-Nitroaniline	ND	0.095	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Nitrobenzene	ND	0.11	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2-Nitrophenol	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Pentachlorophenol	ND	0.099	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Phenanthrene	ND	0.10	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Phenol	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	<i>I</i> 39166
Pyrene	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	<i>I</i> 39166
Pyridine	ND	0.12	0.39		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
1,2,4-Trichlorobenzene	ND	0.12	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	<i>I</i> 39166
2,4,5-Trichlorophenol	ND	0.11	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
2,4,6-Trichlorophenol	ND	0.13	0.20		mg/Kg	1	7/16/2018 9:49:25 PM	Л 39166
Surr: 2-Fluorophenol	37.9		41.1-115	S	%Rec	1	7/16/2018 9:49:25 PM	Л 39166
Surr: Phenol-d5	53.7		46.8-124		%Rec	1	7/16/2018 9:49:25 PM	Л 39166
Surr: 2,4,6-Tribromophenol	65.3		49.3-130		%Rec	1	7/16/2018 9:49:25 PM	Л 39166
Surr: Nitrobenzene-d5	52.5		44.6-124		%Rec	1	7/16/2018 9:49:25 PM	Л 39166
Surr: 2-Fluorobiphenyl	60.3		46.1-123		%Rec	1	7/16/2018 9:49:25 PM	Л 39166
Surr: 4-Terphenyl-d14	80.5		29.8-107		%Rec	1	7/16/2018 9:49:25 PM	M 39166
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Benzene	ND	0.0046	0.023		mg/Kg	1	7/5/2018 6:04:47 PM	39039
D 0 1 000								

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 39 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF VZ04

Project: Central OCD Landfarm Semiannual Sam
Collection Date: 6/29/2018 12:10:00 PM
Lab ID: 1807001-009
Matrix: SOIL
Received Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0038	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Ethylbenzene	ND	0.0033	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0071	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2,4-Trimethylbenzene	ND	0.0040	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,3,5-Trimethylbenzene	ND	0.0029	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0059	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Naphthalene	ND	0.0047	0.093		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	7/5/2018 6:04:47 PM	39039
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Acetone	ND	0.050	0.70		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Bromoform	ND	0.011	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Bromomethane	ND	0.0080	0.14		mg/Kg	1	7/5/2018 6:04:47 PM	39039
2-Butanone	0.052	0.027	0.46	J	mg/Kg	1	7/5/2018 6:04:47 PM	39039
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Carbon tetrachloride	ND	0.0046	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Chlorobenzene	ND	0.0028	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Chloroethane	ND	0.015	0.093		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Chloroform	ND	0.0028	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Chloromethane	ND	0.0097	0.14		mg/Kg	1	7/5/2018 6:04:47 PM	39039
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0064	0.093		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Dibromomethane	ND	0.0023	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,3-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,4-Dichlorobenzene	ND	0.0052	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,1-Dichloroethane	ND	0.019	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,1-Dichloroethene	ND	0.019	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,2-Dichloropropane	ND	0.0029	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	7/5/2018 6:04:47 PM	39039
2,2-Dichloropropane	ND	0.0053	0.093		mg/Kg	1	7/5/2018 6:04:47 PM	39039
1,1-Dichloropropene	ND	0.0052	0.093		mg/Kg	1	7/5/2018 6:04:47 PM	39039

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
- PQL Practical Quanitative Limit
- 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 40 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CENTRAL OCD LF VZ04

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 12:10:00 PMLab ID:1807001-009Matrix: SOILReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Hexachlorobutadiene	ND	0.012	0.093	mg/K	g 1	7/5/2018 6:04:47 PM	39039
2-Hexanone	ND	0.0091	0.46	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Isopropylbenzene	ND	0.0031	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
4-Isopropyltoluene	ND	0.0035	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
4-Methyl-2-pentanone	ND	0.0099	0.46	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Methylene chloride	ND	0.019	0.14	mg/K	g 1	7/5/2018 6:04:47 PM	39039
n-Butylbenzene	ND	0.0041	0.14	mg/K	g 1	7/5/2018 6:04:47 PM	39039
n-Propylbenzene	ND	0.0029	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
sec-Butylbenzene	ND	0.0048	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Styrene	ND	0.0081	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
tert-Butylbenzene	ND	0.0038	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.013	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Tetrachloroethene (PCE)	ND	0.0037	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
trans-1,2-DCE	ND	0.019	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
trans-1,3-Dichloropropene	ND	0.0055	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,2,3-Trichlorobenzene	ND	0.0042	0.093	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,2,4-Trichlorobenzene	ND	0.0047	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,1,1-Trichloroethane	ND	0.0060	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,1,2-Trichloroethane	ND	0.0049	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Trichloroethene (TCE)	ND	0.0056	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Trichlorofluoromethane	ND	0.0070	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
1,2,3-Trichloropropane	ND	0.023	0.093	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Vinyl chloride	ND	0.0039	0.046	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Xylenes, Total	ND	0.014	0.093	mg/K	g 1	7/5/2018 6:04:47 PM	39039
Surr: Dibromofluoromethane	105		70-130	%Red	: 1	7/5/2018 6:04:47 PM	39039
Surr: 1,2-Dichloroethane-d4	112		70-130	%Red	: 1	7/5/2018 6:04:47 PM	39039
Surr: Toluene-d8	98.2		70-130	%Red	: 1	7/5/2018 6:04:47 PM	39039
Surr: 4-Bromofluorobenzene	109		70-130	%Red	: 1	7/5/2018 6:04:47 PM	39039
EPA METHOD 418.1: TPH						Analyst: CL	P
Petroleum Hydrocarbons, TR	ND	3.6	19	mg/K	g 1	7/12/2018	39126
CYANIDE-TOTAL						Analyst: SU	В
Cyanide	ND	0.25	0.25	mg/K	g 1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: R	A 228-SUBBED					Analyst: SU	В
Radium-226	1.327	0.171	0.171	pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.317	0.171	0.171	pCi/L	1	8/1/2018	R53202
Radium-228	1.433	0.375	0.375	pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.51	0.375	0.375	pCi/L	1	8/1/2018	R53202
Refer to the QC Summary repo	ort and sample log	gin checklis	t for flagg	ged QC data ar	nd prese	ervation 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

PQL Practical Quanitative Limit

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

Page 41 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF DUP 01

Project: Central OCD Landfarm Semiannual Sam **Collection Date:** 6/29/2018

Lab ID: 1807001-010 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.021	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1221	ND	0.039	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1232	ND	0.039	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1242	ND	0.039	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1248	ND	0.039	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1254	ND	0.039	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Aroclor 1260	ND	0.018	0.039		mg/Kg	1	7/18/2018 4:45:16 PM	39114
Surr: Decachlorobiphenyl	96.8	0	26.3-128		%Rec	1	7/18/2018 4:45:16 PM	39114
Surr: Tetrachloro-m-xylene	113	0	20.7-151		%Rec	1	7/18/2018 4:45:16 PM	39114
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	380	1.9	10		mg/Kg	1	7/10/2018 12:34:52 PM	39058
Motor Oil Range Organics (MRO)	450	50	50		mg/Kg	1	7/10/2018 12:34:52 PM	39058
Surr: DNOP	118	0	70-130		%Rec	1	7/10/2018 12:34:52 PM	39058
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	5.0		mg/Kg	1	7/5/2018 9:59:49 PM	39039
Surr: BFB	85.2	0	15-316		%Rec	1	7/5/2018 9:59:49 PM	39039
EPA METHOD 300.0: ANIONS							Analyst: CJS	
Fluoride	7.1	0.030	0.30		mg/Kg	1	7/12/2018 10:46:44 AM	39174
Chloride	220	8.2	30		mg/Kg	20	7/12/2018 11:23:58 AM	39174
Nitrogen, Nitrate (As N)	1.4	0.17	0.30		mg/Kg	1	7/12/2018 10:46:44 AM	39174
Sulfate	270	17	30		mg/Kg	20	7/12/2018 11:23:58 AM	39174
EPA METHOD 7471: MERCURY							Analyst: rde	
Mercury	0.0068	0.0065	0.032	J	mg/Kg	1	7/6/2018 5:34:43 PM	39078
EPA METHOD 6010B: SOIL METALS							Analyst: ELS	
Arsenic	ND	4.4	12		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Barium	240	0.11	0.49		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Cadmium	ND	0.15	0.49		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Chromium	12	0.20	1.5		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Copper	ND	1.5	1.5		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Iron	16000	240	240		mg/Kg	100	7/10/2018 10:07:34 AM	39100
Lead	ND	1.2	1.2		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Manganese	320	0.49	0.49		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Selenium	ND	4.9	12		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Silver	ND	0.16	1.2		mg/Kg	5	7/10/2018 10:05:35 AM	39100
Uranium	ND	24	24		mg/Kg	5	7/10/2018 11:43:27 AM	39100
Zinc	18	12	12		mg/Kg	5	7/10/2018 11:08:54 AM	39100

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

Value exceeds Maximum Containmant Leve	Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 42 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF DUP 01

Project: Central OCD Landfarm Semiannual Sam **Collection Date:** 6/29/2018

Lab ID: 1807001-010 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
Acenaphthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Acenaphthylene	ND	0.99	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Aniline	ND	0.95	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Anthracene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Azobenzene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benz(a)anthracene	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzo(a)pyrene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzo(b)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzo(k)fluoranthene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzoic acid	ND	1.4	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Benzyl alcohol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Bis(2-chloroethoxy)methane	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Bis(2-chloroethyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Bis(2-chloroisopropyl)ether	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Bis(2-ethylhexyl)phthalate	ND	2.7	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
4-Bromophenyl phenyl ether	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Butyl benzyl phthalate	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Carbazole	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
4-Chloro-3-methylphenol	ND	1.3	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
4-Chloroaniline	ND	1.1	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
2-Chloronaphthalene	ND	1.1	2.5	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
2-Chlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
4-Chlorophenyl phenyl ether	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Chrysene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Di-n-butyl phthalate	ND	2.7	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Di-n-octyl phthalate	ND	1.1	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Dibenzofuran	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
1,2-Dichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
1,3-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
1,4-Dichlorobenzene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
3,3'-Dichlorobenzidine	ND	0.97	2.5	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Diethyl phthalate	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
Dimethyl phthalate	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
2,4-Dichlorophenol	ND	1.2	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
2,4-Dimethylphenol	ND	0.92	2.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
4,6-Dinitro-2-methylphenol	ND	0.90	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166
2,4-Dinitrophenol	ND	0.63	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	1 39166

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
- PQL Practical Quanitative Limit
- 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 43 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF DUP 01

Project: Central OCD Landfarm Semiannual Sam **Collection Date:** 6/29/2018

Lab ID: 1807001-010 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES		Analyst: DAM						
2,4-Dinitrotoluene	ND	1.0	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2,6-Dinitrotoluene	ND	1.2	4.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Fluoranthene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Fluorene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Hexachlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Hexachlorobutadiene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Hexachlorocyclopentadiene	ND	0.97	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Hexachloroethane	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Indeno(1,2,3-cd)pyrene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Isophorone	ND	1.3	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
1-Methylnaphthalene	ND	1.4	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2-Methylnaphthalene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2-Methylphenol	ND	1.4	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
N-Nitrosodi-n-propylamine	ND	1.5	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
N-Nitrosodiphenylamine	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Naphthalene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2-Nitroaniline	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
3-Nitroaniline	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
4-Nitroaniline	ND	0.94	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Nitrobenzene	ND	1.1	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2-Nitrophenol	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
4-Nitrophenol	ND	1.5	2.5	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Pentachlorophenol	ND	0.99	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Phenanthrene	ND	1.0	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Phenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Pyrene	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Pyridine	ND	1.2	3.9	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
1,2,4-Trichlorobenzene	ND	1.2	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2,4,5-Trichlorophenol	ND	1.1	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
2,4,6-Trichlorophenol	ND	1.3	2.0	D	mg/Kg	1	7/23/2018 8:43:29 PM	M 39166
Surr: 2-Fluorophenol	0		41.1-115	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
Surr: Phenol-d5	0		46.8-124	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
Surr: 2,4,6-Tribromophenol	0		49.3-130	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
Surr: Nitrobenzene-d5	0		44.6-124	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
Surr: 2-Fluorobiphenyl	0		46.1-123	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
Surr: 4-Terphenyl-d14	0		29.8-107	SD	%Rec	1	7/23/2018 8:43:29 PM	M 39166
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Benzene	ND	0.0049	0.025		mg/Kg	1	7/5/2018 6:34:10 PM	39039
D 6 1 0000				100				

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

PQL Practical Quanitative Limit

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 44 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF DUP 01

Project: Central OCD Landfarm Semiannual Sam **Collection Date:** 6/29/2018

Lab ID: 1807001-010 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Toluene	ND	0.0040	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Ethylbenzene	ND	0.0035	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Methyl tert-butyl ether (MTBE)	ND	0.0076	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2,4-Trimethylbenzene	ND	0.0043	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,3,5-Trimethylbenzene	ND	0.0031	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2-Dichloroethane (EDC)	ND	0.0052	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2-Dibromoethane (EDB)	ND	0.0063	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Naphthalene	ND	0.0050	0.099		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1-Methylnaphthalene	0.030	0.0035	0.20	J	mg/Kg	1	7/5/2018 6:34:10 PM	39039
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Acetone	ND	0.054	0.74		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Bromobenzene	ND	0.0036	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Bromodichloromethane	ND	0.0064	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Bromoform	ND	0.012	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Bromomethane	ND	0.0086	0.15		mg/Kg	1	7/5/2018 6:34:10 PM	39039
2-Butanone	0.068	0.029	0.50	J	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Carbon disulfide	ND	0.0059	0.50		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Carbon tetrachloride	ND	0.0049	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Chlorobenzene	ND	0.0030	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Chloroethane	ND	0.016	0.099		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Chloroform	ND	0.0030	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/5/2018 6:34:10 PM	39039
2-Chlorotoluene	ND	0.0039	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
4-Chlorotoluene	ND	0.0045	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
cis-1,2-DCE	ND	0.0063	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
cis-1,3-Dichloropropene	ND	0.0038	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2-Dibromo-3-chloropropane	ND	0.0068	0.099		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Dibromochloromethane	ND	0.0042	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Dibromomethane	ND	0.0024	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2-Dichlorobenzene	ND	0.0025	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,3-Dichlorobenzene	ND	0.0044	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,4-Dichlorobenzene	ND	0.0055	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1-Dichloroethane	ND	0.020	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1-Dichloroethene	ND	0.020	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2-Dichloropropane	ND	0.0031	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,3-Dichloropropane	ND	0.012	0.050		mg/Kg	1	7/5/2018 6:34:10 PM	39039
2,2-Dichloropropane	ND	0.0056	0.099		mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1-Dichloropropene	ND	0.0056	0.099		mg/Kg	1	7/5/2018 6:34:10 PM	39039

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
- PQL Practical Quanitative Limit
- 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 45 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF DUP 01

Project: Central OCD Landfarm Semiannual Sam **Collection Date:** 6/29/2018

Lab ID: 1807001-010 **Matrix:** SOIL **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ l	=
Hexachlorobutadiene	ND	0.012	0.099	mg/Kg	1	7/5/2018 6:34:10 PM	39039
2-Hexanone	ND	0.0097	0.50	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Isopropylbenzene	ND	0.0033	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
4-Isopropyltoluene	ND	0.0038	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
4-Methyl-2-pentanone	ND	0.011	0.50	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Methylene chloride	ND	0.020	0.15	mg/Kg	1	7/5/2018 6:34:10 PM	39039
n-Butylbenzene	ND	0.0044	0.15	mg/Kg	1	7/5/2018 6:34:10 PM	39039
n-Propylbenzene	ND	0.0031	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
sec-Butylbenzene	ND	0.0051	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Styrene	ND	0.0086	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
tert-Butylbenzene	ND	0.0040	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1,1,2-Tetrachloroethane	ND	0.0056	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1,2,2-Tetrachloroethane	ND	0.014	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Tetrachloroethene (PCE)	ND	0.0040	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
trans-1,2-DCE	ND	0.020	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
trans-1,3-Dichloropropene	ND	0.0059	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2,3-Trichlorobenzene	ND	0.0045	0.099	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2,4-Trichlorobenzene	ND	0.0050	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1,1-Trichloroethane	ND	0.0064	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,1,2-Trichloroethane	ND	0.0053	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Trichloroethene (TCE)	ND	0.0060	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Trichlorofluoromethane	ND	0.0074	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
1,2,3-Trichloropropane	ND	0.025	0.099	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Vinyl chloride	ND	0.0041	0.050	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Xylenes, Total	ND	0.015	0.099	mg/Kg	1	7/5/2018 6:34:10 PM	39039
Surr: Dibromofluoromethane	104		70-130	%Rec	1	7/5/2018 6:34:10 PM	39039
Surr: 1,2-Dichloroethane-d4	114		70-130	%Rec	1	7/5/2018 6:34:10 PM	39039
Surr: Toluene-d8	97.8		70-130	%Rec	1	7/5/2018 6:34:10 PM	39039
Surr: 4-Bromofluorobenzene	112		70-130	%Rec	1	7/5/2018 6:34:10 PM	39039
EPA METHOD 418.1: TPH						Analyst: CL l	P
Petroleum Hydrocarbons, TR	500	38	200	mg/Kg	10	7/12/2018	39126
CYANIDE-TOTAL						Analyst: SU	В
Cyanide	ND	0.25	0.25	mg/Kg	1	7/10/2018	R53202
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBED					Analyst: SU	В
Radium-226	1.209	0.223	0.223	pCi/L	1	8/1/2018	R53202
Radium-226 ±	0.285	0.223	0.223	pCi/L	1	8/1/2018	R53202
Radium-228	1.761	0.174	0.174	pCi/L	1	8/1/2018	R53202
Radium-228 ±	0.398	0.174	0.174	pCi/L	1	8/1/2018	R53202

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
- PQL Practical Quanitative Limit
- 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 46 of 71
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1807001

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF FB01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 12:15:00 PMLab ID:1807001-011Matrix: AQUEOUSReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHO					Analyst: AG	<u> </u>	
Benzene	ND	0.062	1.0	μg/L	1	7/6/2018 5:51:44 PM	C52504
Toluene	ND	0.064	1.0	μg/L	1	7/6/2018 5:51:44 PM	C52504
Ethylbenzene	ND	0.093	1.0	μg/L	1	7/6/2018 5:51:44 PM	C52504
Xylenes, Total	ND	0.32	1.5	μg/L	1	7/6/2018 5:51:44 PM	C52504
Surr: 4-Bromofluorobenzene	110	0	70-130	%Rec	1	7/6/2018 5:51:44 PM	C52504
Surr: Toluene-d8	101	0	70-130	%Rec	1	7/6/2018 5:51:44 PM	C52504

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

PQL Practical Quanitative Limit

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 Pa

Page 47 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CENTRAL OCD LF EB01

Project:Central OCD Landfarm Semiannual SamCollection Date: 6/29/2018 12:20:00 PMLab ID:1807001-012Matrix: AQUEOUSReceived Date: 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: AG	;
Benzene	ND	0.062	1.0		μg/L	1	7/6/2018 7:01:31 PM	C52504
Toluene	0.11	0.064	1.0	J	μg/L	1	7/6/2018 7:01:31 PM	C52504
Ethylbenzene	ND	0.093	1.0		μg/L	1	7/6/2018 7:01:31 PM	C52504
Xylenes, Total	ND	0.32	1.5		μg/L	1	7/6/2018 7:01:31 PM	C52504
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	7/6/2018 7:01:31 PM	C52504
Surr: Toluene-d8	99.4	0	70-130		%Rec	1	7/6/2018 7:01:31 PM	C52504

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

PQL Practical Quanitative Limit

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 D

Page 48 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1807001**

Date Reported: 8/6/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Trip Blank

Project: Central OCD Landfarm Semiannual Sam Collection Date:

Lab ID: 1807001-013 **Matrix:** AQUEOUS **Received Date:** 6/29/2018 3:25:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT	LIST					Analyst: AG	ì
Benzene	ND	0.062	1.0	μg/L	1	7/6/2018 7:24:43 PM	C52504
Toluene	ND	0.064	1.0	μg/L	1	7/6/2018 7:24:43 PM	C52504
Ethylbenzene	ND	0.093	1.0	μg/L	1	7/6/2018 7:24:43 PM	C52504
Xylenes, Total	ND	0.32	1.5	μg/L	1	7/6/2018 7:24:43 PM	C52504
Surr: 4-Bromofluorobenzene	114	0	70-130	%Rec	1	7/6/2018 7:24:43 PM	C52504
Surr: Toluene-d8	102	0	70-130	%Rec	1	7/6/2018 7:24:43 PM	C52504

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
- PQL Practical Quanitative Limit
- 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 49 of 71

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1807001-001C CENTRAL OCD LF TZ01 SAMPLE RESULTS - 01 Collected date/time: 06/29/18 09:20

	Result	Qualifier	RDL	Dilution	Analysis	Batch	
Analyte	mg/kg		mg/kg		date / time		
Cyanide	ND		0.250	1	07/10/2018 12:49	WG1135522	 ***************************************



















1807001-002C CENTRAL OCD LFVZ01 Collected date/time: 06/29/18 09:50

SAMPLE RESULTS - 02

ONE LAB: NATIONWIDE,

*

	Result	Qualifier RDL	Dilution	Analysis	<u>Batch</u>	200 200 200 200 200 200 200 200 200 200	
Analyte	mg/kg	mg/		date / time			
Cyanide	ND	0.25		07/11/2018 06:16	WG1135485	en en en en en en en en en en en en en e	.,,





















1807001-003C CENTRAL OCD LFTZ02 SAMPLE RESULTS - 03 ONE LAB, NATIONWIDE Collected date/time: 06/29/18 10:35

	Result	Qualifier	RDL	Dilution	Analysis	<u>Batch</u>		
Analyte	mg/kg		mg/kg		date / time		•	
Cyanide	ND		0.250	1	07/10/2018 12:50	WG1135522		



















1807001+004C CENTRAL OCD LF VZ02 SAMPLE RESULTS - 04 Collected date/time: 06/29/18 10:45

	Result Qualifie	<u>r</u> RDL	Dilution	Analysis	Batch
Analyte	mg/kg	mg/kg		date / time	.,
Cyanide	ND	0.250	1	07/10/2018 12:38	WG1135522





















1807001-006C CENTRAL OCD LF TZ03

Collected date/time: 06/29/18 11:20

SAMPLE RESULTS - 05

ONE LAB. NATIONWIDE

製

	Result	Qualifier RDL	Dilution	Analysis	<u>Batch</u>	
Analyte	mg/kg	mg/kg		date / time		
Cyanide	ND	0.250	1	07/10/2018 12:52	WG1135522	





















1807001-007C CENTRAL OCD LF VZ03 Collected date/time: 06/29/18 11:30

ONE LAB. NATIONWIDE.

	Result	Qualifier	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
Cyanide	ND		0.250	1	07/10/2018 12:53	WG1135522



















1807001-008C CENTRAL OCD LF TZ04 1807001-008C CENTRAL OCD LF TZ04 SAMPLE RESULTS - 07
Collected date/time: 05/29/18 12:00

	Result	<u>Qualifier</u> RDL	Dilution	Analysis	Batch		**************************************
Analyte	mg/kg	mg/kg		date / time			
Cyanide	0.709	0.250	1	07/10/2018 12:54	WG1135522	 	



















1807001-009C CENTRAL OCD LF VZ04 S Collected date/time: 06/29/18 12:10

SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE.

躁

	Result <u>Qualifier</u>	RDL	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg	mg/kg		date / time	
Cyanide	ND	0.250	1	07/10/2018 12:55	<u>WG1135522</u>





















1807001-010C CENTRAL OCD LE DUP 01

SAMPLE RESULTS - 09 Collected date/time: 06/29/18 00:00

L1006594

40000444746000044475000	Result	<u>Qualifier</u> RDL	Dilutio		<u>Batch</u>	AND THE PROPERTY OF THE PROPER	(453)4A)
Analyte	mg/kg	mg/kg		date / time			
Cyanide	ND	0.250	1	07/10/2018 12:56	WG1135522	 	





















NTROL S
1
- N
U
~ I
- 6
VTRO
Z 6
\sim 1
ONTRO LTDD6554
TY CON
> -
7
JALITY
<i>σ</i> ×
U)
O
9012B QUALITY CONTROI
12.B
m
7.4
•
O)
35 // Method 9012B
Ĕ
ã
LO E
348€ 3 by v
YY 0
2
LΩ ₹
<u>~</u>
<u> </u>
11354 hemistry t
1 Sec. 11
1 Sec. 11
∑ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
S to
S to
WG1T

SUMMARY

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3324594-1 07/11/18 06:04	07/11/18 06:04				
	MB Result	MB Qualifier M	MB MDL	MB RDL	
Analyte	mg/kg	mg/kg	ıg/kg	mg/kg	
Cyanide	. .	0.	0.0390	0.250	

Ss 3s CT

Sr

<u>D</u> Z

Ö

L1006696-01 Original Sample (OS) • Duplicate (DUP)

THE THE THE THE THE THE THE THE THE THE	DUP RPD Limits	₉₆	20
	DUP Qualifier		
6:23	DUP RPD	9 6	0.000
07/11/18 0	Dilution		-
R3324594-6	DUP Result	mg/kg %	0.0487
(OS) L1006696-01 07/11/18 06:22 • (DUP) R3324594-6 07/11/18 06:23	Original Result DUP Result Dilution DUP RPD	б	
(OS) L1006696-01 0		Analyte mg/k	Cyanide

L1007051-02 Original Sample (OS) • Duplicate (DUP)

Q	AUP RPD DUP Qualifier Limits	%	.6.3 P1 20
07/11/18 06:3	Dilution DUP RPD		1 26.3
3324594-7 (DUP Result	mg/kg	0.403
(OS) L1007051-02 07/11/18 06:29 • (DUP) R3324594-7 07/11/18 06:30	Original Result DUP Result	mg/kg	0.525
(OS) L1007051-02 (Analyte	Cyanide

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

NANHABAN GARANDAN GAR			
	RPD Limits	%	20
***************************************	RPD	%	0.333
MANAGEMENT OF THE PROPERTY OF	LCSD Qualifier RPD		0.333
	LCS Qualifier		
***************************************	Rec. Limits		50.0-150
***************************************	LCSD Rec.	₈₆	101
9	LCS Rec.	%	101
R3324594-3 07/11/18 06:00	LCSD Result LCS Rec.	⊞g/kg	2.52
) R3324594	LCS Result	тд/кд	2.53
(LCS) R3324594-2 07/11/18 06:05 • (LCSD) F	Spike Amount	mg/kg	
(LCS) R3324594-2 07/11/18 06:05 • (LCSD)		Analyte	Cyanide

L1006594-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

Spike Amount Original Result MS Result MSD Result MSD Result MSD Result MSD Qualifier	mg/kg % % %	1.72
S Result MSD Result MS Rec.	mg/kg	1.72
Spike Amount Original Result MS Result	Analyte mg/kg mg/kg mg/kg	1.67

08/03/18 17:11 DATE/TIME: 11006594 Hall Environmental Analysis Laboratory

	00000000000000000000000000000000000000	5]	<u> </u>		Şs	²P	3	<i>ত</i>		ŏ	ĘŪ	5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Sc					
X		***************************************							:			***************************************					***************************************			
ONE LAB. NATIONWIDE												OVERTICAL DATE AND A SECURITY OF THE PERSON			: :		***************************************			
2		The state of the s				THE PARTY NAME AND ADDRESS OF THE PA							-		; ;		***************************************			
						THE REAL PROPERTY OF THE PERSON NAMED IN														
		The state of the s							:						}		***************************************	ts		s V
		Markananan		-					:			***************************************			:		***************************************	RPD Limits	%	20
		VOM BANKET STREET, STR		-											:					
>		A THE TAXABLE PROPERTY OF TAXABLE PROPERTY OF TAXABLE PROP							:									alifier RPD	%	2.76
INKAF				:		ANN STANKS STANKS STANKS											***************************************	LCSD Qualifier		
SUN.				:		(Eliforonomorphomo											***************************************	LCS Qualifier		
		Warner				**************************************														
TY CONTROL SUMMARY						MANA PARAMETER STATE OF THE STA	DUP RPD Limits	}				-	DUP RPD Limits		:	(LCSD)	***************************************	Rec. Limits	%	50.0-150
i i i i i i i i i i i i i i i i i i i						TVTTTTTAVA PARIABONIANIANIANIANIANIANIANIANIANIANIANIANIAN		i %	20					86	50	uplicate	***************************************	LCSD Rec.		tú
QUA				:			DUP Qualifier						DUP Qualifier			nple D			96	95.
		MB RDL	mg/kg	0.250	ā		JP RPD		000		౼		IP RPD		0.000	itrol Sar	96	LCS Rec.	%	0.86
		MB MDL	mg/kg	0.0390	cate (DI	10/18 12:3	Dilution DUP RPD		0.000		cate (D)	10/18 12:51	Dilution DUP RPD	%	.00	ory Cor	7/10/18 12:2	LCSD Result	mg/kg	. 88
			ı	0	jian Q.	393-6 07/	sult		-		• Duplik	393-7 07/			-	aborat	393-3 07		Ĕ	7.
		MB Qualifier			(SO)	P) R33243	It DUP Re	mg/kg	0.0728		e (OS)	P) R3324	lt DUP Re	mg/kg	0.0479	-(S)	5D) R3324	t LCS Res	mg/kg	2.45
9012B		2:24 MB Result	g/kg		Sampl	Jas - (DUI	Original Result DUP Result	j/kg	9		Sampl	:50 · (DU	Original Result DUP Result	mg/kg		ımple (l	:25 • (LCS	Spike Amount LCS Result	mg/kg n	90
Z Method	<u> </u>	7/10/18 12: M	Ē		Origina	21/10/18 12	ō	Ĕ	Ë		Original	7/10/18	ŏ	Ĕ	Q	ntrol Sa	7/10/18 12	ςς	Ë	2.5
3557 mistry by		4393-1 0		:	94-04 (5594-04 (94-03 (594-03 (ory Cal	4393-2 (
WG1135522 Wet Chemistry by Method 9012B	Method Blank (MB)	(MB) R3324393-1 07/10/18 12:24 MB R	Analyte	Cyanide	L1006594-04 Original Sample (OS) • Duplicate (DUP)	(OS) L1006594-04 07/10/18 12:38 • (DUP) R3324393-6 07/10/18 12:39		Analyte	Cyanide		L1006594-03 Original Sample (OS) • Duplicate (DUP)	(OS) L1006594-03 07/10/18 12:50 • (DUP) R3324393-7 07/10/18 12:51		Analyte	Cyanide	Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)	(LCS) R3324393-2 07/10/18 12:25 • (LCSD) R3324393-3 07/10/18 12:26		Analyte	Cyanide
	- 4	_	•			, —			_		1	. —		*	•		, -		1	_

RPD Limits	%	50
RPD	%	5.99
MSD Qualifier		
MS Qualifier		
Dilution Rec. Limits	%	75.0-125
		· -
c. MSD Rec.	%	82.4
MS Rec.	%	87.5
ult (dry) MSD Result (dry) (dry)	mg/kg	1.48
15 Res	mg/kg	1.57
Spike Amount Original Result (dry)	mg/kg	
Spike Amount (dry)	mg/kg	
	alyte	
	Analyte	Cyanide

DATE/TIME: 08/03/18 17:11



Guide to Reading and Understanding Your Laboratory Report

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



Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).



Reported Detection Limit.

SDG

Analyte

Dilution

Limits

Qualifier

Result

Case Narrative (Cn)

Quality Control Summary (Qc)

Sample Chain of Custody (Sc)

Sample Results (Sr)

Relative Percent Difference. RPD

Cn

Sample Delivery Group

Sr

Not detected at the Reporting Limit (or MDL where applicable).

The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.

Qc.

If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis, if a value different than 1 is used in this field, the result reported has already been corrected for this factor.



These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.

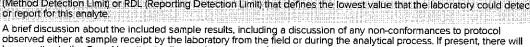
The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control Original Sample sample. The Original Sample may not be included within the reported SDG

Sc

This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and

potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was

no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.



be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not

being performed on your samples typically, but on laboratory generated material.

This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.

This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.

This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and

Sample Summary (Ss) times of preparation and/or analysis.

Qualifier Description

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



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1807001

Pace Project No.:

30258133

Sample: 1807001-001Central OCD

Lab ID: 30258133001

Collected: 06/29/18 09 20 Received: 07/03/18 10:30

PWS!

PWS:

LF TZ01 Site ID:

Sample Type

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901 1	13.022 ± 2.368 (0.613) C:NA T:NA	pCi/g	08/01/18 08:52	13966-00-2	
Radium-226	EPA-901 (0.956 ± 0.240 (0.173) C:NA T:NA	pCi/g	08/01/18 08:52	13982-63-3	Ra
Radium-228	EPA 901 1	1.502 ± 0.432 (0.372) C:NA T:NA	pCi/g	08/01/18 08:52	15262-20-1	

Sample:	1807001-002Central OCD	L
7.30	LF VZ01	

ab ID: 30258133002

Collected: 06/29/18 09:50 Received: 07/03/18 10:30

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Une (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901 1	14.118 ± 2.570 (0.667)	pCi/g	08/01/18 09:09	13966-00-2	
Andrew Montal	22.046.00	G:NA T:NA	-0.00			
Radium-226	EPA 901.1	1.104 ± 0.249 (0.246)	pCi/g	08/01/18 09:09	13982-63-3	Ra
200 - 200	1000	C:NA T:NA				
Radium-228	EPA 901.1	1.770 ± 0.431 (0.264)	pCVg	08/01/18 09:09	15262-20-1	

Sample:	1807001-003Central OCD	
	LF TZ02	

Lab ID: 30258133003

Collected: 06/29/18 10:35 Received: 07/03/18 10:30 Matnx: Solid

PWS:

Site ID:

Site ID:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzeu	CAS No.	Qual
Potassium-40	EPA 901.1	9.845 ± 2.406 (1.151) C:NA T:NA	pCi/g	08/01/18 09:10	13966-00-2	
Radium-226	EPA 901.1	1.129 ± 0.328 (0.203) C:NA T.NA	pCi/g	08/01/18 09:10	13982-63-3	Ra
Radium-228	EPA 901.1	1.321 ± 0.524 (0.589) C:NA T:NA	pCi/g	08/01/18 09:10	15262-20-1	

Sample: 1807001-004Central OCD LF VZ0Z

Lab ID: 30258133004

Collected: 06/29/18 10:45 Received: 07/03/18 10:30 Matrix: Solid

PWS.

Site ID:

Sample Type.

Results reported on a "dry-weight" basis

Parameters	Melhod	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	13.139 ± 2.559 (0.801) C:NA T:NA	pCi/g	08/01/18 09:27	13966-00-2	
Rad um-226	EPA 901.1	1,311 ± 0.374 (0.262) C:NA T.NA	pCi/g	08/01/18 09:27	13982-63-3	Ra
Radium-228	EPA 901.1	1.877 ± 0.447 (0.216) C:NA T:NA	pCVg	08/01/18 09:27	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full. without the written consent of Pace Analytical Services. LLC.



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1607001

Pace Project No.:

30258133

Sample: 1807001-006Central OCD

Lab ID: 30258133005

Collected: 06/29/18 11:20 Received: 07/03/18 10:30

PWS:

LF TZ03

Site ID:

Sample Type

Results reported on a "dry-weight" basis

Parameters-	Method	Act ± Unc (MDC) Carr Trac	Linits	Analyzed	CAS No	Quai
Potassium-40	EPA 901.1	11.273 ± 2.132 (0.617) C:NA T:NA	pCVa	08/01/18 10:01	13966-00-2	
Radium-226	EPA 901 1	1,249 ± 0.264 (0.152) C:NA T:NA	pCl/g	08/01/18 10:01	13982-63-3	Ra
Radium-228	EPA 901.1	1.027 ± 0.336 (0.262) C:NA T:NA	pCVg	08/01/18 10:01	15262-20-1	

Sample: 1807001-007Central OCD

Lab ID: 30258133006

Collected: 06/29/18 11:30 Received: 07/03/18 10:30 Matrix: Solid

LF VZ03

Site ID:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act = Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	11.014 ± 2.574 (1.142)	pCi/g	08/01/18 10:01	13966 00 2	
Radium-226	EPA 901.1	C:NA T:NA 1.324 ± 0.327 (0.165) C:NA T:NA	pCl/g	08/01/18 10:01	13982-63-3	Ra
Radium-228	EPA 901.1	1.185 ± 0.427 (0.348) C:NA T:NA	pCVg	08/01/18 10:01	15262-20-1	

Sample: 1807001-008Central OCD

Lab ID: 30258133007

Collected: 06/29/18 12:00

Received: 07/03/18 10:30 Matrix: Solid

PWS:

PWS:

LF TZ04

Site ID:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trec	Units	Analyzed	CAS No.	Qua)
Potassium 40	EPA 901.1	9.368 ± 2.220 (1.402) C:NA T:NA	pCi/g	08/01/18 10:17	13966-00-2	
Radium 226	EPA 901.1	1.226 ± 0.247 (0 192) C:NA T:NA	pCi/g	08/01/18 10:17	13982-63-3	Ra
Radium 228	EPA 901.1	1.650 ± 0.364 (0.307)	pCl/g	08/01/18 10:17	15262-20-1	

Sample: 1807001-009Central OCD

Lab ID: 30258133008

Collected: 06/29/18 12:10 Received: 07/03/18 10:30 Matrix: Solid

PWS:

LF VZ04

Site ID:

Sample Type

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No	Qual
Potassium-40	EPA 901.1	9.910 ± 2.440 (1.182) C:NA T:NA	pCi/g	08/01/18 10:18	13966-00-2	
Radium-226	EPA 901.1	1.327 ± 0.317 (0.171) C:NA T.NA	pCi/g	08/01/18 10:18	13982-63-3	Ra
Radium-228	EPA 901.1	1,433 ± 0.510 (0.375) C:NA T:NA	pCi/g	08/01/18 10:18	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1807001

Pace Project No.: 30258133

LFDUP01

Collected: 06/29/18 00:01 Received: 07/03/18 10:30 Matrix: Solid

PWS:

Site ID:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	11.075 ± 2.397 (1.179) C:NA T:NA	pCi/g	08/01/18 10:34	13966-00-2	
Radium-226	EPA 901.1	1.209 ± 0.285 (0.223) C:NA T:NA	pCi/g	08/01/18 10:34	13982-63-3	Ra
Radium-228	EPA 901.1	1.761 ± 0.398 (0.174) C:NA T:NA	pCi/g	08/01/18 10:34	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



QUALITY CONTROL - RADIOCHEMISTRY

Project.

1807001

Pace Project No.:

30258133

QC Batch:

307153

Analysis Method:

EPA 901 1

QC Batch Method: EPA 901.1 Analysis Description:

901 1 Gamma Spec Ingrowth

Associated Lab Samples:

30258133005, 30258133008, 30258133007, 30258133008, 30258133009

METHOD BLANK: 1501380

Makrix Solid

Associated Lab Samples:

30258133005, 30258133006, 30258133007, 30258133008, 30258133009

Parameter	Act ± Unc (MDC) Carr Trac	Units.	Analyzed	Qualifiers
Potassium-40	0.102 ± 0.570 (1.124) C:NA T.NA	pOVg	08/01/18 09:45	
Radium-226	0.000 ± 0.113 (0.332) C:NA T:NA	pCl/g	08/01/18 09:45	Ra
Radium-228	0.000 ± 0.077 (0.569) C:NA FNA	pCl/g	08/01/18 09:45	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC



QUALITY CONTROL - RADIOCHEMISTRY

Project

1807001

Pace Project No.:

30258133

QC Batch:

305906

Analysis Method:

EPA 901.1

QC Batch Method.

EPA 901.1

Analysis Description:

901:1 Gamma Spec Ingrowth

Associated Lab Samples:

30258133001, 30258133002, 30258133003, 30258133004

METHOD BLANK: 1496090

Matrix: Solid

Associated Lab Samples: 30258133001, 30258133002, 30258133003, 30258133004

Parameter	Act ± Uno (MDC) Carr Trac	Units	Analyzed	Qualifiers
Potassium-40	0.620 ± 0.701 (1.066) C.NA T.NA	pCl/g	07/19/18 12:46	
Radium-226	0.065 ± 0.091 (0.196) C:NA T.NA	pCi/g	07/19/18 12:46	Ba
Radium-228	0.000 ± 0.077 (0.391) C:NA T:NA	pCl/g	07/19/18 12:46	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC:



QUALIFIERS

Project:

1807001

Pince Project No.: 36

30250133

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J. Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1 2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPO values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Sitica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Date: 08/01/2018 12:36 PM

Ra

The reported Ra-226 results were determined by hermotically sealing the dried, processed sample in an appropriate sized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Ra-226 and daughters 61-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from gamma peaks attributable to Bi-214 and Pb-214.

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-39148	SampT	ype: m k	olk	Tes	tCode: El	s				
Client ID: PBS	Batch	ID: 39	148	F	RunNo: 5	2622				
Prep Date: 7/11/2018	Analysis D	ate: 7/	11/2018	S	SeqNo: 1	727842	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID LCS-39148	SampType: Ics TestCode: EPA Method 300.0: Anions							S		
Client ID: LCSS	Batch	n ID: 39	148	F	RunNo: 5					
Prep Date: 7/11/2018	Analysis D	ate: 7/	11/2018	8	SeqNo: 1	727843	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.6	0.30	1.500	0	107	90	110			
Chloride	14	1.5	15.00	0	96.5	90	110			
Nitrogen, Nitrate (As N)	7.6	0.30	7.500	0	101	90	110			
Sulfate	29	1.5	30.00	0	95.5	90	110			

Sample ID	1807001-002AMS	SampT	ype: m s	5	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID:	CENTRAL OCD LE	V Batch	n ID: 39	148	R	RunNo: 5	2622				
Prep Date:	7/11/2018	Analysis D	ate: 7/	11/2018	S	SeqNo: 1	727866	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		3.9	0.30	1.500	3.887	2.53	15	119			S
Nitrogen, Nitrat	e (As N)	10	0.30	7.500	2.913	99.0	61.8	142			

Sample ID 1807001-002A	MSD SampT	ype: ms	sd	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: CENTRAL OC	D LF V Batch	1D: 39	148	R	RunNo: 5	2622				
Prep Date: 7/11/2018	Analysis D	ate: 7/	11/2018	S	SeqNo: 1	727867	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.2	0.30	1.500	3.887	22.6	15	119	7.40	20	
Nitrogen Nitrate (As N)	11	0.30	7 500	2 913	106	61.8	142	5.02	20	

Sample ID MB-39174	SampT	ype: m k	olk	Tes	tCode: E	S				
Client ID: PBS	Batch	1D: 39	174	R	tunNo: 5	2645				
Prep Date: 7/12/2018	Analysis D	ate: 7/	12/2018	S	eqNo: 1	729031	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

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

PQL Practical Quanitative Limit

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

D. Camala all Nat la Danas

Page 50 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID LCS-39174 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: LCSS Batch ID: 39174 RunNo: 52645 Prep Date: 7/12/2018 Analysis Date: 7/12/2018 SeqNo: 1729032 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Fluoride 0.30 110 90 1.6 1.500 0 110 96.5 Chloride 14 1.5 15.00 0 90 110 Nitrogen, Nitrate (As N) 7.6 0.30 7.500 0 101 90 110 Sulfate 29 1.5 30.00 0 95.0 90 110

Sample ID 1807001-010AMS SampType: ms TestCode: EPA Method 300.0: Anions **CENTRAL OCD LF** Batch ID: 39174 RunNo: 52645 Prep Date: 7/12/2018 Analysis Date: 7/12/2018 SeqNo: 1729035 Units: mg/Kg %REC **RPDLimit** Analyte **PQL** SPK value SPK Ref Val LowLimit %RPD

Result HighLimit Qual Fluoride 6.9 0.30 1.500 7.092 -9.73 15 119 S 0.30 7.500 1.426 98.2 142 Nitrogen, Nitrate (As N) 8.8 61.8

Sample ID 1807001-010AMSD TestCode: EPA Method 300.0: Anions SampType: msd

CENTRAL OCD LF RunNo: 52645 Client ID: Batch ID: 39174

Prep Date: 7/12/2018 Analysis Date: 7/12/2018 SeqNo: 1729036 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Fluoride 8.1 0.30 1.500 7.092 66.8 15 119 15.3 20 Nitrogen, Nitrate (As N) 8.9 0.30 7.500 1.426 99.5 61.8 142 1.13 20

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

P

Sample pH Not In Range RLReporting Detection Limit

W Sample container temperature is out of limit as specified

Page 51 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-39126 SampType: MBLK TestCode: EPA Method 418.1: TPH

Client ID: PBS Batch ID: 39126 RunNo: 52654

Prep Date: 7/10/2018 Analysis Date: 7/12/2018 SeqNo: 1728581 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR ND 20

Sample ID LCS-39126 SampType: LCS TestCode: EPA Method 418.1: TPH

Client ID: LCSS Batch ID: 39126 RunNo: 52654

Prep Date: 7/10/2018 Analysis Date: 7/12/2018 SeqNo: 1728582 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR 120 20 100.0 0 119 64.3 122

Sample ID 1807001-002AMS SampType: MS TestCode: EPA Method 418.1: TPH

Client ID: CENTRAL OCD LF V Batch ID: 39126 RunNo: 52654

Prep Date: 7/10/2018 Analysis Date: 7/12/2018 SeqNo: 1728585 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR 120 20 98.52 7.112 116 80 120

Sample ID 1807001-002AMSD SampType: MSD TestCode: EPA Method 418.1: TPH

Client ID: CENTRAL OCD LF V Batch ID: 39126 RunNo: 52654

Prep Date: 7/10/2018 Analysis Date: 7/12/2018 SeqNo: 1728586 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR 120 20 99.21 7.112 115 80 120 0.361 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

PQL Practical Quanitative Limit

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

limits Page 52 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Result

63

PQL

10

Sample ID MB-39058	SampType: MBLK TestCode: EPA Method						8015M/D: Di	esel Range	e Organics	
Client ID: PBS	Batch	1D: 39 0	058	F	RunNo: 5	2498				
Prep Date: 7/5/2018	Analysis D	ate: 7/	6/2018	S	SeqNo: 1	721687	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	10								J
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.1	70	130			
Sample ID LCS-39058	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batch	ID: 39 0	058	F	RunNo: 5	2498				
Client ID: LCSS Prep Date: 7/5/2018	Batch Analysis D				RunNo: 5 SeqNo: 1		Units: mg/k	(g		
			6/2018		SeqNo: 1		Units: mg/k HighLimit	(g %RPD	RPDLimit	Qual
Prep Date: 7/5/2018	Analysis D	ate: 7/	6/2018	S	SeqNo: 1	722611	J	·	RPDLimit	Qual
Prep Date: 7/5/2018 Analyte	Analysis D Result	ate: 7/	6/2018 SPK value	SPK Ref Val	SeqNo: 1	722611 LowLimit	HighLimit	·	RPDLimit	Qual
Prep Date: 7/5/2018 Analyte Diesel Range Organics (DRO)	Analysis D Result 51 4.7	ate: 7/	50.00 5.000	SPK Ref Val 0	%REC 102 94.7	722611 LowLimit 70 70	HighLimit 130	%RPD		Qual
Prep Date: 7/5/2018 Analyte Diesel Range Organics (DRO) Surr: DNOP	Analysis D Result 51 4.7 SampT	PQL 10	SPK value 50.00 5.000	SPK Ref Val 0	%REC 102 94.7	722611 LowLimit	HighLimit 130 130	%RPD		Qual

Surr: DNOP	5.3		4.980		106	70	130			
Sample ID 1807001-002AMS	SD SampT	уре: М	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: CENTRAL OCD	_F V Batch	ID: 39	058	F	RunNo: 5	2529				
Prep Date: 7/5/2018	Analysis D	ate: 7/	9/2018	8	SeqNo: 1	723648	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	49.85	19.22	64.4	62	120	19.9	20	
Surr: DNOP	5.0		4.985		99.7	70	130	0	0	

19.22

%REC

87.2

LowLimit

62

HighLimit

120

%RPD

RPDLimit

Qual

SPK value SPK Ref Val

49.80

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit **PQL**

Diesel Range Organics (DRO)

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 53 of 71

P Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-39039 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS** Batch ID: 39039 RunNo: 52486

Prep Date: 7/3/2018 Analysis Date: 7/5/2018 SeqNo: 1721054 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) ND 5.0

1000 Surr: BFB 940 94.5 15 316

Sample ID LCS-39039 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 39039 RunNo: 52486

Analysis Date: 7/5/2018 Prep Date: 7/3/2018 SeqNo: 1721055 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) 5.0 25.00 0 106 75.9 131 Surr: BFB 1000 1000 102 15 316

Sample ID 1807001-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: CENTRAL OCD LF V Batch ID: 39039 RunNo: 52486

Prep Date: 7/3/2018 Analysis Date: 7/5/2018 SeqNo: 1721063 Units: mg/Kg

PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual

Gasoline Range Organics (GRO) 25 23.67 107 77.8 128 Surr: BFB 990 104 316 947.0 15

SampType: MSD Sample ID 1807001-002AMSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: CENTRAL OCD LF V Batch ID: 39039 RunNo: 52486

Analysis Date: 7/5/2018 Prep Date: 7/3/2018 SeqNo: 1721064 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 26 4.9 24.49 106 77.8 128 2.81 20 Λ Surr: BFB 1000 979.4 103 15 316 0 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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

Page 54 of 71

P Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-39114	Samp1	Гуре: МЕ	BLK	Tes	TestCode: EPA Method 8082A: PCB's					
Client ID: PBS	Batcl	h ID: 39 ′	114	F	RunNo: 5	2768				
Prep Date: 7/10/2018	Analysis D)ate: 7/	18/2018	\$	SeqNo: 1	733268	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.041		0.06250		66.0	26.3	128			
Surr: Tetrachloro-m-xylene	0.043		0.06250		68.8	20.7	151			
Sample ID LCS-39114	Samp1	Гуре: LC	s	Tes	tCode: El	PA Method	8082A: PCB'	s		
Client ID: LCSS	Batcl	h ID: 39 ′	114	F	RunNo: 5	2768				
Prep Date: 7/10/2018	Analysis D)ate: 7/	18/2018	9	SeqNo: 1	733269	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016		0.020	0.1250	0	92.9	15	195			
ATUCIOI TUTO	0.12	0.020	0.1200	-	00	_				
Aroclor 1260	0.12 0.10	0.020	0.1250	0	83.2	24	140			
	_			-			140 128			
Aroclor 1260	0.10		0.1250	-	83.2	24	_			
Aroclor 1260 Surr: Decachlorobiphenyl	0.10 0.048 0.040		0.1250 0.06250 0.06250	0	83.2 76.4 64.8	24 26.3 20.7	128	s		

Sample ID 180/001-002AMS	Sampiyp	oe: IVIS	•	rest	(Code: El	A Method	8082A: PCB	S		
Client ID: CENTRAL OCD LF	V Batch II	D: 39 1	114	R	RunNo: 5 2	2768				
Prep Date: 7/10/2018	Analysis Dat	te: 7/	18/2018	S	SeqNo: 1	733275	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.084	0.020	0.1254	0	66.7	15	153			
Aroclor 1260	0.092	0.020	0.1254	0	73.0	15	180			
Surr: Decachlorobiphenyl	0.044		0.06269		70.0	26.3	128			
Surr: Tetrachloro-m-xylene	0.044		0.06269		70.4	20.7	151			

Sample ID 1807001-002AMSI	D SampT	ype: MS	SD	TestCode: EPA Method 8082A: PCB's						
Client ID: CENTRAL OCD L	F V Batch	1D: 39	114	R	RunNo: 5	2768				
Prep Date: 7/10/2018	Analysis D	ate: 7/	18/2018	S	SeqNo: 1	733276	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020	0.1242	0	0	15	153	200	32.9	RS
Aroclor 1260	ND	0.020	0.1242	0	0	15	180	200	31.1	RS
Surr: Decachlorobiphenyl	0.040		0.06210		64.4	26.3	128	0	0	
Surr: Tetrachloro-m-xylene	0.042		0.06210		67.6	20.7	151	0	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

PQL Practical Quanitative Limit

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 55 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID mb-39039	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: Volat	tiles		
Client ID: PBS	Batch	n ID: 39	039	F	RunNo: 5	2493				
Prep Date: 7/3/2018	Analysis D	ate: 7/	5/2018	5	SeqNo: 1	721480	Units: mg/k	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	0.070	0.50								J
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

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
- PQL Practical Quanitative Limit
- 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

W Sample container temperature is out of limit as specified

Page 56 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID mb-39039	SampType: MBLK TestCode: EPA Method 8260B: Volatiles										
Client ID: PBS	Batch	h ID: 39	039	RunNo: 52493							
Prep Date: 7/3/2018	Analysis D	Date: 7/	5/2018	S	SeqNo: 1	721480	Units: mg/K	ζg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloropropene	ND	0.10									
Hexachlorobutadiene	ND	0.10									
2-Hexanone	ND	0.50									
Isopropylbenzene	ND	0.050									
4-Isopropyltoluene	ND	0.050									
4-Methyl-2-pentanone	ND	0.50									
Methylene chloride	ND	0.15									
n-Butylbenzene	ND	0.15									
n-Propylbenzene	ND	0.050									
sec-Butylbenzene	ND	0.050									
Styrene	ND	0.050									
tert-Butylbenzene	ND	0.050									
1,1,1,2-Tetrachloroethane	ND	0.050									
1,1,2,2-Tetrachloroethane	ND	0.050									
Tetrachloroethene (PCE)	ND	0.050									
trans-1,2-DCE	ND	0.050									
trans-1,3-Dichloropropene	ND	0.050									
1,2,3-Trichlorobenzene	ND	0.10									
1,2,4-Trichlorobenzene	ND	0.050									
1,1,1-Trichloroethane	ND	0.050									
1,1,2-Trichloroethane	ND	0.050									
Trichloroethene (TCE)	ND	0.050									
Trichlorofluoromethane	ND	0.050									
1,2,3-Trichloropropane	ND	0.10									
Vinyl chloride	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: Dibromofluoromethane	0.50		0.5000		99.8	70	130				
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130				
Surr: Toluene-d8	0.49		0.5000		98.2	70	130				
Surr: 4-Bromofluorobenzene	0.57		0.5000		114	70	130				
Sample ID Ics-39039	SampT	ype: LC	:s	Tes	tCode: E	PA Method	8260B: Volat	tiles			
Client ID: LCSS	Batch	h ID: 39	039	F	RunNo: 5	2493					
Prep Date: 7/3/2018	Analysis D				SeqNo: 1		Units: mg/K	ζg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.2	0.025	1.000	0	118	70	130	,			

Qualifiers:

Chlorobenzene

Toluene

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

1.0

1.1

0.050

0.050

1.000

1.000

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

70

70

130

130

E Value above quantitation range

102

106

J Analyte detected below quantitation limits

Page 57 of 71

P Sample pH Not In Range

0

0

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Surr: Toluene-d8

Surr: 4-Bromofluorobenzene

Surr: 4-Bromofluorobenzene

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

0.49

0.56

0.54

Sample ID Ics-39039 SampType: LCS TestCode: EPA Method 8260B: Volatiles Client ID: LCSS Batch ID: 39039 RunNo: 52493 Analysis Date: 7/5/2018 Prep Date: 7/3/2018 SeqNo: 1721481 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 1,1-Dichloroethene 0.050 1.3 1.000 0 133 70 130 S Trichloroethene (TCE) 1.1 0.050 1.000 0 109 70 130 Surr: Dibromofluoromethane 0.53 0.5000 106 70 130 Surr: 1,2-Dichloroethane-d4 0.54 0.5000 107 70 130

97.8

111

114

70

70

70

130

130

130

0.5000

0.5000

0.4735

Sample ID 1807001-002ams SampType: MS TestCode: EPA Method 8260B: Volatiles Client ID: **CENTRAL OCD LF V** Batch ID: 39039 RunNo: 52493 Prep Date: 7/3/2018 Analysis Date: 7/5/2018 SeqNo: 1721484 Units: mg/Kg **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Benzene 0.99 0.024 0.9470 104 51.9 158 0.047 0.9470 0 94.0 64.6 Toluene 0.89 132 94.9 Chlorobenzene 0.90 0.047 0.9470 0 62.8 136 1,1-Dichloroethene 1.1 0.047 0.9470 0 112 42.4 170 Trichloroethene (TCE) 0.89 0.047 0.9470 0 93.6 70 130 Surr: Dibromofluoromethane 0.48 0.4735 102 70 130 106 Surr: 1,2-Dichloroethane-d4 0.50 0.4735 70 130 0.47 0.4735 99.1 70 130 Surr: Toluene-d8

Sample ID 1807001-002am	sd Samp1	Гуре: МS	SD	Tes						
Client ID: CENTRAL OCD	LF V Batc	h ID: 39 0	039	RunNo: 52493						
Prep Date: 7/3/2018	Analysis [Date: 7/	5/2018	S	SeqNo: 1	721485	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9794	0	111	51.9	158	10.2	20	
Toluene	0.94	0.049	0.9794	0	95.5	64.6	132	5.00	20	
Chlorobenzene	0.97	0.049	0.9794	0	98.6	62.8	136	7.15	20	
1,1-Dichloroethene	1.2	0.049	0.9794	0	119	42.4	170	8.99	20	
Trichloroethene (TCE)	0.99	0.049	0.9794	0	101	70	130	10.8	20	
Surr: Dibromofluoromethane	0.52		0.4897		106	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.54		0.4897		110	70	130	0	0	
Surr: Toluene-d8	0.49		0.4897		99.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.56		0.4897		115	70	130	0	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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 58 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

Page 59 of 71

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID 100ng btex lcs	SampType: LCS4 TestCode: EPA Method 8260: Volatiles Short List									
Client ID: BatchQC	Batch ID: C52504 RunNo: 52504									
Prep Date:	Analysis D	ate: 7/	6/2018	SeqNo: 1722635 Units: μ g/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	59	1.5	60.00	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID 1807001-011am	s SampT	ype: M \$	S4	TestCode: EPA Method 8260: Volatiles Short List									
Client ID: CENTRAL OCD	Client ID: CENTRAL OCD LF F Batch ID: C52504						RunNo: 52504						
Prep Date:	SeqNo: 1722638 Units: μg/L												
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	20	1.0	20.00	0	98.5	80	120						
Toluene	20	1.0	20.00	0	101	80	120						
Ethylbenzene	20	1.0	20.00	0	100	80	120						
Xylenes, Total	59	1.5	60.00	0	98.8	80	120						
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130						
Surr: Toluene-d8	9.7		10.00		96.6	70	130						

Sample ID 1807001-011amsd SampType: MSD4 TestCode: EPA Method 8260: Volatiles Short List										
Client ID: CENTRAL OCD	LF F Batch	1D: C5	2504	RunNo: 52504						
Prep Date:	Analysis D	ate: 7/	6/2018	8	SeqNo: 1722639 Units: μg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	80	120	0.138	20	
Toluene	20	1.0	20.00	0	102	80	120	1.56	20	
Ethylbenzene	20	1.0	20.00	0	102	80	120	1.05	20	
Xylenes, Total	55	1.5	60.00	0	92.2	80	120	6.95	20	
Surr: 4-Bromofluorobenzene	9.4		10.00		94.2	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.0	70	130	0	0	

Sample ID rb	SampType: MBLK TestCode: EPA Method 8						8260: Volatile	s Short L	.ist	
Client ID: PBW	Batch	2504	R	RunNo: 5	2504					
Prep Date:	Analysis D	ate: 7/	6/2018	S	SeqNo: 1	722652	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	0.14	1.0								J
Ethylbenzene	0.18	1.0								J
Xylenes, Total	0.66	1.5								J

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID rb SampType: MBLK TestCode: EPA Method 8260: Volatiles Short List

Client ID: PBW Batch ID: C52504 RunNo: 52504

Prep Date: Analysis Date: 7/6/2018 SeqNo: 1722652 Units: µg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Surr: 4-Bromofluorobenzene
 11
 10.00
 109
 70
 130

 Surr: Toluene-d8
 9.8
 10.00
 97.9
 70
 130

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 60 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1807001 06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID 1807001-002ams SampType: MS TestCode: EPA Method 8270C: Semivolatiles Client ID: **CENTRAL OCD LF V** Batch ID: 39166 RunNo: 52733 Prep Date: 7/12/2018 Analysis Date: 7/16/2018 SeqNo: 1731977 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.20 57.8 23.7 Acenaphthene 0.96 1.668 0 110 59.7 4-Chloro-3-methylphenol 2.0 0.50 3.326 0 23.5 109 54.8 2-Chlorophenol 1.8 0.20 3.326 0 15 106 98.5 1,4-Dichlorobenzene 0.65 0.20 1.668 0 39.1 16 2,4-Dinitrotoluene 0.92 0.50 1.668 0 55.1 23.3 92.8 N-Nitrosodi-n-propylamine 0.99 0.20 1.668 0 59.6 17 111 4-Nitrophenol 2.3 0.25 3.326 0 70.6 30.9 103 Pentachlorophenol 0.40 3.326 0 58.9 20.8 2.0 92.7 Phenol 1.9 0.20 3.326 0 56.3 17 107 0.20 0 53.9 Pyrene 0.90 1.668 27.9 111 1,2,4-Trichlorobenzene 0.92 0.20 1.668 55.1 19.5 118 49.4 Surr: 2-Fluorophenol 1.6 3.326 41.1 115 Surr: Phenol-d5 2.0 3.326 58.9 46.8 124 Surr: 2,4,6-Tribromophenol 2.0 3.326 58.8 49.3 130 Surr: Nitrobenzene-d5 60.4 44.6 1.0 1.668 124 Surr: 2-Fluorobiphenyl 0.94 1.668 56.4 46.1 123 Surr: 4-Terphenyl-d14 1.1 1.668 65.0 29.8 107

Sample ID 1807001-002amsd SampType: MSD TestCode: EPA Method 8270C: Semivolatiles

Client ID: CENTRAL OCD LF V Batch ID: 39166 RunNo: 52733

Prep Date: 7/12/2018 Analysis Date: 7/16/2018 SeqNo: 1731978 Units: mg/Kg

Prep Date: 7/12/2018	Analysis D	Date: 7/	16/2018	8	SeqNo: 1	731978	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.1	0.19	1.616	0	68.9	23.7	110	14.4	43.1	
4-Chloro-3-methylphenol	2.1	0.48	3.223	0	66.6	23.5	109	7.81	52.2	
2-Chlorophenol	1.7	0.19	3.223	0	52.9	15	106	6.69	42.5	
1,4-Dichlorobenzene	0.55	0.19	1.616	0	34.2	16	98.5	16.4	50.4	
2,4-Dinitrotoluene	1.1	0.48	1.616	0	69.2	23.3	92.8	19.7	24.2	
N-Nitrosodi-n-propylamine	0.92	0.19	1.616	0	56.9	17	111	7.70	39.7	
4-Nitrophenol	2.8	0.24	3.223	0	88.0	30.9	103	18.8	59.4	
Pentachlorophenol	2.3	0.39	3.223	0	72.6	20.8	92.7	17.8	32.7	
Phenol	1.8	0.19	3.223	0	54.4	17	107	6.49	41.2	
Pyrene	1.2	0.19	1.616	0	73.2	27.9	111	27.3	34	
1,2,4-Trichlorobenzene	0.86	0.19	1.616	0	52.9	19.5	118	7.24	35.8	
Surr: 2-Fluorophenol	1.3		3.223		41.9	41.1	115	0	0	
Surr: Phenol-d5	1.8		3.223		56.1	46.8	124	0	0	
Surr: 2,4,6-Tribromophenol	2.2		3.223		69.8	49.3	130	0	0	
Surr: Nitrobenzene-d5	0.83		1.616		51.6	44.6	124	0	0	
Surr: 2-Fluorobiphenyl	1.0		1.616		62.3	46.1	123	0	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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 61 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID 1807001-002amsd SampType: MSD TestCode: EPA Method 8270C: Semivolatiles

Client ID: CENTRAL OCD LF V Batch ID: 39166 RunNo: 52733

SampType: MBLK

Prep Date: 7/12/2018 Analysis Date: 7/16/2018 SeqNo: 1731978 Units: mg/Kg

Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: 4-Terphenyl-d14 1.3 1.616 79.0 29.8 107 0

Sample ID Ics-39166	Samp1	Type: LC	S	Tes	tCode: E	PA Method	8270C: Sem	ivolatiles		
Client ID: LCSS	Batcl	n ID: 39	166	F	RunNo: 5	2733				
Prep Date: 7/12/2018	Analysis D	Date: 7/	16/2018	5	SeqNo: 1	731984	Units: mg/h	ίg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.20	1.670	0	70.4	39.4	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	64.7	41.6	108			
2-Chlorophenol	1.9	0.20	3.330	0	57.2	35	107			
1,4-Dichlorobenzene	0.90	0.20	1.670	0	53.7	31	105			
2,4-Dinitrotoluene	1.1	0.50	1.670	0	63.1	35.6	101			
N-Nitrosodi-n-propylamine	1.1	0.20	1.670	0	65.6	26	100			
4-Nitrophenol	3.0	0.25	3.330	0	88.9	34.1	106			
Pentachlorophenol	2.5	0.40	3.330	0	75.5	35.3	95.4			
Phenol	1.9	0.20	3.330	0	56.9	39.3	96.5			
Pyrene	1.4	0.20	1.670	0	83.6	47.8	95.7			
1,2,4-Trichlorobenzene	1.0	0.20	1.670	0	62.4	36.6	117			
Surr: 2-Fluorophenol	1.7		3.330		50.5	41.1	115			
Surr: Phenol-d5	1.9		3.330		57.9	46.8	124			
Surr: 2,4,6-Tribromophenol	2.5		3.330		74.0	49.3	130			
Surr: Nitrobenzene-d5	1.0		1.670		60.4	44.6	124			
Surr: 2-Fluorobiphenyl	1.1		1.670		66.8	46.1	123			
Surr: 4-Terphenyl-d14	1.5		1.670		88.8	29.8	107			

Client ID: PBS	Batch	Batch ID: 39166			RunNo: 5	2733				
Prep Date: 7/12/2018	Analysis D	ate: 7/	16/2018	S	SeqNo: 1731985			(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20	<u> </u>							
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	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

PQL Practical Quanitative Limit

Sample ID mb-39166

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

TestCode: EPA Method 8270C: Semivolatiles

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 62 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID mb-39166	SampT	ype: MBL	LK	Tes	tCode: E	PA Method	8270C: Semi	ivolatiles		
Client ID: PBS	Batch	ID: 391 6	66	F	RunNo: 5	2733				
Prep Date: 7/12/2018	Analysis D	ate: 7/1	6/2018	\$	SeqNo: 1	731985	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	0.36	0.50								J
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	0.37	0.40								J
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	0.15	0.20								J
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 63 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID mb-39166	SampT	уре: МЕ	BLK	TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBS	Batch	ID: 39 1	166	R	tunNo: 5 2	2733				
Prep Date: 7/12/2018	Analysis D	ate: 7/	16/2018	S	eqNo: 1	731985	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.2		3.330		64.6	41.1	115			
Surr: Phenol-d5	2.4		3.330		73.3	46.8	124			
Surr: 2,4,6-Tribromophenol	2.5		3.330		74.8	49.3	130			
Surr: Nitrobenzene-d5	1.1		1.670		68.5	44.6	124			
Surr: 2-Fluorobiphenyl	1.2		1.670		70.3	46.1	123			
Surr: 4-Terphenyl-d14	1.5		1.670		90.2	29.8	107			

Sample ID mb-39389	SampTy	/pe: ME	BLK	Test	tCode: El	volatiles						
Client ID: PBS	Batch	ID: 39	389	R	RunNo: 5							
Prep Date: 7/25/2018	Analysis Da	ate: 7/	26/2018	S	SeqNo: 1	742602	Units: %Red	: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: 2-Fluorophenol	2.0		3.330		60.4	41.1	115					
Surr: Phenol-d5	2.2		3.330		66.8	46.8	124					
Surr: 2,4,6-Tribromophenol	2.4		3.330		73.0	49.3	130					
Surr: Nitrobenzene-d5	1.1		1.670		66.2	44.6	124					
Surr: 2-Fluorobiphenyl	1.2		1.670		74.1	46.1	123					
Surr: 4-Terphenyl-d14	1.6		1.670		94.4	29.8	107					

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

PQL Practical Quanitative Limit

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 64 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID Ics-39389	SampTy	pe: LC	s	Tes	tCode: El	volatiles				
Client ID: LCSS	Batch ID: 39389			F	RunNo: 5	3012				
Prep Date: 7/25/2018	Analysis Da	26/2018	8	SeqNo: 1742603			;			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	1.9		3.330		57.7	41.1	115			
Surr: Phenol-d5	2.2		3.330		65.1	46.8	124			
Surr: 2,4,6-Tribromophenol	2.3		3.330		67.9	49.3	130			
Surr: Nitrobenzene-d5	1.0		1.670		61.2	44.6	124			
Surr: 2-Fluorobiphenyl	1.0		1.670		61.5	46.1	123			
Surr: 4-Terphenyl-d14	1.4		1.670		83.1	29.8	107			

Sample ID Icsd-39389	SampType: LCSD			Tes	tCode: El	volatiles				
Client ID: LCSS02	Batch ID: 39389			R	RunNo: 53012					
Prep Date: 7/25/2018	Analysis Date: 7/26/2018			SeqNo: 1742604			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	1.8		3.330		53.6	41.1	115	0	0	
Surr: Phenol-d5	2.1		3.330		61.7	46.8	124	0	0	
Surr: 2,4,6-Tribromophenol	2.2		3.330		65.1	49.3	130	0	0	
Surr: Nitrobenzene-d5	1.0		1.670		60.6	44.6	124	0	0	
Surr: 2-Fluorobiphenyl	1.1		1.670		67.0	46.1	123	0	0	
Surr: 4-Terphenyl-d14	1.4		1.670		84.3	29.8	107	0	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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 65 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-R53202 SampType: MBLK TestCode: CYANIDE-TOTAL

Client ID: **PBS** Batch ID: **R53202** RunNo: 53202

Units: mg/Kg Prep Date: Analysis Date: 7/10/2018 SeqNo: 1750659

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Cyanide ND 0.25

Sample ID LCS-R53202 SampType: LCS TestCode: CYANIDE-TOTAL

Client ID: LCSS Batch ID: **R53202** RunNo: 53202

Prep Date: Analysis Date: 7/10/2018 SeqNo: 1750660 Units: mg/Kg

Result Analyte SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Cyanide 2.5 2.500 0 101 150

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

Page 66 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID MB-39078 SampType: MBLK TestCode: EPA Method 7471: Mercury

Client ID: PBS Batch ID: 39078 RunNo: 52511

Prep Date: 7/6/2018 Analysis Date: 7/6/2018 SeqNo: 1722083 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury ND 0.033

Sample ID LCS-39078 SampType: LCS TestCode: EPA Method 7471: Mercury

Client ID: LCSS Batch ID: 39078 RunNo: 52511

Prep Date: 7/6/2018 Analysis Date: 7/6/2018 SeqNo: 1722084 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.16 0.033 0.1667 0 96.5 80 120

Sample ID LLLCS-39078 SampType: LCSLL TestCode: EPA Method 7471: Mercury

Client ID: BatchQC Batch ID: 39078 RunNo: 52511

Prep Date: 7/6/2018 Analysis Date: 7/6/2018 SeqNo: 1722085 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.0056 0.033 0.006660 0 84.2 70 130 J

Sample ID 1807001-002BMS SampType: MS TestCode: EPA Method 7471: Mercury

Client ID: CENTRAL OCD LF V Batch ID: 39078 RunNo: 52511

Prep Date: **7/6/2018** Analysis Date: **7/6/2018** SeqNo: **1722088** Units: **mg/Kg**

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.17 0.033 0.1651 0 102 80 120

Sample ID 1807001-002BMSD SampType: MSD TestCode: EPA Method 7471: Mercury

Client ID: CENTRAL OCD LF V Batch ID: 39078 RunNo: 52511

Prep Date: 7/6/2018 Analysis Date: 7/6/2018 SegNo: 1722089 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.17 0.033 0.1660 0 99.6 80 120 2.31 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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 67 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#:

1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

SampType: LCS

Sample ID MB-39100	SampType: MBLK			TestCode: EPA Method 6010B: Soil Metals						
Client ID: PBS	Batch ID: 39100			F	2556					
Prep Date: 7/9/2018	Analysis Date: 7/10/2018			SeqNo: 1723910			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	0.068	0.30								J
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								

TestCode: EPA Method 6010B: Soil Metals

Client ID: LCSS	Batch	1D: 39	100	R	RunNo: 52	2556				
Prep Date: 7/9/2018	Analysis D	Analysis Date: 7/10/2018			SeqNo: 1723911			(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	95.4	80	120			
Barium	26	0.10	25.00	0	104	80	120			
Cadmium	26	0.10	25.00	0	102	80	120			
Chromium	26	0.30	25.00	0	104	80	120			
Copper	26	0.30	25.00	0	104	80	120			
Iron	25	2.5	25.00	0	101	80	120			
Lead	24	0.25	25.00	0	96.0	80	120			
Manganese	24	0.10	25.00	0	97.5	80	120			
Selenium	23	2.5	25.00	0	92.9	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			

Sample ID MB-39100	SampType: MBLK	TestCode: EPA Method	d 6010B: Soil Metals		
Client ID: PBS	Batch ID: 39100	RunNo: 52556			
Prep Date: 7/9/2018	Analysis Date: 7/10/201	8 SeqNo: 1725118	Units: mg/Kg		
Analyte	Result PQL SPK v	value SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Copper	ND 0.30				

Sample ID	1807001-002BMS	SampType: MS TestCode: EPA Method 6010B: Soil Metals									
Client ID:	CENTRAL OCD LF	V Batch	ID: 39	100	R	RunNo: 5	2556				
Prep Date:	7/9/2018	Analysis D	ate: 7/	10/2018	SeqNo: 1725143			Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		22	12	24.24	0	90.9	75	125			
Barium		300	0.48	24.24	267.3	135	75	125			S

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Sample ID LCS-39100

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 68 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID 1807001-002BMS	SampT	уре: М\$	3	TestCode: EPA Method 6010B: Soil Metals						
Client ID: CENTRAL OCD L	FV Batch	n ID: 39	100	F	RunNo: 5	2556				
Prep Date: 7/9/2018	SeqNo: 1725143 Units: mg/Kg									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	21	0.48	24.24	0	87.0	75	125			
Chromium	39	1.5	24.24	15.14	97.0	75	125			
Copper	24	1.5	24.24	2.079	89.6	75	125			
Lead	23	1.2	24.24	1.990	84.8	75	125			
Manganese	410	0.48	24.24	418.6	-36.2	75	125			S
Selenium	12	12	24.24	0	48.5	75	125			JS
Silver	3.2	1.2	4.849	0	65.2	75	125			S

Sample ID	1807001-002BMS	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID:	CENTRAL OCD L	100	F	RunNo: 5							
Prep Date:	7/9/2018	ate: 7/	10/2018	S	SeqNo: 1	(g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		21	12	24.20	0	86.6	75	125	4.99	20	
Barium		290	0.48	24.20	267.3	73.9	75	125	5.11	20	S
Cadmium		21	0.48	24.20	0	87.7	75	125	0.562	20	
Chromium		41	1.5	24.20	15.14	108	75	125	6.37	20	
Copper		24	1.5	24.20	2.079	91.8	75	125	2.06	20	
Lead		22	1.2	24.20	1.990	80.8	75	125	4.54	20	
Manganese		460	0.48	24.20	418.6	161	75	125	11.0	20	S
Selenium		19	12	24.20	0	77.1	75	125	45.3	20	R
Silver		3.2	1.2	4.839	0	66.6	75	125	1.85	20	S

Sample ID MB-39100	SampTy	pe: ME	BLK	Test	Code: El	Metals				
Client ID: PBS	Batch ID: 39100			R	unNo: 5	2556				
Prep Date: 7/9/2018	Analysis Date: 7/10/2018			S	eqNo: 1	725171	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	5.0								
7inc	ND	2.5								

Sample ID LCS-39100	SampT	ype: LC	S	Tes	tCode: E	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	n ID: 39	100	F	RunNo: 5	2556				
Prep Date: 7/9/2018	Analysis D	ate: 7/	10/2018	8	SeqNo: 1	725172	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	22	5.0	25.00	0	86.3	80	120		_	
Zinc	23	2.5	25.00	0	91.3	80	120			

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

PQL Practical Quanitative Limit

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 69 of 71

P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1807001**

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

Sample ID 1807001-002BMS SampType: MS TestCode: EPA Method 6010B: Soil Metals

Client ID: CENTRAL OCD LF V Batch ID: 39100 RunNo: 52556

Prep Date: **7/9/2018** Analysis Date: **7/10/2018** SeqNo: **1725178** Units: **mg/Kg**

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Uranium ND 24 0 75 S 24.24 0 125 20.61 95.7 75 Zinc 44 12 24.24 125

Sample ID 1807001-002BMSD SampType: MSD TestCode: EPA Method 6010B: Soil Metals

Client ID: CENTRAL OCD LF V Batch ID: 39100 RunNo: 52556

Prep Date: **7/9/2018** Analysis Date: **7/10/2018** SeqNo: **1725179** Units: **mg/Kg**

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Uranium ND 24 24.20 0 0 75 125 20 50 12 20.61 75 20 Zinc 24.20 121 125 12.8

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 70 of 71

Hall Environmental Analysis Laboratory, Inc.

WO#: 1807001

06-Aug-18

Client: Western Refining Southwest, Gallup

Project: Central OCD Landfarm Semiannual Sampling

0.077

0.569

Sample ID MB-R53202 SampType: MBLK TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed PBW Client ID: Batch ID: **R53202** RunNo: 53202 Prep Date: Analysis Date: 8/1/2018 SeqNo: 1750670 Units: pCi/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Radium-226 0 0.332 Radium-226 ± 0.113 0.332 Radium-228 0.569 0

Qualifiers:

Radium-228 ±

- 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
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Page 71 of 71



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

Client Name: Western Refining Gallup Work Order Number: 1807001 RcptNo: 1 and Sham Received By: **Andy Freeman** 6/29/2018 3:25:00 PM Completed By: **Anne Thorne** 7/2/2018 8:59:07 AM 507,216 Reviewed By: Labelled by: 1-07/02/18 Chain of Custody No 🗌 1. Is Chain of Custody complete? Yes 🗹 Not Present 2. How was the sample delivered? Client Log <u>In</u> 3. Was an attempt made to cool the samples? Yes 🔽 No 🗆 NA 🗌 No \square Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 NA 🗍 Sample(s) in proper container(s)? Yes 🔽 6. Sufficient sample volume for indicated test(s)? Yes 🗹 No 🗆 7. Are samples (except VOA and ONG) properly preserved? Yes 🗸 No 8. Was preservative added to bottles? Yes No 🗹 NA 🗌 9. VOA vials have zero headspace? Yes 🗌 No VOA Vials No 10. Were any sample containers received broken? No 🗸 Yes # of preserved bottles checked 11. Does paperwork match bottle labels? No 🗌 for pH: (Note discrepancies on chain of custody) (<2 or >12 unless noted) Adjusted? No 🗆 12. Are matrices correctly identified on Chain of Custody? 13, is it clear what analyses were requested? No 🔲 14. Were all holding times able to be met? Yes 🗸 No 🗌 Checked by: (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 15. Was client notified of all discrepancies with this order? NA 🗹 No \square Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES/at 7/1/18 17. Cooler Information Cooler No Temp C Condition Seal Intact | Seal No Seal Date Signed By 5.0 Good Yes 3.3 Good Yes

Air Bubbles (Y or N) **ANALYSIS LABORATORY** HALL ENVIRONMENTAL X₃T8 × 5 TSIJ DAMN × × × × × × 4901 Hawkins NE - Albuquerque, NM 87109 VADOSE ZONE LIST × × × × × × Fax 505-345-4107 (AOV-ima2) 07S8 www.hallenvironmental.com **Analysis Request** 8560B 8081 Pesticides / 8082 PCB's (00/c12 temp 4,3-1=33°C Cooles 1 temp 6,0-1,0=5.0°C Anions (F,CI,NO3,NO2,PO4,SO4) RCRA 8 Metals Tel. 505-345-3975 (SMI20728 10 0188) HA9 EDB (Method 8011) (Nethod 418.1) (GRO/DRO/MRO) (TPH 8015 (GRO/DRO/DRO) × × Remarks: BTEX+MTBE+TPH(Gas only) BTEX+MTBE+TMB's(8021) 7003 105 202 got 6/29/18 1525 7005 8 Project Name: CENTRAL OCD LANDFARM Time A Broller Tracy Payne - 919-561-7055 HEAL No. 180700 Date Project Manager: Brian Moore **2** □ SEMIANNUAL SAMPLING □ Rush Preservative None None None None None None ᄗ Sample Temperature: X Yes Turn-Around Time: X Standard 8oz jar- 3 4oz jar - 1 Type and # 40ml voa-3 Container 8oz jar- 3 4oz jar - 1 8oz jar- 3 4oz jar - 1 8oz jar- 3 4oz jar - 1 8oz jar- 3 4oz jar - 1 8oz jar- 3 4oz jar - 1 Received by: Received by Project #: Sampler: On Ice: **CENTRAL OCD LF VZ01 CENTRAL OCD LF TZ02 CENTRAL OCD LF VZ02** □ Level 4 (Full Validation) **CENTRAL OCD LF TZ01** Sample Request ID CENTRAL OCD LF CENTRAL OCD LF Chain-of-Custody Record Mailing Address: 92 Giant Crossing Road Brian.Moore@Andeavor.com TRIP BLANK VZ01MSD VZ01MS **Gallup, NM 87301** 505-726-9745 Relinquished by Relinquished by **Gallup Refinery** EXCEL WATER Matrix SOIL Client: Andeavor 0260 842/ 1045 Time: 0950 724/8/1525 QA/QC Package: X EDD (Type) Time 635 email or Fax#: l Time: X Standard Phone #: □ Other Date

														1	<u>Р</u>	Ŋ	t
	Chain	1-of-C	Chain-of-Custody Record	Turn-Around T	Time:												
Client:	: Andeavor	avor		X Standard	□ Rush			1 [E 2	MALL ENVI Anaivete		ENVIKONMEN L	5 8		Z	₹ (_ >
	Gallu	Gallup Refinery	ery	Project Name:		CENTRAL OCD LANDFARM						֓֞֞֞֜֞֜֞֜֞֜֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֡֓֡֓֡		Š	LABORALORI		5
Mailin	Mailing Address:		92 Giant Crossing Road	SEMIANNUAL	AL SAMPLING	ø	490	T E	www.ll 4901 Hawkins NF	, g		environmental.com Albuquerane NM 87109		II 8710	g		
		Gallu	Gallup, NM 87301	Project #:				505	505-345-3975		Fax	505	505-345-4107	107	2		
Phone #:	÷#:	505-72	505-726-9745	-						An	alysis		uest				
email	email or Fax#:	Brian.M	Brian.Moore@Andeavor.com	Project Manager: Brian Moore	ger Brian I	Moore	(<u>-</u>			. (9					
QA/QC X Sta	QA/QC Package: X Standard	á:	☐ Level 4 (Full Validation)	,				(ORM)		(SI	*OS'*O	_			<u>.</u>		
□ Other	ler	`		Sampler:	Tracy Payne	e - 919-561-7055				VISC	O						
×ED	X EDD (Type)	EXCEL			A Yes	□ No		_			_				017		•
			7.2	Sample Temperature:	perature:												/3/
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 180700 (BTEX+MTE BTEX+MTE) 2108 H qT	TPH (Metho	01£8) HA9	RCRA 8 Me	8081 Pestic	8260B	8270 (Semi-	NMAC LIST	X∃T8	TIME TO VIEW
199	6/29/18 1/20	SOIL	CENTRAL OCD LF TZ03	8oz jar- 3 4oz jar - 1	None	702		×	:		_						
	1130		CENTRAL OCD LF VZ03	8oz jar- 3 4oz jar - 1	None	100			_					<u>×</u>	×		†
	12.00		CENTRAL OCD LF TZ04	8oz jar- 3 4oz jar - 1	None	67_		×						×	×		
	1210		CENTRAL OCD LF VZ04	8oz jar- 3 4oz jar - 1	None	602								×	×		
			CENTRAL OCD LF DUP01	8oz jar- 3 4oz jar - 1	None	012		<u> </u>						×	×		
	1215	WATER	CENTRAL OCD LF FB01	40ml voa-3	HCI	1197							 	1		×	-
	1220	WATER	CENTRAL OCD LF EB01	40ml voa-3	HCI	7)0					<u> </u>					×	+
→	!	WATER	TRIP BLANK	40ml voa-3	HCI	613				<u> </u>	_		-	<u> </u>		×	+-
Date:	Date: Time: 6/24/18/1525	Relinquished by	by by.	Received by:		Date Time 6/29/19 /525	Remarks	i 🥆	10,260	_ \	ار ده	ر ا	1				1
Date:	Time:	Refinquished by:	ed by:	Received by:)	Date Time	(60 /ex		2 temp 4.3-1		= 3,3 °C	U					
													į				

Analyte	Analytical Mathed	Reporting Units	Requested Reporting Limit
Flyoride	E300	mg/sp :	0.3000
Nilrogen, Nitrate (As N) Sulfate	E\$00	mg/kg	2.2000
*Redun-228	£801.1	mg/kg pCi/g	21.5000 1,3950
*Radium-228	E901.1	pCl/g	1,2500
*Radium-228+Radium-228 Arsenic	SWEDTOA	pCl/b	2.8450
Barlum	SW8D10A	mg/kg mg/kg	2,5000 1,0000
Cadmhm	SW6010A	mafica	0,1000
Chromium Copper	SWEDTOA	mg/kg	0.3000
iron	ACIOSVB	mg/kg mg/kg	0.0000
Lead	SWEDTOA	maka	0,2500
Manganasa	SW6010A	make	1.0000
Sejentum Gilver	SWBD10A	mg/kg mg/kg	2.5000 0.2500
Uranium	SW6010A	marka.	5,0000
Ziric Mercury	SW9010A SW7471	mg/kg	2.5000
Anackar 1016	8W8082	mg/kg mg/kg	0.0330
Arector 1221	SWB0B2	meko	0.0200
Aroclor 1232	5W8082	mg/kg	0.0200
Arodor 1242 Arodor 1248	SW8082 SW8082	mg/kg mg/kg	0.0200
Arodor 1254	SW6062	marka	0.0200
Arodor 1260	SW8062	mg/leg	0.0203
1,1,1-Trightoroninane 1,1,2-Trightoronthane	\$W8250B \$W8250B		0,0460 0,0460
1.1-Dichleroelhane	5W8260B	rregriga	0.0400
1,1-Dichloroettiene	8W8260B	rttg/leg	0.0460
1.2-Dichlorostiano Carbon tetrachionde	8W8260B	ток:	0.0480
Chloroform	SW6260B SW6260B	maka maka	0.0970
Englishmomethane	SW8260B	malka	0.1000
Methylene chloride Tetrachloroethene	8W62508	malka	0.1500
Trichiorosthene	SW8260B SW8260B	maka maka	0.0480
Vinyl chloride	SW3250B	mg/kg	0.0480
24.5-Trichkrophenol	3W8270C	marks	0.2000
2,4,6-Trichtorophenoi 2,4-Dichtorophenoi	SW8270C SW8270C	mg/kg	0.2000
2,4-Olmethylphenol	SW8270C	marka	0.3000
2,4-Dintroptunol	5W8270C	mg/kg	0.4000
2-Chlorophenol 2-Kethylphanol	SW8270C 8W8270C	mg/kg mg/kg	0.2000 0.1000
2-Mtrophenoj	SW82700	indrika	
3+4-Methylphanor	BW8270C	ma/ka	0.1000 0.1000
4.8-Dinitro-2-methylphenol 4-Chloro-3-methylphanol	5W8270C SW8270C	mg/kg	0.5000
4-Nitropherial	5W8270C	maka	0.1000
Pentachioropheno)	SW8270C	angsky	0.4000
Phanol 1-Methylnephthelene	SW8270C SW8200B	mg/kg mg/kg	0.2000
2-Methylnephthelene	SW82808	marka	0,2000
Acenaphinene Acenaphinylene	9V/8270C	mp/kg	0.2000
Anthracene	SW8270C SW8270C	mg/kg mg/kg	0.2000 0.2000
Benzo(s)enfirmene	SW8270C	marke	0.2000
Benzo(a)pyrene Benzo(bilipprentiene	5W8270C	mplig	0.2000
Benzo(g.h.i)perylane	SWB270C SWB270C	mg/kg mg/kg	0.2000 0.2000
Genzo(k)fjuoranthene	SW9270C	maka	0.2000
Chrysena	SWE270C	me/kg	0.2000
Dibunz(a,h)antingcene Fluorenthane	5W8270C SW8270C	mg/kg mg/kg	0.2000 0.2000
fluorene	SW8270C	marka	0.2000
Indeno(1,2,3-c,d)pyrene	SW82700	щеке	0.2000
Neghtinalogs Prienanthrens	SW8270C SW8270C	eng/ligi	0.2000 0.2000
Pyrene	5W6270C	mgDkg	0.200B
Cyanide Diesel Range Cryenies (DRO)	EPA 335,4	mpikg	0.3000
	81//8015	mg/kg	12

Vadose zone analytes and reported limits, central oil conservation division landfarm Western Hemning Southwest, gallup refinery, gallup, new Mexico

Armhyle	Analytical Method	Reporting Unite	Requested Reporting Limit
Chloride	E300	rng/kg	30
Benzone	SW82808	marka	0.050
El wberrene	814/32608	mg/kg	0.050
Tolyane	SW32808	mg/kg	0.000
Xylenes, Total	SW9280B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	me/to	20



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

January 09, 2019

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

FAX

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1812713

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 13 sample(s) on 12/12/2018 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1812713**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/9/2019

CLIENT:MarathonClient Sample ID: CENTRAL OCD LF TZ01Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 2:15:00 PMLab ID:1812713-001Matrix: SOILReceived Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TOI	VI
Aroclor 1016	ND	0.020	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1221	ND	0.037	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1232	ND	0.046	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1242	ND	0.025	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1248	ND	0.037	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1254	ND	0.037	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Aroclor 1260	ND	0.018	0.047	mg/Kg	1	1/4/2019 2:24:02 PM	42179
Surr: Decachlorobiphenyl	86.4	0	31.9-130	%Rec	1	1/4/2019 2:24:02 PM	42179
Surr: Tetrachloro-m-xylene	92.0	0	21.2-142	%Rec	1	1/4/2019 2:24:02 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS					Analyst: TOI	И
Diesel Range Organics (DRO)	120	2.0	9.8	mg/Kg	1	12/17/2018 3:16:44 Pl	M 42113
Motor Oil Range Organics (MRO)	160	49	49	mg/Kg	1	12/17/2018 3:16:44 Pl	M 42113
Surr: DNOP	95.1	0	50.6-138	%Rec	1	12/17/2018 3:16:44 Pl	M 42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSI	3
Gasoline Range Organics (GRO)	ND	1.4	4.8	mg/Kg	1	12/14/2018 4:21:22 Pl	M 42099
Surr: BFB	97.6	0	73.8-119	%Rec	1	12/14/2018 4:21:22 Pl	M 42099
EPA METHOD 300.0: ANIONS						Analyst: MR	A
Fluoride	9.9	1.0	1.5	mg/Kg	5	12/27/2018 1:30:11 Pl	M 42333
Chloride	170	7.5	7.5	mg/Kg	5	12/27/2018 1:30:11 Pl	M 42333
Nitrogen, Nitrate (As N)	2.4	0.28	1.5	mg/Kg	5	12/27/2018 1:30:11 Pl	M 42333
Sulfate	3400	13	75	mg/Kg	50	12/31/2018 5:47:33 Pl	M 42333
EPA METHOD 7471: MERCURY						Analyst: pm	f
Mercury	0.30	0.0069	0.034	mg/Kg	1	12/18/2018 10:07:36	42145
EPA METHOD 6010B: SOIL METALS						Analyst: rde	
Arsenic	ND	2.8	5.0	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Barium	310	0.046	0.20	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Cadmium	ND	0.048	0.20	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Chromium	15	0.16	0.60	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Copper	12	0.22	0.60	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Iron	19000	72	250	mg/Kg	100	12/19/2018 8:11:39 Al	M 42118
Lead	4.7	0.48	0.50	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Manganese	390	0.041	0.20	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Selenium	ND	2.5	5.0	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Silver	ND	0.064	0.50	mg/Kg	2	12/20/2018 1:25:29 Pl	M 42118
Uranium	ND	2.2	5.0	mg/Kg	1	12/18/2018 4:38:25 Pl	M 42118
Zinc	41	0.39	2.5	mg/Kg	1	12/18/2018 4:38:25 Pl	M 42118

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

PQL Practical Quanitative Limit

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 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:15:00 PM

Lab ID: 1812713-001

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	M
Acenaphthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Acenaphthylene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Aniline	ND	0.94	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Anthracene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Azobenzene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benz(a)anthracene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzo(a)pyrene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzo(b)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzo(g,h,i)perylene	ND	1.6	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzo(k)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzoic acid	ND	1.4	4.8	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Benzyl alcohol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Bis(2-chloroethoxy)methane	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Bis(2-chloroethyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Bis(2-chloroisopropyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Bis(2-ethylhexyl)phthalate	ND	2.7	4.8	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
4-Bromophenyl phenyl ether	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Butyl benzyl phthalate	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Carbazole	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
4-Chloro-3-methylphenol	ND	1.3	4.8	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
4-Chloroaniline	ND	1.1	4.8	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
2-Chloronaphthalene	ND	1.1	2.4	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
2-Chlorophenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
4-Chlorophenyl phenyl ether	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Chrysene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Di-n-butyl phthalate	ND	2.7	3.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Di-n-octyl phthalate	ND	1.1	3.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Dibenz(a,h)anthracene	ND	1.6	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Dibenzofuran	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
1,2-Dichlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
1,3-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
1,4-Dichlorobenzene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
3,3´-Dichlorobenzidine	ND	0.96	2.4	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Diethyl phthalate	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
Dimethyl phthalate	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
2,4-Dichlorophenol	ND	1.2	3.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
2,4-Dimethylphenol	ND	0.91	2.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.89	3.9	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141
2,4-Dinitrophenol	ND	0.62	4.8	D	mg/Kg	1	12/31/2018 1:55:52 F	PM 42141

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
- PQL Practical Quanitative Limit
- 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 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:15:00 PM

Lab ID: 1812713-001

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	. PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	AM
2,4-Dinitrotoluene	ND	0.99	4.8	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2,6-Dinitrotoluene	ND	1.2	4.8	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Fluoranthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Fluorene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Hexachlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Hexachlorobutadiene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Hexachlorocyclopentadiene	ND	0.96	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Hexachloroethane	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Indeno(1,2,3-cd)pyrene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Isophorone	ND	1.2	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
1-Methylnaphthalene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2-Methylnaphthalene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2-Methylphenol	ND	1.3	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
3+4-Methylphenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
N-Nitrosodi-n-propylamine	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
N-Nitrosodiphenylamine	ND	0.99	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Naphthalene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2-Nitroaniline	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
3-Nitroaniline	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
4-Nitroaniline	ND	0.93	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Nitrobenzene	ND	1.1	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2-Nitrophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Pentachlorophenol	ND	0.98	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Phenanthrene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Phenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Pyrene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Pyridine	ND	1.2	3.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
1,2,4-Trichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2,4,5-Trichlorophenol	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
2,4,6-Trichlorophenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 1:55:52	PM 42141
Surr: 2-Fluorophenol	0		21.7-87.9	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
Surr: Phenol-d5	0		30.2-92.2	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
Surr: 2,4,6-Tribromophenol	0		47.1-103	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
Surr: Nitrobenzene-d5	0		23.9-102	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
Surr: 2-Fluorobiphenyl	0		32.6-101	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
Surr: 4-Terphenyl-d14	0		37.2-117	SD	%Rec	1	12/31/2018 1:55:52	PM 42141
EPA METHOD 8260B: VOLATILES							Analyst: D	JF
Benzene	ND	0.0039	0.024		mg/Kg	1	12/18/2018 4:37:22	AM 42099

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

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 3 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:15:00 PM

Lab ID: 1812713-001

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Toluene	ND	0.0046	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Ethylbenzene	ND	0.0028	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,3,5-Trimethylbenzene	ND	0.0046	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Naphthalene	ND	0.0096	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1-Methylnaphthalene	ND	0.028	0.19	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
2-Methylnaphthalene	ND	0.021	0.19	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Acetone	ND	0.040	0.72	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Bromobenzene	ND	0.0046	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Bromodichloromethane	ND	0.0044	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Bromomethane	ND	0.012	0.14	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
2-Butanone	ND	0.056	0.48	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Carbon tetrachloride	ND	0.0045	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Chlorobenzene	ND	0.0061	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Chloroethane	ND	0.0071	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Chloroform	ND	0.0039	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
cis-1,2-DCE	ND	0.0066	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
cis-1,3-Dichloropropene	ND	0.0040	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Dibromomethane	ND	0.0052	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,3-Dichlorobenzene	ND	0.0042	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
2,2-Dichloropropane	ND	0.016	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	A 42099
1,1-Dichloropropene	ND	0.0044	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	И 42099

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
- PQL Practical Quanitative Limit
- 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 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:15:00 PM

Lab ID: 1812713-001

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed B	atch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Hexachlorobutadiene	ND	0.0049	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	42099
2-Hexanone	ND	0.0080	0.48	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Isopropylbenzene	ND	0.0035	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
4-Isopropyltoluene	ND	0.0040	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
4-Methyl-2-pentanone	ND	0.0091	0.48	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Methylene chloride	ND	0.0085	0.14	mg/Kg	1	12/18/2018 4:37:22 AM	42099
n-Butylbenzene	ND	0.0045	0.14	mg/Kg	1	12/18/2018 4:37:22 AM	42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Styrene	ND	0.0038	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
trans-1,2-DCE	ND	0.0044	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
trans-1,3-Dichloropropene	ND	0.0051	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,2,3-Trichlorobenzene	ND	0.0042	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,2,4-Trichlorobenzene	ND	0.0048	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Trichloroethene (TCE)	ND	0.0056	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
1,2,3-Trichloropropane	ND	0.0078	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Xylenes, Total	ND	0.012	0.096	mg/Kg	1	12/18/2018 4:37:22 AM	42099
Surr: Dibromofluoromethane	115		70-130	%Rec	1	12/18/2018 4:37:22 AM	42099
Surr: 1,2-Dichloroethane-d4	114		70-130	%Rec	1	12/18/2018 4:37:22 AM	42099
Surr: Toluene-d8	111		70-130	%Rec	1	12/18/2018 4:37:22 AM	42099
Surr: 4-Bromofluorobenzene	103		70-130	%Rec	1	12/18/2018 4:37:22 AM	42099
EPA METHOD 418.1: TPH						Analyst: CLP	
Petroleum Hydrocarbons, TR	280	2.7	20	mg/Kg	1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 5 of 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:25:00 PM

Lab ID: 1812713-002

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Uni	ts DF	Date Analyzed I	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TON	
Aroclor 1016	ND	0.010	0.024	mg/l	K g 1	1/4/2019 3:15:17 PM	42179
Aroclor 1221	ND	0.019	0.024	mg/l	Kg 1	1/4/2019 3:15:17 PM	42179
Aroclor 1232	ND	0.023	0.024	mg/l	Kg 1	1/4/2019 3:15:17 PM	42179
Aroclor 1242	ND	0.012	0.024	mg/l	K g 1	1/4/2019 3:15:17 PM	42179
Aroclor 1248	ND	0.019	0.024	mg/l	(g 1	1/4/2019 3:15:17 PM	42179
Aroclor 1254	ND	0.019	0.024	mg/l	K g 1	1/4/2019 3:15:17 PM	42179
Aroclor 1260	ND	0.0089	0.024	mg/l	⟨g 1	1/4/2019 3:15:17 PM	42179
Surr: Decachlorobiphenyl	69.6	0	31.9-130	%Re	ec 1	1/4/2019 3:15:17 PM	42179
Surr: Tetrachloro-m-xylene	70.8	0	21.2-142	%Re	ec 1	1/4/2019 3:15:17 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: TON	I
Diesel Range Organics (DRO)	11	1.9	9.6	mg/l	K g 1	12/17/2018 4:05:37 PM	1 42113
Motor Oil Range Organics (MRO)	ND	48	48	mg/l	K g 1	12/17/2018 4:05:37 PM	1 42113
Surr: DNOP	93.7	0	50.6-138	%Re	ec 1	12/17/2018 4:05:37 PM	1 42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.7	mg/l	K g 1	12/14/2018 4:44:51 PM	1 42099
Surr: BFB	94.0	0	73.8-119	%Re	ec 1	12/14/2018 4:44:51 PM	1 42099
EPA METHOD 300.0: ANIONS						Analyst: MRA	\
Fluoride	3.7	1.0	1.5	mg/l	K g 5	12/27/2018 1:55:00 PM	1 42333
Chloride	330	30	30	mg/l	Kg 20	12/27/2018 2:32:14 PM	1 42333
Nitrogen, Nitrate (As N)	1.6	0.28	1.5	mg/l	K g 5	12/27/2018 1:55:00 PM	1 42333
Sulfate	910	5.2	30	mg/l	K g 20	12/27/2018 2:32:14 PM	1 42333
EPA METHOD 7471: MERCURY						Analyst: pmf	
Mercury	ND	0.0068	0.034	mg/l	Kg 1	12/18/2018 10:09:34 A	42145
EPA METHOD 6010B: SOIL METALS						Analyst: JLF	
Arsenic	ND	7.0	12	mg/l	(g 5	12/22/2018 2:53:18 PM	1 42118
Barium	270	0.11	0.49	mg/l	(g 5	12/22/2018 2:53:18 PM	1 42118
Cadmium	ND	0.12	0.49	mg/l	Kg 5	12/22/2018 2:53:18 PM	1 42118
Chromium	16	0.39	1.5	mg/l	Kg 5	12/22/2018 2:53:18 PM	1 42118
Copper	3.5	0.55	1.5	mg/l	(g 5	12/22/2018 2:53:18 PM	1 42118
Iron	20000	72	250	mg/l	Kg 100	12/19/2018 8:13:41 AM	1 42118
Lead	4.3	1.2	1.2	mg/l	Kg 5	12/22/2018 2:53:18 PM	1 42118
Manganese	350	0.10	0.49	mg/l	Kg 5	12/22/2018 2:53:18 PM	1 42118
Selenium	ND	6.2	12	mg/l	K g 5	12/22/2018 2:53:18 PM	1 42118
Silver	ND	0.16	1.2	mg/l	K g 5	12/22/2018 2:53:18 PM	1 42118
Uranium	ND	11	25	mg/l	K g 5	12/22/2018 2:53:18 PM	1 42118
Zinc	23	1.9	12	mg/l	K g 5	12/22/2018 2:53:18 PM	1 42118

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

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- E Value above quantitation range

J Analyte detected below quantitation limits

Page 6 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF VZ01

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:25:00 PM

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 2:25:00 PM
Lab ID: 1812713-002 Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	М
Acenaphthene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Acenaphthylene	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Aniline	ND	0.19	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Anthracene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Azobenzene	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benz(a)anthracene	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzo(a)pyrene	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzo(b)fluoranthene	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzo(g,h,i)perylene	ND	0.32	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzo(k)fluoranthene	ND	0.32	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzoic acid	ND	0.29	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Benzyl alcohol	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Bis(2-chloroethoxy)methane	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Bis(2-chloroethyl)ether	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Bis(2-chloroisopropyl)ether	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Bis(2-ethylhexyl)phthalate	ND	0.55	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Bromophenyl phenyl ether	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Butyl benzyl phthalate	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Carbazole	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Chloro-3-methylphenol	ND	0.27	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Chloroaniline	ND	0.22	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Chloronaphthalene	ND	0.22	0.50	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Chlorophenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Chlorophenyl phenyl ether	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Chrysene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Di-n-butyl phthalate	ND	0.55	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Di-n-octyl phthalate	ND	0.23	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Dibenz(a,h)anthracene	ND	0.32	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Dibenzofuran	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
1,2-Dichlorobenzene	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
1,3-Dichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
1,4-Dichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
3,3'-Dichlorobenzidine	ND	0.20	0.50	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Diethyl phthalate	ND	0.30	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Dimethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,4-Dichlorophenol	ND	0.25	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,4-Dimethylphenol	ND	0.19	0.60	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.18	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,4-Dinitrophenol	ND	0.13	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141

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
- PQL Practical Quanitative Limit
- 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 7 of 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:25:00 PM

Lab ID: 1812713-002

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDI	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	M
2,4-Dinitrotoluene	ND	0.20	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,6-Dinitrotoluene	ND	0.25	1.0	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Fluoranthene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Fluorene	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Hexachlorobenzene	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Hexachlorobutadiene	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Hexachlorocyclopentadiene	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Hexachloroethane	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Indeno(1,2,3-cd)pyrene	ND	0.29	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Isophorone	ND	0.26	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
1-Methylnaphthalene	ND	0.29	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Methylnaphthalene	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Methylphenol	ND	0.28	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
3+4-Methylphenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
N-Nitrosodi-n-propylamine	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
N-Nitrosodiphenylamine	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Naphthalene	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Nitroaniline	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
3-Nitroaniline	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Nitroaniline	ND	0.19	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Nitrobenzene	ND	0.23	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2-Nitrophenol	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
4-Nitrophenol	ND	0.31	0.50	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Pentachlorophenol	ND	0.20	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Phenanthrene	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Phenol	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Pyrene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Pyridine	ND	0.24	0.80	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
1,2,4-Trichlorobenzene	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,4,5-Trichlorophenol	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
2,4,6-Trichlorophenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 2:25:08 F	PM 42141
Surr: 2-Fluorophenol	118		21.7-87.9	SD	%Rec	1	12/31/2018 2:25:08 F	PM 42141
Surr: Phenol-d5	125		30.2-92.2	SD	%Rec	1	12/31/2018 2:25:08 F	PM 42141
Surr: 2,4,6-Tribromophenol	149		47.1-103	SD	%Rec	1	12/31/2018 2:25:08 F	PM 42141
Surr: Nitrobenzene-d5	133		23.9-102	SD	%Rec	1	12/31/2018 2:25:08 F	PM 42141
Surr: 2-Fluorobiphenyl	139		32.6-101	SD	%Rec	1	12/31/2018 2:25:08 F	PM 42141
Surr: 4-Terphenyl-d14	113		37.2-117	D	%Rec	1	12/31/2018 2:25:08 F	PM 42141
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Benzene	ND	0.0038	0.023		mg/Kg	1	12/18/2018 5:06:33 /	AM 42099

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 8 of 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Received Date: 12/12/2018 8:40:00 AM

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

1812713-002

Lab ID:

CLIENT:MarathonClient Sample ID: CENTRAL OCD LF VZ01Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 2:25:00 PM

Matrix: SOIL

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Toluene	ND	0.0045	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Ethylbenzene	ND	0.0027	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,2,4-Trimethylbenzene	ND	0.0043	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,3,5-Trimethylbenzene	ND	0.0045	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,2-Dichloroethane (EDC)	ND	0.0048	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,2-Dibromoethane (EDB)	ND	0.0043	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Naphthalene	ND	0.0094	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1-Methylnaphthalene	ND	0.027	0.19	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
2-Methylnaphthalene	ND	0.020	0.19	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Acetone	ND	0.039	0.70	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Bromobenzene	ND	0.0045	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Bromodichloromethane	ND	0.0043	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Bromoform	ND	0.0042	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Bromomethane	ND	0.011	0.14	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
2-Butanone	ND	0.054	0.47	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Carbon disulfide	ND	0.015	0.47	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Carbon tetrachloride	ND	0.0044	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Chlorobenzene	ND	0.0060	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Chloroethane	ND	0.0069	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Chloroform	ND	0.0038	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Chloromethane	ND	0.0045	0.14	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
2-Chlorotoluene	ND	0.0041	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
4-Chlorotoluene	ND	0.0038	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
cis-1,2-DCE	ND	0.0064	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
cis-1,3-Dichloropropene	ND	0.0040	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,2-Dibromo-3-chloropropane	ND	0.0048	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Dibromochloromethane	ND	0.0033	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Dibromomethane	ND	0.0050	0.047	mg/Kg	1	12/18/2018 5:06:33 AN	A 42099
1,2-Dichlorobenzene	ND	0.0038	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,3-Dichlorobenzene	ND	0.0041	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,4-Dichlorobenzene	ND	0.0039	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
Dichlorodifluoromethane	ND	0.011	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,1-Dichloroethane	ND	0.0030	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,1-Dichloroethene	ND	0.019	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,2-Dichloropropane	ND	0.0034	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,3-Dichloropropane	ND	0.0051	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
2,2-Dichloropropane	ND	0.015	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099
1,1-Dichloropropene	ND	0.0043	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	A 42099

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
- PQL Practical Quanitative Limit
- 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 9 of 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 2:25:00 PM

Lab ID: 1812713-002

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed B	atch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Hexachlorobutadiene	ND	0.0048	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	42099
2-Hexanone	ND	0.0078	0.47	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Isopropylbenzene	ND	0.0034	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
4-Isopropyltoluene	ND	0.0039	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
4-Methyl-2-pentanone	ND	0.0089	0.47	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Methylene chloride	ND	0.0083	0.14	mg/Kg	1	12/18/2018 5:06:33 AM	42099
n-Butylbenzene	ND	0.0044	0.14	mg/Kg	1	12/18/2018 5:06:33 AM	42099
n-Propylbenzene	ND	0.0037	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
sec-Butylbenzene	ND	0.0053	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Styrene	ND	0.0037	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
tert-Butylbenzene	ND	0.0044	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,1,2,2-Tetrachloroethane	ND	0.0048	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Tetrachloroethene (PCE)	ND	0.0037	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
trans-1,2-DCE	ND	0.0043	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
trans-1,3-Dichloropropene	ND	0.0050	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,2,3-Trichlorobenzene	ND	0.0041	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,2,4-Trichlorobenzene	ND	0.0047	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,1,1-Trichloroethane	ND	0.0042	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,1,2-Trichloroethane	ND	0.0033	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Trichloroethene (TCE)	ND	0.0054	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Trichlorofluoromethane	ND	0.016	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
1,2,3-Trichloropropane	ND	0.0076	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Vinyl chloride	ND	0.0031	0.047	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Xylenes, Total	ND	0.012	0.094	mg/Kg	1	12/18/2018 5:06:33 AM	42099
Surr: Dibromofluoromethane	112		70-130	%Rec	1	12/18/2018 5:06:33 AM	42099
Surr: 1,2-Dichloroethane-d4	109		70-130	%Rec	1	12/18/2018 5:06:33 AM	42099
Surr: Toluene-d8	109		70-130	%Rec	1	12/18/2018 5:06:33 AM	42099
Surr: 4-Bromofluorobenzene	101		70-130	%Rec	1	12/18/2018 5:06:33 AM	42099
EPA METHOD 418.1: TPH						Analyst: CLP	
Petroleum Hydrocarbons, TR	51	2.7	20	mg/Kg	1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 10 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ02

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018 3:20:00 PM

Lab ID: 1812713-003 Matrix: SOIL Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed H	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.011	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1221	ND	0.019	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1232	ND	0.024	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1242	ND	0.013	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1248	ND	0.019	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1254	ND	0.019	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Aroclor 1260	ND	0.0091	0.024		mg/Kg	1	1/4/2019 5:27:08 PM	42179
Surr: Decachlorobiphenyl	88.8	0	31.9-130		%Rec	1	1/4/2019 5:27:08 PM	42179
Surr: Tetrachloro-m-xylene	90.0	0	21.2-142		%Rec	1	1/4/2019 5:27:08 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	ND	1.9	9.6		mg/Kg	1	12/17/2018 5:42:59 PM	42113
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	12/17/2018 5:42:59 PM	42113
Surr: DNOP	93.4	0	50.6-138		%Rec	1	12/17/2018 5:42:59 PM	42113
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.9		mg/Kg	1	12/14/2018 5:55:30 PM	42099
Surr: BFB	98.9	0	73.8-119		%Rec	1	12/14/2018 5:55:30 PM	42099
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	10	1.0	1.5		mg/Kg	5	12/27/2018 2:44:38 PM	42333
Chloride	140	7.5	7.5		mg/Kg	5	12/27/2018 2:44:38 PM	42333
Nitrogen, Nitrate (As N)	5.4	0.28	1.5		mg/Kg	5	12/27/2018 2:44:38 PM	42333
Sulfate	510	1.3	7.5		mg/Kg	5	12/27/2018 2:44:38 PM	42333
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	0.14	0.0070	0.035		mg/Kg	1	12/18/2018 10:15:30 A	42145
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	7.0	12		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Barium	270	0.11	0.49		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Cadmium	ND	0.12	0.49		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Chromium	12	0.39	1.5		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Copper	3.4	0.55	1.5		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Iron	17000	71	240		mg/Kg	100	12/19/2018 8:15:41 AM	42118
Lead	4.2	1.2	1.2		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Manganese	350	0.10	0.49		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Selenium	ND	6.1	12		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Silver	ND	0.16	1.2		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Uranium	ND	11	24		mg/Kg	5	12/22/2018 3:05:19 PM	42118
Zinc	19	1.9	12		mg/Kg	5	12/22/2018 3:05:19 PM	42118

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

PQL Practical Quanitative Limit

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 11 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ02

Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 3:20:00 PMLab ID:1812713-003Matrix: SOILReceived Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DA	М
Acenaphthene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Acenaphthylene	ND	0.10	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Aniline	ND	0.097	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Anthracene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Azobenzene	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benz(a)anthracene	ND	0.14	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzo(a)pyrene	ND	0.15	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzo(b)fluoranthene	ND	0.15	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzo(g,h,i)perylene	ND	0.16	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzo(k)fluoranthene	ND	0.16	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzoic acid	ND	0.15	0.50	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Benzyl alcohol	ND	0.14	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Bis(2-chloroethoxy)methane	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Bis(2-chloroethyl)ether	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Bis(2-chloroisopropyl)ether	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Bis(2-ethylhexyl)phthalate	ND	0.28	0.50	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
4-Bromophenyl phenyl ether	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Butyl benzyl phthalate	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Carbazole	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
4-Chloro-3-methylphenol	ND	0.14	0.50	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
4-Chloroaniline	ND	0.11	0.50	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
2-Chloronaphthalene	ND	0.11	0.25	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
2-Chlorophenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
4-Chlorophenyl phenyl ether	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Chrysene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Di-n-butyl phthalate	ND	0.28	0.40	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Di-n-octyl phthalate	ND	0.12	0.40	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Dibenz(a,h)anthracene	ND	0.16	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Dibenzofuran	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
1,2-Dichlorobenzene	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
1,3-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
1,4-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
3,3'-Dichlorobenzidine	ND	0.10	0.25	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Diethyl phthalate	ND	0.15	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
Dimethyl phthalate	ND	0.10	0.20	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
2,4-Dichlorophenol	ND	0.13	0.40	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
2,4-Dimethylphenol	ND	0.095	0.30	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.092	0.40	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141
2,4-Dinitrophenol	ND	0.064	0.50	mg/Kg	1	12/31/2018 3:53:07 F	PM 42141

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
- PQL Practical Quanitative Limit
- 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 12 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF TZ02

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 3:20:00 PM

Lab ID: 1812713-003

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: D	AM
2,4-Dinitrotoluene	ND	0.10	0.50	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2,6-Dinitrotoluene	ND	0.13	0.50	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Fluoranthene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Fluorene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Hexachlorobenzene	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Hexachlorobutadiene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Hexachlorocyclopentadiene	ND	0.10	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Hexachloroethane	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Indeno(1,2,3-cd)pyrene	ND	0.15	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Isophorone	ND	0.13	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
1-Methylnaphthalene	ND	0.14	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2-Methylnaphthalene	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2-Methylphenol	ND	0.14	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
3+4-Methylphenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
N-Nitrosodi-n-propylamine	ND	0.15	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
N-Nitrosodiphenylamine	ND	0.10	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Naphthalene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2-Nitroaniline	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
3-Nitroaniline	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
4-Nitroaniline	ND	0.097	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Nitrobenzene	ND	0.12	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2-Nitrophenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
4-Nitrophenol	ND	0.15	0.25	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Pentachlorophenol	ND	0.10	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Phenanthrene	ND	0.10	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Phenol	ND	0.14	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Pyrene	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Pyridine	ND	0.12	0.40	mg/Kg	1	12/31/2018 3:53:07	PM 42141
1,2,4-Trichlorobenzene	ND	0.12	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2,4,5-Trichlorophenol	ND	0.11	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
2,4,6-Trichlorophenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 3:53:07	PM 42141
Surr: 2-Fluorophenol	69.2		21.7-87.9	%Rec	1	12/31/2018 3:53:07	PM 42141
Surr: Phenol-d5	70.6	;	30.2-92.2	%Rec	1	12/31/2018 3:53:07	PM 42141
Surr: 2,4,6-Tribromophenol	72.0		47.1-103	%Rec	1	12/31/2018 3:53:07	PM 42141
Surr: Nitrobenzene-d5	80.5		23.9-102	%Rec	1	12/31/2018 3:53:07	
Surr: 2-Fluorobiphenyl	77.1		32.6-101	%Rec	1	12/31/2018 3:53:07	
Surr: 4-Terphenyl-d14	78.6		37.2-117	%Rec	1	12/31/2018 3:53:07	PM 42141
EPA METHOD 8260B: VOLATILES						Analyst: D .	JF
Benzene	ND	0.0040	0.024	mg/Kg	1	12/18/2018 5:35:43	
			-	J9			

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

PQL Practical Quanitative Limit

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 13 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ02

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018 3:20:00 PM

Lab ID: 1812713-003 Matrix: SOIL Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ I	=
Toluene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Ethylbenzene	ND	0.0028	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2,4-Trimethylbenzene	ND	0.0045	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Naphthalene	ND	0.0097	0.097	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1-Methylnaphthalene	ND	0.028	0.19	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
2-Methylnaphthalene	ND	0.021	0.19	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Acetone	ND	0.040	0.73	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Bromobenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Bromodichloromethane	ND	0.0044	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Bromoform	ND	0.0044	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
2-Butanone	ND	0.056	0.49	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Carbon disulfide	ND	0.016	0.49	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Carbon tetrachloride	ND	0.0046	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Chlorobenzene	ND	0.0062	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Chloroethane	ND	0.0072	0.097	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Chloroform	ND	0.0039	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Chloromethane	ND	0.0047	0.15	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
2-Chlorotoluene	ND	0.0042	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
4-Chlorotoluene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
cis-1,2-DCE	ND	0.0067	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.097	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Dibromochloromethane	ND	0.0035	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Dibromomethane	ND	0.0052	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2-Dichlorobenzene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,3-Dichlorobenzene	ND	0.0042	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,4-Dichlorobenzene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
Dichlorodifluoromethane	ND	0.011	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,1-Dichloroethane	ND	0.0031	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,1-Dichloroethene	ND	0.019	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,2-Dichloropropane	ND	0.0035	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,3-Dichloropropane	ND	0.0053	0.049	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
2,2-Dichloropropane	ND	0.016	0.097	mg/Kg	1	12/18/2018 5:35:43 A	M 42099
1,1-Dichloropropene	ND	0.0044	0.097	mg/Kg	1	12/18/2018 5:35:43 A	M 42099

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
- PQL Practical Quanitative Limit
- 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 14 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF TZ02

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 3:20:00 PM

Lab ID: 1812713-003

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	i
Hexachlorobutadiene	ND	0.0050	0.097	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
2-Hexanone	ND	0.0081	0.49	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Isopropylbenzene	ND	0.0035	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
4-Isopropyltoluene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
4-Methyl-2-pentanone	ND	0.0092	0.49	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Methylene chloride	ND	0.0086	0.15	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
n-Butylbenzene	ND	0.0045	0.15	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
n-Propylbenzene	ND	0.0039	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
sec-Butylbenzene	ND	0.0055	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Styrene	ND	0.0038	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
tert-Butylbenzene	ND	0.0046	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Tetrachloroethene (PCE)	ND	0.0039	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
trans-1,2-DCE	ND	0.0045	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
trans-1,3-Dichloropropene	ND	0.0052	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,2,3-Trichlorobenzene	ND	0.0043	0.097	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,1,1-Trichloroethane	ND	0.0044	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,1,2-Trichloroethane	ND	0.0034	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Trichloroethene (TCE)	ND	0.0056	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Trichlorofluoromethane	ND	0.017	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
1,2,3-Trichloropropane	ND	0.0079	0.097	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Vinyl chloride	ND	0.0032	0.049	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Xylenes, Total	ND	0.012	0.097	mg/Kg	1	12/18/2018 5:35:43 Al	M 42099
Surr: Dibromofluoromethane	112		70-130	%Rec	1	12/18/2018 5:35:43 Al	M 42099
Surr: 1,2-Dichloroethane-d4	104		70-130	%Rec	1	12/18/2018 5:35:43 Al	M 42099
Surr: Toluene-d8	111		70-130	%Rec	1	12/18/2018 5:35:43 Al	M 42099
Surr: 4-Bromofluorobenzene	106		70-130	%Rec	1	12/18/2018 5:35:43 Al	M 42099
EPA METHOD 418.1: TPH						Analyst: CLF	•
Petroleum Hydrocarbons, TR	ND	2.7	20	mg/Kg	1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 15 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF VZ02

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 3:35:00 PM

Lab ID: 1812713-004

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TOM	<u> </u>
Aroclor 1016	ND	0.010	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1221	ND	0.019	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1232	ND	0.023	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1242	ND	0.012	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1248	ND	0.019	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1254	ND	0.019	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Aroclor 1260	ND	0.0089	0.024	mg/Kg	1	1/4/2019 6:00:05 PM	42179
Surr: Decachlorobiphenyl	69.6	0	31.9-130	%Rec	1	1/4/2019 6:00:05 PM	42179
Surr: Tetrachloro-m-xylene	69.6	0	21.2-142	%Rec	1	1/4/2019 6:00:05 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS					Analyst: TON	I
Diesel Range Organics (DRO)	ND	1.9	9.6	mg/Kg	1	12/17/2018 6:07:28 PM	1 42113
Motor Oil Range Organics (MRO)	ND	48	48	mg/Kg	1	12/17/2018 6:07:28 PM	1 42113
Surr: DNOP	92.8	0	50.6-138	%Rec	1	12/17/2018 6:07:28 PM	1 42113
EPA METHOD 8015D: GASOLINE RANGE	≣					Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.9	mg/Kg	1	12/14/2018 6:19:04 PM	1 42099
Surr: BFB	97.4	0	73.8-119	%Rec	1	12/14/2018 6:19:04 PM	1 42099
EPA METHOD 300.0: ANIONS						Analyst: MRA	
Fluoride	2.8	1.0	1.5	mg/Kg	5	12/27/2018 3:09:28 PM	1 42333
Chloride	220	7.5	7.5	mg/Kg	5	12/27/2018 3:09:28 PM	1 42333
Nitrogen, Nitrate (As N)	2.5	0.28	1.5	mg/Kg	5	12/27/2018 3:09:28 PM	1 42333
Sulfate	270	1.3	7.5	mg/Kg	5	12/27/2018 3:09:28 PM	1 42333
EPA METHOD 7471: MERCURY						Analyst: pmf	
Mercury	ND	0.0067	0.033	mg/Kg	1	12/18/2018 10:21:32 A	42145
EPA METHOD 6010B: SOIL METALS						Analyst: JLF	
Arsenic	ND	7.0	12	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Barium	250	0.11	0.49	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Cadmium	ND	0.12	0.49	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Chromium	16	0.39	1.5	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Copper	3.3	0.55	1.5	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Iron	20000	71	240	mg/Kg	100	12/19/2018 8:17:42 AM	1 42118
Lead	2.0	1.2	1.2	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Manganese	320	0.10	0.49	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Selenium	ND	6.1	12	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Silver	ND	0.16	1.2	mg/Kg	5	12/22/2018 3:06:57 PM	1 42118
Uranium	ND	2.1	4.9	mg/Kg	1	12/18/2018 4:56:49 PM	1 42118
Zinc	17	0.39	2.4	mg/Kg	1	12/18/2018 4:56:49 PM	1 42118

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

PQL Practical Quanitative Limit

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 16 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ02

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 3:35:00 PM
Lab ID: 1812713-004
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAN	Л
Acenaphthene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Acenaphthylene	ND	0.099	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Aniline	ND	0.094	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Anthracene	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Azobenzene	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Benz(a)anthracene	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Benzo(a)pyrene	ND	0.15	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Benzo(b)fluoranthene	ND	0.15	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Benzo(g,h,i)perylene	ND	0.16	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Benzo(k)fluoranthene	ND	0.16	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Benzoic acid	ND	0.14	0.49	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Benzyl alcohol	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Bis(2-chloroethoxy)methane	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Bis(2-chloroethyl)ether	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Bis(2-chloroisopropyl)ether	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Bis(2-ethylhexyl)phthalate	ND	0.27	0.49	mg/Kg	1	12/31/2018 4:22:29 PM	
4-Bromophenyl phenyl ether	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Butyl benzyl phthalate	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Carbazole	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
4-Chloro-3-methylphenol	ND	0.13	0.49	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
4-Chloroaniline	ND	0.11	0.49	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
2-Chloronaphthalene	ND	0.11	0.24	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
2-Chlorophenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
4-Chlorophenyl phenyl ether	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Chrysene	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Di-n-butyl phthalate	ND	0.27	0.39	mg/Kg	1	12/31/2018 4:22:29 PM	<i>l</i> 42141
Di-n-octyl phthalate	ND	0.11	0.39	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Dibenz(a,h)anthracene	ND	0.16	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Dibenzofuran	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
1,2-Dichlorobenzene	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
1,3-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
1,4-Dichlorobenzene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
3,3'-Dichlorobenzidine	ND	0.097	0.24	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Diethyl phthalate	ND	0.15	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
Dimethyl phthalate	ND	0.099	0.20	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
2,4-Dichlorophenol	ND	0.12	0.39	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
2,4-Dimethylphenol	ND	0.092	0.29	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
4,6-Dinitro-2-methylphenol	ND	0.090	0.39	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141
2,4-Dinitrophenol	ND	0.062	0.49	mg/Kg	1	12/31/2018 4:22:29 PM	A 42141

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
- PQL Practical Quanitative Limit
- 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 17 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ02

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 3:35:00 PM
Lab ID: 1812713-004
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DA	AM
2,4-Dinitrotoluene	ND	0.099	0.49	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2,6-Dinitrotoluene	ND	0.12	0.49	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Fluoranthene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Fluorene	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Hexachlorobenzene	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Hexachlorobutadiene	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Hexachlorocyclopentadiene	ND	0.097	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Hexachloroethane	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Indeno(1,2,3-cd)pyrene	ND	0.14	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Isophorone	ND	0.12	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
1-Methylnaphthalene	ND	0.14	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2-Methylnaphthalene	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2-Methylphenol	ND	0.14	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
3+4-Methylphenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
N-Nitrosodi-n-propylamine	ND	0.15	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
N-Nitrosodiphenylamine	ND	0.099	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Naphthalene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2-Nitroaniline	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
3-Nitroaniline	ND	0.10	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
4-Nitroaniline	ND	0.094	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Nitrobenzene	ND	0.11	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2-Nitrophenol	ND	0.12	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
4-Nitrophenol	ND	0.15	0.24	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Pentachlorophenol	ND	0.098	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Phenanthrene	ND	0.099	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Phenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Pyrene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Pyridine	ND	0.12	0.39	mg/Kg	1	12/31/2018 4:22:29	PM 42141
1,2,4-Trichlorobenzene	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2,4,5-Trichlorophenol	ND	0.11	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
2,4,6-Trichlorophenol	ND	0.13	0.20	mg/Kg	1	12/31/2018 4:22:29	PM 42141
Surr: 2-Fluorophenol	44.3	:	21.7-87.9	%Rec	1	12/31/2018 4:22:29	PM 42141
Surr: Phenol-d5	47.6	;	30.2-92.2	%Rec	1	12/31/2018 4:22:29	PM 42141
Surr: 2,4,6-Tribromophenol	65.2		47.1-103	%Rec	1	12/31/2018 4:22:29	
Surr: Nitrobenzene-d5	52.8		23.9-102	%Rec	1	12/31/2018 4:22:29	
Surr: 2-Fluorobiphenyl	58.7		32.6-101	%Rec	1	12/31/2018 4:22:29	PM 42141
Surr: 4-Terphenyl-d14	55.1		37.2-117	%Rec	1	12/31/2018 4:22:29	
EPA METHOD 8260B: VOLATILES						Analyst: D	JF
Benzene	ND	0.0040	0.024	mg/Kg	1	12/18/2018 6:04:49	

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

PQL Practical Quanitative Limit

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 18 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF VZ02

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 3:35:00 PM

Lab ID: 1812713-004

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Toluene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Ethylbenzene	ND	0.0028	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2,4-Trimethylbenzene	ND	0.0045	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2-Dibromoethane (EDB)	ND	0.0045	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Naphthalene	ND	0.0098	0.098	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1-Methylnaphthalene	ND	0.028	0.20	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
2-Methylnaphthalene	ND	0.021	0.20	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Acetone	ND	0.040	0.73	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Bromobenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Bromodichloromethane	ND	0.0045	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Bromoform	ND	0.0044	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
2-Butanone	ND	0.056	0.49	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Carbon disulfide	ND	0.016	0.49	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Carbon tetrachloride	ND	0.0046	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Chlorobenzene	ND	0.0063	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Chloroethane	ND	0.0072	0.098	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Chloroform	ND	0.0039	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Chloromethane	ND	0.0047	0.15	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
2-Chlorotoluene	ND	0.0043	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
4-Chlorotoluene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
cis-1,2-DCE	ND	0.0067	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.098	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Dibromochloromethane	ND	0.0035	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Dibromomethane	ND	0.0053	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2-Dichlorobenzene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,3-Dichlorobenzene	ND	0.0042	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,4-Dichlorobenzene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
Dichlorodifluoromethane	ND	0.011	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,1-Dichloroethane	ND	0.0031	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,1-Dichloroethene	ND	0.020	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,2-Dichloropropane	ND	0.0036	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	И 42099
1,3-Dichloropropane	ND	0.0053	0.049	mg/Kg	1	12/18/2018 6:04:49 Al	M 42099
2,2-Dichloropropane	ND	0.016	0.098	mg/Kg	1	12/18/2018 6:04:49 Al	M 42099
1,1-Dichloropropene	ND	0.0044	0.098	mg/Kg	1	12/18/2018 6:04:49 Al	M 42099

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
- PQL Practical Quanitative Limit
- 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 19 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**Date Reported: **1/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF VZ02

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 3:35:00 PM
Lab ID: 1812713-004
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Uni	ts DI	Date Analyzed B	atch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Hexachlorobutadiene	ND	0.0050	0.098	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
2-Hexanone	ND	0.0081	0.49	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Isopropylbenzene	ND	0.0035	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
4-Isopropyltoluene	ND	0.0040	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
4-Methyl-2-pentanone	ND	0.0092	0.49	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Methylene chloride	ND	0.0086	0.15	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
n-Butylbenzene	ND	0.0046	0.15	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
n-Propylbenzene	ND	0.0039	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
sec-Butylbenzene	ND	0.0055	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Styrene	ND	0.0038	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
tert-Butylbenzene	ND	0.0046	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,1,2,2-Tetrachloroethane	ND	0.0050	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Tetrachloroethene (PCE)	ND	0.0039	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
trans-1,2-DCE	ND	0.0045	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
trans-1,3-Dichloropropene	ND	0.0052	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,2,3-Trichlorobenzene	ND	0.0043	0.098	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,2,4-Trichlorobenzene	ND	0.0049	0.049	mg/		12/18/2018 6:04:49 AM	42099
1,1,1-Trichloroethane	ND	0.0044	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,1,2-Trichloroethane	ND	0.0034	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Trichloroethene (TCE)	ND	0.0057	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Trichlorofluoromethane	ND	0.017	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
1,2,3-Trichloropropane	ND	0.0079	0.098	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Vinyl chloride	ND	0.0032	0.049	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Xylenes, Total	ND	0.012	0.098	mg/	Kg 1	12/18/2018 6:04:49 AM	42099
Surr: Dibromofluoromethane	111		70-130	%R	ec 1	12/18/2018 6:04:49 AM	42099
Surr: 1,2-Dichloroethane-d4	108		70-130	%R	ec 1	12/18/2018 6:04:49 AM	42099
Surr: Toluene-d8	109		70-130	%R	ec 1	12/18/2018 6:04:49 AM	42099
Surr: 4-Bromofluorobenzene	102		70-130	%R	ec 1	12/18/2018 6:04:49 AM	42099
EPA METHOD 418.1: TPH						Analyst: CLP	
Petroleum Hydrocarbons, TR	ND	2.7	20	mg/	Kg 1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 20 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam **Collection Date:**

Lab ID: 1812713-005 **Matrix:** AQUEOUS **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: AG
Benzene	ND	0.17	1.0	μg/L	1	12/14/2018 12:15:42 P A56370
Toluene	ND	0.17	1.0	μg/L	1	12/14/2018 12:15:42 P A56370
Ethylbenzene	ND	0.22	1.0	μg/L	1	12/14/2018 12:15:42 P A56370
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/14/2018 12:15:42 P A56370
Surr: 1,2-Dichloroethane-d4	99.0	0	70-130	%Rec	1	12/14/2018 12:15:42 P A56370
Surr: 4-Bromofluorobenzene	100	0	70-130	%Rec	1	12/14/2018 12:15:42 P A56370
Surr: Dibromofluoromethane	96.8	0	70-130	%Rec	1	12/14/2018 12:15:42 P A56370
Surr: Toluene-d8	101	0	70-130	%Rec	1	12/14/2018 12:15:42 P A56370

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

Qualifiers: * Va

* 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

PQL Practical Quanitative Limit

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 21 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/9/2019

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 4:00:00 PM

Lab ID: 1812713-006

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TON	1
Aroclor 1016	ND	0.020	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1221	ND	0.037	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1232	ND	0.046	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1242	ND	0.025	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1248	ND	0.037	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1254	ND	0.037	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Aroclor 1260	ND	0.018	0.047		mg/Kg	1	1/4/2019 6:33:03 PM	42179
Surr: Decachlorobiphenyl	130	0	31.9-130	S	%Rec	1	1/4/2019 6:33:03 PM	42179
Surr: Tetrachloro-m-xylene	130	0	21.2-142		%Rec	1	1/4/2019 6:33:03 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS						Analyst: TON	1
Diesel Range Organics (DRO)	200	1.9	9.7		mg/Kg	1	12/18/2018 7:02:44 PM	42113
Motor Oil Range Organics (MRO)	150	48	48		mg/Kg	1	12/18/2018 7:02:44 PM	42113
Surr: DNOP	97.9	0	50.6-138		%Rec	1	12/18/2018 7:02:44 PM	42113
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	}
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/14/2018 8:16:58 PM	1 42099
Surr: BFB	98.4	0	73.8-119		%Rec	1	12/14/2018 8:16:58 PM	1 42099
EPA METHOD 300.0: ANIONS							Analyst: MRA	١
Fluoride	8.7	1.0	1.5		mg/Kg	5	12/27/2018 3:59:07 PM	1 42333
Chloride	110	7.5	7.5		mg/Kg	5	12/27/2018 3:59:07 PM	1 42333
Nitrogen, Nitrate (As N)	4.1	0.28	1.5		mg/Kg	5	12/27/2018 3:59:07 PM	1 42333
Sulfate	430	1.3	7.5		mg/Kg	5	12/27/2018 3:59:07 PM	1 42333
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	0.065	0.0070	0.035		mg/Kg	1	12/18/2018 10:23:33 A	42145
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Arsenic	ND	7.1	12		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Barium	320	0.12	0.50		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Cadmium	ND	0.12	0.50		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Chromium	16	0.40	1.5		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Copper	2.9	0.56	1.5		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Iron	19000	73	250		mg/Kg	100	12/19/2018 8:21:56 AM	42118
Lead	4.0	1.2	1.2		mg/Kg	5	12/20/2018 1:49:43 PM	42118
Manganese	820	0.10	0.50		mg/Kg	5	12/20/2018 1:49:43 PM	1 42118
Selenium	ND	6.3	12		mg/Kg	5	12/20/2018 1:49:43 PM	1 42118
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 1:49:43 PM	1 42118
Uranium	ND	2.2	5.0		mg/Kg	1	12/18/2018 4:58:55 PM	1 42118
Zinc	16	0.40	2.5		mg/Kg	1	12/18/2018 4:58:55 PM	1 42118

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

PQL Practical Quanitative Limit

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 22 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ03

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:00:00 PM
Lab ID: 1812713-006
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	АМ
Acenaphthene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Acenaphthylene	ND	0.97	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Aniline	ND	0.93	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Anthracene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Azobenzene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benz(a)anthracene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzo(a)pyrene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzo(b)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzo(g,h,i)perylene	ND	1.6	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzo(k)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzoic acid	ND	1.4	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Benzyl alcohol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Bis(2-chloroethoxy)methane	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Bis(2-chloroethyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Bis(2-chloroisopropyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Bis(2-ethylhexyl)phthalate	ND	2.7	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Bromophenyl phenyl ether	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Butyl benzyl phthalate	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Carbazole	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Chloro-3-methylphenol	ND	1.3	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Chloroaniline	ND	1.1	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Chloronaphthalene	ND	1.0	2.4	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Chlorophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Chlorophenyl phenyl ether	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Chrysene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Di-n-butyl phthalate	ND	2.6	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Di-n-octyl phthalate	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Dibenz(a,h)anthracene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Dibenzofuran	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
1,2-Dichlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
1,3-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
1,4-Dichlorobenzene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
3,3'-Dichlorobenzidine	ND	0.95	2.4	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Diethyl phthalate	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Dimethyl phthalate	ND	0.97	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,4-Dichlorophenol	ND	1.2	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,4-Dimethylphenol	ND	0.91	2.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.88	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,4-Dinitrophenol	ND	0.61	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141

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
- PQL Practical Quanitative Limit
- 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 23 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 4:00:00 PM

Lab ID: 1812713-006

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDI	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	АМ
2,4-Dinitrotoluene	ND	0.98	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,6-Dinitrotoluene	ND	1.2	4.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Fluoranthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Fluorene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Hexachlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Hexachlorobutadiene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Hexachlorocyclopentadiene	ND	0.95	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Hexachloroethane	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Indeno(1,2,3-cd)pyrene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Isophorone	ND	1.2	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
1-Methylnaphthalene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Methylnaphthalene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Methylphenol	ND	1.3	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
3+4-Methylphenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
N-Nitrosodi-n-propylamine	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
N-Nitrosodiphenylamine	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Naphthalene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Nitroaniline	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
3-Nitroaniline	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Nitroaniline	ND	0.92	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Nitrobenzene	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2-Nitrophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Pentachlorophenol	ND	0.97	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Phenanthrene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Phenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Pyrene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Pyridine	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
1,2,4-Trichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,4,5-Trichlorophenol	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
2,4,6-Trichlorophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 4:51:51	PM 42141
Surr: 2-Fluorophenol	0		21.7-87.9	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
Surr: Phenol-d5	0		30.2-92.2	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
Surr: 2,4,6-Tribromophenol	0		47.1-103	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
Surr: Nitrobenzene-d5	0		23.9-102	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
Surr: 2-Fluorobiphenyl	0		32.6-101	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
Surr: 4-Terphenyl-d14	0		37.2-117	SD	%Rec	1	12/31/2018 4:51:51	PM 42141
EPA METHOD 8260B: VOLATILES							Analyst: D	JF
Benzene	ND	0.0039	0.024		mg/Kg	1	12/18/2018 6:33:50	AM 42099

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
- PQL Practical Quanitative Limit
- 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 24 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 4:00:00 PM

Lab ID: 1812713-006

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Toluene	ND	0.0045	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
Ethylbenzene	ND	0.0028	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,2,4-Trimethylbenzene	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
1,3,5-Trimethylbenzene	ND	0.0046	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
1,2-Dichloroethane (EDC)	ND	0.0048	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
1,2-Dibromoethane (EDB)	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Naphthalene	ND	0.0095	0.095	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
1-Methylnaphthalene	ND	0.027	0.19	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
2-Methylnaphthalene	ND	0.021	0.19	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Acetone	ND	0.039	0.71	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Bromobenzene	ND	0.0046	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Bromodichloromethane	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Bromomethane	ND	0.011	0.14	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
2-Butanone	ND	0.055	0.48	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Carbon tetrachloride	ND	0.0045	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Chlorobenzene	ND	0.0061	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Chloroethane	ND	0.0070	0.095	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Chloroform	ND	0.0038	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Chloromethane	ND	0.0045	0.14	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
2-Chlorotoluene	ND	0.0041	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
cis-1,2-DCE	ND	0.0065	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
cis-1,3-Dichloropropene	ND	0.0040	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.095	mg/Kg	1	12/18/2018 6:33:50	AM 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
Dibromomethane	ND	0.0051	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,3-Dichlorobenzene	ND	0.0041	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,1-Dichloroethane	ND	0.0030	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,3-Dichloropropane	ND	0.0051	0.048	mg/Kg	1	12/18/2018 6:33:50	AM 42099
2,2-Dichloropropane	ND	0.015	0.095	mg/Kg	1	12/18/2018 6:33:50	AM 42099
1,1-Dichloropropene	ND	0.0043	0.095	mg/Kg	1	12/18/2018 6:33:50 /	AM 42099

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
- PQL Practical Quanitative Limit
- 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 25 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT:MarathonClient Sample ID: CENTRAL OCD LF TZ03Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 4:00:00 PM

Lab ID: 1812713-006 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Hexachlorobutadiene	ND	0.0048	0.095	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
2-Hexanone	ND	0.0079	0.48	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Isopropylbenzene	ND	0.0034	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
4-Isopropyltoluene	ND	0.0039	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
4-Methyl-2-pentanone	ND	0.0090	0.48	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Methylene chloride	ND	0.0084	0.14	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
n-Butylbenzene	ND	0.0044	0.14	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Styrene	ND	0.0037	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,1,2,2-Tetrachloroethane	ND	0.0048	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
trans-1,2-DCE	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
trans-1,3-Dichloropropene	ND	0.0050	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.095	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,2,4-Trichlorobenzene	ND	0.0048	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Trichloroethene (TCE)	ND	0.0055	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
1,2,3-Trichloropropane	ND	0.0077	0.095	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Xylenes, Total	ND	0.012	0.095	mg/Kg	1	12/18/2018 6:33:50 AM	A 42099
Surr: Dibromofluoromethane	110		70-130	%Rec	1	12/18/2018 6:33:50 AM	A 42099
Surr: 1,2-Dichloroethane-d4	102		70-130	%Rec	1	12/18/2018 6:33:50 AM	A 42099
Surr: Toluene-d8	108		70-130	%Rec	1	12/18/2018 6:33:50 AM	A 42099
Surr: 4-Bromofluorobenzene	101		70-130	%Rec	1	12/18/2018 6:33:50 AM	A 42099
EPA METHOD 418.1: TPH						Analyst: CLP	•
Petroleum Hydrocarbons, TR	100	2.7	20	mg/Kg	1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 26 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ03

Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 4:15:00 PMLab ID:1812713-007Matrix: SOILReceived Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TON	И
Aroclor 1016	ND	0.0096	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1221	ND	0.018	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1232	ND	0.022	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1242	ND	0.012	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1248	ND	0.018	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1254	ND	0.018	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Aroclor 1260	ND	0.0083	0.022	mg/Kg	1	1/4/2019 7:05:59 PM	42179
Surr: Decachlorobiphenyl	98.4	0	31.9-130	%Rec	1	1/4/2019 7:05:59 PM	42179
Surr: Tetrachloro-m-xylene	95.6	0	21.2-142	%Rec	1	1/4/2019 7:05:59 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS					Analyst: TON	Л
Diesel Range Organics (DRO)	ND	2.0	9.8	mg/Kg	1	12/17/2018 6:55:57 PI	M 42113
Motor Oil Range Organics (MRO)	ND	49	49	mg/Kg	1	12/17/2018 6:55:57 PI	M 42113
Surr: DNOP	95.8	0	50.6-138	%Rec	1	12/17/2018 6:55:57 PI	M 42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.9	mg/Kg	1	12/14/2018 8:40:34 PI	M 42099
Surr: BFB	98.0	0	73.8-119	%Rec	1	12/14/2018 8:40:34 PI	M 42099
EPA METHOD 300.0: ANIONS						Analyst: MR	Ą
Fluoride	3.7	1.0	1.5	mg/Kg	5	12/27/2018 4:23:56 PI	M 42333
Chloride	140	7.5	7.5	mg/Kg	5	12/27/2018 4:23:56 PI	M 42333
Nitrogen, Nitrate (As N)	4.8	0.28	1.5	mg/Kg	5	12/27/2018 4:23:56 PI	M 42333
Sulfate	460	1.3	7.5	mg/Kg	5	12/27/2018 4:23:56 Pf	M 42333
EPA METHOD 7471: MERCURY						Analyst: pmf	
Mercury	ND	0.0071	0.035	mg/Kg	1	12/18/2018 10:25:34 A	42145
EPA METHOD 6010B: SOIL METALS						Analyst: JLF	
Arsenic	ND	7.0	12	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Barium	310	0.11	0.49	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Cadmium	ND	0.12	0.49	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Chromium	13	0.39	1.5	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Copper	3.6	0.55	1.5	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Iron	17000	71	240	mg/Kg	100	12/19/2018 8:25:47 Al	M 42118
Lead	5.2	1.2	1.2	mg/Kg	5	12/22/2018 3:08:37 Pf	M 42118
Manganese	380	0.10	0.49	mg/Kg	5	12/22/2018 3:08:37 PI	M 42118
Selenium	ND	6.1	12	mg/Kg	5	12/22/2018 3:08:37 PI	M 42118
Silver	ND	0.16	1.2	mg/Kg	5	12/22/2018 3:08:37 PI	M 42118
Uranium	ND	2.1	4.9	mg/Kg	1	12/18/2018 5:00:59 PI	M 42118
Zinc	17	0.39	2.4	mg/Kg	1	12/18/2018 5:00:59 PI	M 42118

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

PQL Practical Quanitative Limit

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

limits Page 27 of 72

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ03

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:15:00 PM
Lab ID: 1812713-007
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	M
Acenaphthene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Acenaphthylene	ND	0.19	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Aniline	ND	0.19	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Anthracene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Azobenzene	ND	0.26	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benz(a)anthracene	ND	0.26	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzo(a)pyrene	ND	0.29	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzo(b)fluoranthene	ND	0.29	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzo(g,h,i)perylene	ND	0.31	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzo(k)fluoranthene	ND	0.31	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzoic acid	ND	0.28	0.96	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Benzyl alcohol	ND	0.26	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Bis(2-chloroethoxy)methane	ND	0.22	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Bis(2-chloroethyl)ether	ND	0.23	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Bis(2-chloroisopropyl)ether	ND	0.23	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Bis(2-ethylhexyl)phthalate	ND	0.53	0.96	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
4-Bromophenyl phenyl ether	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Butyl benzyl phthalate	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Carbazole	ND	0.23	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
4-Chloro-3-methylphenol	ND	0.26	0.96	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
4-Chloroaniline	ND	0.21	0.96	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
2-Chloronaphthalene	ND	0.21	0.48	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
2-Chlorophenol	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
4-Chlorophenyl phenyl ether	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Chrysene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Di-n-butyl phthalate	ND	0.53	0.77	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Di-n-octyl phthalate	ND	0.22	0.77	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Dibenz(a,h)anthracene	ND	0.31	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Dibenzofuran	ND	0.22	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
1,2-Dichlorobenzene	ND	0.24	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
1,3-Dichlorobenzene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
1,4-Dichlorobenzene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
3,3'-Dichlorobenzidine	ND	0.19	0.48	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Diethyl phthalate	ND	0.29	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
Dimethyl phthalate	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
2,4-Dichlorophenol	ND	0.24	0.77	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
2,4-Dimethylphenol	ND	0.18	0.58	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.18	0.77	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141
2,4-Dinitrophenol	ND	0.12	0.96	D	mg/Kg	1	12/31/2018 5:20:54 F	PM 42141

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
- PQL Practical Quanitative Limit
- 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 28 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ03

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018 4:15:00 PM

Lab ID: 1812713-007 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDI	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	AM
2,4-Dinitrotoluene	ND	0.20	0.96	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2,6-Dinitrotoluene	ND	0.24	0.96	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Fluoranthene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Fluorene	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Hexachlorobenzene	ND	0.24	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Hexachlorobutadiene	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Hexachlorocyclopentadiene	ND	0.19	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Hexachloroethane	ND	0.24	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Indeno(1,2,3-cd)pyrene	ND	0.28	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Isophorone	ND	0.25	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
1-Methylnaphthalene	ND	0.27	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2-Methylnaphthalene	ND	0.24	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2-Methylphenol	ND	0.27	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
3+4-Methylphenol	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
N-Nitrosodi-n-propylamine	ND	0.29	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
N-Nitrosodiphenylamine	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Naphthalene	ND	0.22	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2-Nitroaniline	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
3-Nitroaniline	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
4-Nitroaniline	ND	0.18	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Nitrobenzene	ND	0.22	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2-Nitrophenol	ND	0.24	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
4-Nitrophenol	ND	0.29	0.48	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Pentachlorophenol	ND	0.19	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Phenanthrene	ND	0.20	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Phenol	ND	0.26	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Pyrene	ND	0.21	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Pyridine	ND	0.23	0.77	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
1,2,4-Trichlorobenzene	ND	0.23	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2,4,5-Trichlorophenol	ND	0.22	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
2,4,6-Trichlorophenol	ND	0.25	0.38	D	mg/Kg	1	12/31/2018 5:20:54	PM 42141
Surr: 2-Fluorophenol	144		21.7-87.9	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
Surr: Phenol-d5	150		30.2-92.2	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
Surr: 2,4,6-Tribromophenol	157		47.1-103	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
Surr: Nitrobenzene-d5	166		23.9-102	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
Surr: 2-Fluorobiphenyl	164		32.6-101	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
Surr: 4-Terphenyl-d14	127		37.2-117	SD	%Rec	1	12/31/2018 5:20:54	PM 42141
EPA METHOD 8260B: VOLATILES							Analyst: D.	JF
Benzene	ND	0.0040	0.024		mg/Kg	1	12/18/2018 7:02:55	AM 42099
		_			5 5			

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

PQL Practical Quanitative Limit

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 29 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ03

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:15:00 PM
Lab ID: 1812713-007
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Toluene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Ethylbenzene	ND	0.0028	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,2,4-Trimethylbenzene	ND	0.0045	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,2-Dibromoethane (EDB)	ND	0.0045	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Naphthalene	ND	0.0098	0.098	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1-Methylnaphthalene	ND	0.028	0.20	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
2-Methylnaphthalene	ND	0.021	0.20	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Acetone	ND	0.041	0.73	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Bromobenzene	ND	0.0047	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Bromodichloromethane	ND	0.0045	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Bromoform	ND	0.0044	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
2-Butanone	ND	0.057	0.49	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Carbon disulfide	ND	0.016	0.49	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Carbon tetrachloride	ND	0.0046	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Chlorobenzene	ND	0.0063	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Chloroethane	ND	0.0072	0.098	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Chloroform	ND	0.0039	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Chloromethane	ND	0.0047	0.15	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
2-Chlorotoluene	ND	0.0043	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
4-Chlorotoluene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	1 42099
cis-1,2-DCE	ND	0.0067	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	1 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.098	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Dibromochloromethane	ND	0.0035	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Dibromomethane	ND	0.0053	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,2-Dichlorobenzene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,3-Dichlorobenzene	ND	0.0042	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,4-Dichlorobenzene	ND	0.0041	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
Dichlorodifluoromethane	ND	0.011	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,1-Dichloroethane	ND	0.0031	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,1-Dichloroethene	ND	0.020	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,2-Dichloropropane	ND	0.0036	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,3-Dichloropropane	ND	0.0053	0.049	mg/Kg	1	12/18/2018 7:02:55 AN	
2,2-Dichloropropane	ND	0.016	0.098	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099
1,1-Dichloropropene	ND	0.0045	0.098	mg/Kg	1	12/18/2018 7:02:55 AN	1 42099

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
- PQL Practical Quanitative Limit
- 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 30 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ03

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:15:00 PM
Lab ID: 1812713-007
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Hexachlorobutadiene	ND	0.0050	0.098	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
2-Hexanone	ND	0.0081	0.49	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Isopropylbenzene	ND	0.0035	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
4-Isopropyltoluene	ND	0.0040	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
4-Methyl-2-pentanone	ND	0.0092	0.49	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Methylene chloride	ND	0.0086	0.15	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
n-Butylbenzene	ND	0.0046	0.15	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
n-Propylbenzene	ND	0.0039	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
sec-Butylbenzene	ND	0.0055	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Styrene	ND	0.0038	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
tert-Butylbenzene	ND	0.0046	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,1,2,2-Tetrachloroethane	ND	0.0050	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Tetrachloroethene (PCE)	ND	0.0039	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
trans-1,2-DCE	ND	0.0045	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
trans-1,3-Dichloropropene	ND	0.0052	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,2,3-Trichlorobenzene	ND	0.0043	0.098	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,1,1-Trichloroethane	ND	0.0044	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,1,2-Trichloroethane	ND	0.0034	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Trichloroethene (TCE)	ND	0.0057	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Trichlorofluoromethane	ND	0.017	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
1,2,3-Trichloropropane	ND	0.0079	0.098	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Vinyl chloride	ND	0.0032	0.049	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Xylenes, Total	ND	0.012	0.098	mg/Kg	1	12/18/2018 7:02:55 AM	A 42099
Surr: Dibromofluoromethane	109		70-130	%Rec	1	12/18/2018 7:02:55 AM	A 42099
Surr: 1,2-Dichloroethane-d4	104		70-130	%Rec	1	12/18/2018 7:02:55 AM	A 42099
Surr: Toluene-d8	106		70-130	%Rec	1	12/18/2018 7:02:55 AM	A 42099
Surr: 4-Bromofluorobenzene	95.0		70-130	%Rec	1	12/18/2018 7:02:55 AM	A 42099
EPA METHOD 418.1: TPH						Analyst: CLP	•
Petroleum Hydrocarbons, TR	ND	2.7	20	mg/Kg	1	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 31 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF TZ04

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 4:40:00 PM

Lab ID: 1812713-008

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TON	
Aroclor 1016	ND	0.020	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1221	ND	0.037	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1232	ND	0.046	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1242	ND	0.025	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1248	ND	0.037	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1254	ND	0.037	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Aroclor 1260	ND	0.018	0.047		mg/Kg	1	1/4/2019 7:38:53 PM	42179
Surr: Decachlorobiphenyl	120	0	31.9-130		%Rec	1	1/4/2019 7:38:53 PM	42179
Surr: Tetrachloro-m-xylene	121	0	21.2-142		%Rec	1	1/4/2019 7:38:53 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: TON	I
Diesel Range Organics (DRO)	530	20	99		mg/Kg	10	12/18/2018 7:51:04 PM	1 42113
Motor Oil Range Organics (MRO)	620	490	490		mg/Kg	10	12/18/2018 7:51:04 PM	1 42113
Surr: DNOP	0	0	50.6-138	S	%Rec	10	12/18/2018 7:51:04 PM	1 42113
EPA METHOD 8015D: GASOLINE RANGE	=						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.3	4.6		mg/Kg	1	12/14/2018 9:04:07 PM	1 42099
Surr: BFB	97.8	0	73.8-119		%Rec	1	12/14/2018 9:04:07 PM	1 42099
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	4.8	1.0	1.5		mg/Kg	5	12/27/2018 4:48:44 PM	1 42333
Chloride	320	30	30		mg/Kg	20	12/27/2018 5:01:08 PM	1 42333
Nitrogen, Nitrate (As N)	2.1	0.28	1.5		mg/Kg	5	12/27/2018 4:48:44 PM	1 42333
Sulfate	1500	5.2	30		mg/Kg	20	12/27/2018 5:01:08 PM	1 42333
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0069	0.034		mg/Kg	1	12/18/2018 10:27:28 A	42145
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Arsenic	ND	2.8	4.9		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Barium	250	0.045	0.19		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Cadmium	ND	0.047	0.19		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Chromium	6.6	0.15	0.58		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Copper	2.3	0.22	0.58		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Iron	10000	71	240		mg/Kg	100	12/19/2018 8:36:29 AM	1 42118
Lead	5.1	0.47	0.49		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Manganese	390	0.040	0.19		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Selenium	ND	2.4	4.9		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Silver	ND	0.062	0.49		mg/Kg	2	12/20/2018 2:05:12 PM	1 42118
Uranium	ND	2.1	4.9		mg/Kg	1	12/18/2018 5:03:04 PM	1 42118
Zinc	13	0.38	2.4		mg/Kg	1	12/18/2018 5:03:04 PM	1 42118

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

PQL Practical Quanitative Limit

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

Page 32 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:40:00 PM
Lab ID: 1812713-008
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	λM
Acenaphthene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Acenaphthylene	ND	0.97	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Aniline	ND	0.93	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Anthracene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Azobenzene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benz(a)anthracene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzo(a)pyrene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzo(b)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzo(g,h,i)perylene	ND	1.6	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzo(k)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzoic acid	ND	1.4	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Benzyl alcohol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Bis(2-chloroethoxy)methane	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Bis(2-chloroethyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Bis(2-chloroisopropyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Bis(2-ethylhexyl)phthalate	ND	2.7	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Bromophenyl phenyl ether	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Butyl benzyl phthalate	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Carbazole	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Chloro-3-methylphenol	ND	1.3	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Chloroaniline	ND	1.1	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Chloronaphthalene	ND	1.0	2.4	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Chlorophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Chlorophenyl phenyl ether	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Chrysene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Di-n-butyl phthalate	ND	2.6	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Di-n-octyl phthalate	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Dibenz(a,h)anthracene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Dibenzofuran	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
1,2-Dichlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
1,3-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
1,4-Dichlorobenzene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
3,3´-Dichlorobenzidine	ND	0.95	2.4	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Diethyl phthalate	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Dimethyl phthalate	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,4-Dichlorophenol	ND	1.2	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,4-Dimethylphenol	ND	0.91	2.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.88	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,4-Dinitrophenol	ND	0.61	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141

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
- PQL Practical Quanitative Limit
- 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 33 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:40:00 PM
Lab ID: 1812713-008
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	λM
2,4-Dinitrotoluene	ND	0.98	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,6-Dinitrotoluene	ND	1.2	4.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Fluoranthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Fluorene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Hexachlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Hexachlorobutadiene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Hexachlorocyclopentadiene	ND	0.95	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Hexachloroethane	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Indeno(1,2,3-cd)pyrene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Isophorone	ND	1.2	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
1-Methylnaphthalene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Methylnaphthalene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Methylphenol	ND	1.3	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
3+4-Methylphenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
N-Nitrosodi-n-propylamine	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
N-Nitrosodiphenylamine	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Naphthalene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Nitroaniline	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
3-Nitroaniline	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Nitroaniline	ND	0.92	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Nitrobenzene	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2-Nitrophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Pentachlorophenol	ND	0.97	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Phenanthrene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 5:49:52	
Phenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Pyrene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
Pyridine	ND	1.1	3.8	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
1,2,4-Trichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,4,5-Trichlorophenol	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 5:49:52	PM 42141
2,4,6-Trichlorophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 5:49:52	
Surr: 2-Fluorophenol	0		21.7-87.9	SD	%Rec	1	12/31/2018 5:49:52	PM 42141
Surr: Phenol-d5	0		30.2-92.2	SD	%Rec	1	12/31/2018 5:49:52	PM 42141
Surr: 2,4,6-Tribromophenol	0		47.1-103	SD	%Rec	1	12/31/2018 5:49:52	
Surr: Nitrobenzene-d5	0		23.9-102	SD	%Rec	1	12/31/2018 5:49:52	
Surr: 2-Fluorobiphenyl	0		32.6-101	SD	%Rec	1	12/31/2018 5:49:52	
Surr: 4-Terphenyl-d14	0		37.2-117	SD	%Rec	1	12/31/2018 5:49:52	
EPA METHOD 8260B: VOLATILES	-		•				Analyst: D	
Benzene	ND	0.0037	0.023		mg/Kg	1	12/18/2018 7:32:00 A	

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
- PQL Practical Quanitative Limit
- 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 34 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF TZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:40:00 PM
Lab ID: 1812713-008
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Toluene	ND	0.0044	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Ethylbenzene	ND	0.0027	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	
Methyl tert-butyl ether (MTBE)	ND	0.011	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2,4-Trimethylbenzene	ND	0.0042	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,3,5-Trimethylbenzene	ND	0.0044	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2-Dichloroethane (EDC)	ND	0.0047	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2-Dibromoethane (EDB)	ND	0.0042	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Naphthalene	ND	0.0092	0.092	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1-Methylnaphthalene	ND	0.026	0.18	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
2-Methylnaphthalene	ND	0.020	0.18	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Acetone	ND	0.038	0.69	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Bromobenzene	ND	0.0044	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Bromodichloromethane	ND	0.0042	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Bromoform	ND	0.0041	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Bromomethane	ND	0.011	0.14	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
2-Butanone	ND	0.053	0.46	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Carbon disulfide	ND	0.015	0.46	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Carbon tetrachloride	ND	0.0043	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Chlorobenzene	ND	0.0059	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Chloroethane	ND	0.0067	0.092	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Chloroform	ND	0.0037	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Chloromethane	ND	0.0044	0.14	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
2-Chlorotoluene	ND	0.0040	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
4-Chlorotoluene	ND	0.0038	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
cis-1,2-DCE	ND	0.0063	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
cis-1,3-Dichloropropene	ND	0.0039	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2-Dibromo-3-chloropropane	ND	0.0047	0.092	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Dibromochloromethane	ND	0.0033	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Dibromomethane	ND	0.0049	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2-Dichlorobenzene	ND	0.0038	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,3-Dichlorobenzene	ND	0.0040	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,4-Dichlorobenzene	ND	0.0038	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
Dichlorodifluoromethane	ND	0.011	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,1-Dichloroethane	ND	0.0029	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,1-Dichloroethene	ND	0.018	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,2-Dichloropropane	ND	0.0033	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	И 42099
1,3-Dichloropropane	ND	0.0050	0.046	mg/Kg	1	12/18/2018 7:32:00 AM	M 42099
2,2-Dichloropropane	ND	0.015	0.092	mg/Kg	1	12/18/2018 7:32:00 AM	M 42099
1,1-Dichloropropene	ND	0.0042	0.092	mg/Kg	1	12/18/2018 7:32:00 AM	M 42099

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
- PQL Practical Quanitative Limit
- 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 35 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**Date Reported: **1/9/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: CENTRAL OCD LF TZ04

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 12/10/2018 4:40:00 PM

Lab ID: 1812713-008

Matrix: SOIL

Received Date: 12/12/2018 8:40:00 AM

Result **MDL PQL Oual Units** Analyses DF **Date Analyzed Batch ID EPA METHOD 8260B: VOLATILES** Analyst: DJF Hexachlorobutadiene ND 0.0047 0.092 mg/Kg 12/18/2018 7:32:00 AM 42099 1 2-Hexanone ND 0.0076 0.46 mg/Kg 1 12/18/2018 7:32:00 AM ND Isopropylbenzene 0.0033 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 ND 4-Isopropyltoluene 0.0038 0.046 mg/Kg 1 12/18/2018 7:32:00 AM ND 12/18/2018 7:32:00 AM 42099 4-Methyl-2-pentanone 0.0087 0.46 mg/Kg 1 Methylene chloride ND 0.0081 0.14 mg/Kg 1 12/18/2018 7:32:00 AM 42099 n-Butylbenzene ND 0.0043 0.14 mg/Kg 1 12/18/2018 7:32:00 AM 42099 n-Propylbenzene ND 0.0037 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 sec-Butylbenzene ND 0.0052 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 ND Styrene 0.0036 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 tert-Butylbenzene ND 0.0043 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 1,1,1,2-Tetrachloroethane ND 0.0031 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 1,1,2,2-Tetrachloroethane ND 0.0046 0.046 12/18/2018 7:32:00 AM 42099 mg/Kg 1 ND Tetrachloroethene (PCE) 0.0037 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 trans-1.2-DCE ND 0.0042 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 12/18/2018 7:32:00 AM 42099 trans-1,3-Dichloropropene ND 0.0048 0.046 mg/Kg 1 1,2,3-Trichlorobenzene ND 0.0040 0.092 mg/Kg 1 12/18/2018 7:32:00 AM 42099 1,2,4-Trichlorobenzene ND 0.0046 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 1,1,1-Trichloroethane ND 0.0041 0.046 12/18/2018 7:32:00 AM 42099 mg/Kg 1 1,1,2-Trichloroethane ND 0.0032 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 ND 0.0053 0.046 Trichloroethene (TCE) mg/Kg 1 12/18/2018 7:32:00 AM 42099 Trichlorofluoromethane ND 0.016 0.046 mg/Kg 1 12/18/2018 7:32:00 AM 42099 1,2,3-Trichloropropane ND 0.0074 12/18/2018 7:32:00 AM 42099 0.092 mg/Kg 1 ND 0.0030 0.046 12/18/2018 7:32:00 AM 42099 Vinyl chloride mg/Kg 1 ND 0.012 Xylenes, Total 0.092 mg/Kg 1 12/18/2018 7:32:00 AM 42099 Surr: Dibromofluoromethane 107 70-130 %Rec 1 12/18/2018 7:32:00 AM 42099 Surr: 1,2-Dichloroethane-d4 102 70-130 %Rec 12/18/2018 7:32:00 AM 42099 1 Surr: Toluene-d8 108 70-130 %Rec 1 12/18/2018 7:32:00 AM 42099 Surr: 4-Bromofluorobenzene 98.4 70-130 %Rec 1 12/18/2018 7:32:00 AM 42099 Analyst: CLP **EPA METHOD 418.1: TPH**

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

14

99

750

Qualifiers: * Value exceeds Maximum Contaminant Level.

Petroleum Hydrocarbons, TR

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

mg/Kg

5

J Analyte detected below quantitation limits Page 36 of 72

12/17/2018

42110

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:55:00 PM
Lab ID: 1812713-009
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8082A: PCB'S						Analyst: TON	1
Aroclor 1016	ND	0.011	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1221	ND	0.019	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1232	ND	0.024	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1242	ND	0.013	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1248	ND	0.019	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1254	ND	0.019	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Aroclor 1260	ND	0.0091	0.024	mg/Kg	1	1/4/2019 8:11:52 PM	42179
Surr: Decachlorobiphenyl	92.4	0	31.9-130	%Rec	1	1/4/2019 8:11:52 PM	42179
Surr: Tetrachloro-m-xylene	97.2	0	21.2-142	%Rec	1	1/4/2019 8:11:52 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE OF	RGANICS					Analyst: TON	I
Diesel Range Organics (DRO)	31	1.9	9.7	mg/Kg	1	12/18/2018 8:39:11 PM	1 42113
Motor Oil Range Organics (MRO)	ND	49	49	mg/Kg	1	12/18/2018 8:39:11 PM	1 42113
Surr: DNOP	98.5	0	50.6-138	%Rec	1	12/18/2018 8:39:11 PM	1 42113
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	5.0	mg/Kg	1	12/14/2018 10:28:33 A	42100
Surr: BFB	92.9	0	73.8-119	%Rec	1	12/14/2018 10:28:33 A	42100
EPA METHOD 300.0: ANIONS						Analyst: MRA	١
Fluoride	3.6	1.0	1.5	mg/Kg	5	12/27/2018 5:13:32 PM	1 42333
Chloride	300	30	30	mg/Kg	20	12/27/2018 5:25:56 PM	1 42333
Nitrogen, Nitrate (As N)	7.2	0.28	1.5	mg/Kg	5	12/27/2018 5:13:32 PM	1 42333
Sulfate	410	1.3	7.5	mg/Kg	5	12/27/2018 5:13:32 PM	1 42333
EPA METHOD 7471: MERCURY						Analyst: pmf	
Mercury	ND	0.0071	0.035	mg/Kg	1	12/18/2018 10:29:22 A	42145
EPA METHOD 6010B: SOIL METALS						Analyst: JLF	
Arsenic	ND	7.0	12	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Barium	210	0.11	0.49	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Cadmium	ND	0.12	0.49	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Chromium	11	0.39	1.5	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Copper	2.5	0.55	1.5	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Iron	15000	71	250	mg/Kg	100	12/19/2018 8:38:31 AM	1 42118
Lead	5.5	1.2	1.2	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Manganese	390	0.10	0.49	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Selenium	ND	6.2	12	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Silver	ND	0.16	1.2	mg/Kg	5	12/22/2018 3:10:16 PM	1 42118
Uranium	ND	2.1	4.9	mg/Kg	1	12/18/2018 5:05:08 PM	1 42118
Zinc	14	0.39	2.5	mg/Kg	1	12/18/2018 5:05:08 PM	1 42118

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

PQL Practical Quanitative Limit

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

Page 37 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:55:00 PM
Lab ID: 1812713-009
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	AM
Acenaphthene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Acenaphthylene	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Aniline	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Anthracene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Azobenzene	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benz(a)anthracene	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzo(a)pyrene	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzo(b)fluoranthene	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzo(g,h,i)perylene	ND	0.33	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzo(k)fluoranthene	ND	0.32	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzoic acid	ND	0.29	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Benzyl alcohol	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Bis(2-chloroethoxy)methane	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Bis(2-chloroethyl)ether	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Bis(2-chloroisopropyl)ether	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Bis(2-ethylhexyl)phthalate	ND	0.56	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
4-Bromophenyl phenyl ether	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Butyl benzyl phthalate	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Carbazole	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
4-Chloro-3-methylphenol	ND	0.27	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
4-Chloroaniline	ND	0.22	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2-Chloronaphthalene	ND	0.22	0.51	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2-Chlorophenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
4-Chlorophenyl phenyl ether	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Chrysene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Di-n-butyl phthalate	ND	0.55	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Di-n-octyl phthalate	ND	0.24	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Dibenz(a,h)anthracene	ND	0.32	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Dibenzofuran	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
1,2-Dichlorobenzene	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
1,3-Dichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
1,4-Dichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
3,3´-Dichlorobenzidine	ND	0.20	0.51	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Diethyl phthalate	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Dimethyl phthalate	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2,4-Dichlorophenol	ND	0.25	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2,4-Dimethylphenol	ND	0.19	0.61	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.19	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2,4-Dinitrophenol	ND	0.13	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141

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
- PQL Practical Quanitative Limit
- 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 38 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:55:00 PM
Lab ID: 1812713-009
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	λM
2,4-Dinitrotoluene	ND	0.21	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2,6-Dinitrotoluene	ND	0.25	1.0	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Fluoranthene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Fluorene	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Hexachlorobenzene	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Hexachlorobutadiene	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Hexachlorocyclopentadiene	ND	0.20	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Hexachloroethane	ND	0.25	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Indeno(1,2,3-cd)pyrene	ND	0.29	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
Isophorone	ND	0.26	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
1-Methylnaphthalene	ND	0.29	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2-Methylnaphthalene	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
2-Methylphenol	ND	0.28	0.81	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
3+4-Methylphenol	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
N-Nitrosodi-n-propylamine	ND	0.31	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
N-Nitrosodiphenylamine	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
Naphthalene	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
2-Nitroaniline	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 6:18:44	PM 42141
3-Nitroaniline	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
4-Nitroaniline	ND	0.19	0.81	D	mg/Kg	1	12/31/2018 6:18:44	
Nitrobenzene	ND	0.23	0.81	D	mg/Kg	1	12/31/2018 6:18:44	
2-Nitrophenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
4-Nitrophenol	ND	0.31	0.51	D	mg/Kg	1	12/31/2018 6:18:44	
Pentachlorophenol	ND	0.20	0.81	D	mg/Kg	1	12/31/2018 6:18:44	
Phenanthrene	ND	0.21	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
Phenol	ND	0.27	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
Pyrene	ND	0.22	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
Pyridine	ND	0.24	0.81	D	mg/Kg	1	12/31/2018 6:18:44	
1,2,4-Trichlorobenzene	ND	0.24	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
2,4,5-Trichlorophenol	ND	0.23	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
2,4,6-Trichlorophenol	ND	0.26	0.40	D	mg/Kg	1	12/31/2018 6:18:44	
Surr: 2-Fluorophenol	81.2		21.7-87.9	D	%Rec	1	12/31/2018 6:18:44	
Surr: Phenol-d5	85.2		30.2-92.2	D	%Rec	1	12/31/2018 6:18:44	
Surr: 2,4,6-Tribromophenol	89.3		47.1-103	D	%Rec	1	12/31/2018 6:18:44	
Surr: Nitrobenzene-d5	93.8		23.9-102	D	%Rec	1	12/31/2018 6:18:44	
Surr: 2-Fluorobiphenyl	98.2		32.6-101	D	%Rec	1	12/31/2018 6:18:44	
Surr: 4-Terphenyl-d14	103		37.2-117	D	%Rec	1	12/31/2018 6:18:44	
EPA METHOD 8260B: VOLATILES	100		J <u> </u>		,	•	Analyst: A (
Benzene	ND	0.0041	0.025		mg/Kg	1	12/19/2018 4:04:45	
2520110	110	0.00-1	0.020		9/119	•	, 10,2010 4.04.401	

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

PQL Practical Quanitative Limit

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 39 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:55:00 PM
Lab ID: 1812713-009
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
Toluene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Ethylbenzene	ND	0.0029	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Methyl tert-butyl ether (MTBE)	ND	0.012	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2,4-Trimethylbenzene	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,3,5-Trimethylbenzene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2-Dichloroethane (EDC)	ND	0.0051	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2-Dibromoethane (EDB)	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Naphthalene	ND	0.010	0.10	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1-Methylnaphthalene	ND	0.029	0.20	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
2-Methylnaphthalene	ND	0.022	0.20	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Acetone	ND	0.041	0.75	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Bromobenzene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Bromodichloromethane	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Bromoform	ND	0.0045	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
2-Butanone	ND	0.058	0.50	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Carbon disulfide	ND	0.017	0.50	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Carbon tetrachloride	ND	0.0047	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Chlorobenzene	ND	0.0064	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Chloroethane	ND	0.0074	0.10	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Chloroform	ND	0.0040	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Chloromethane	ND	0.0048	0.15	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
2-Chlorotoluene	ND	0.0044	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
4-Chlorotoluene	ND	0.0041	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
cis-1,2-DCE	ND	0.0068	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
cis-1,3-Dichloropropene	ND	0.0042	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2-Dibromo-3-chloropropane	ND	0.0051	0.10	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Dibromochloromethane	ND	0.0035	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Dibromomethane	ND	0.0054	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2-Dichlorobenzene	ND	0.0041	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,3-Dichlorobenzene	ND	0.0043	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,4-Dichlorobenzene	ND	0.0042	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
Dichlorodifluoromethane	ND	0.012	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,1-Dichloroethane	ND	0.0032	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,1-Dichloroethene	ND	0.020	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,2-Dichloropropane	ND	0.0036	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,3-Dichloropropane	ND	0.0054	0.050	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
2,2-Dichloropropane	ND	0.016	0.10	mg/Kg	1	12/19/2018 4:04:45 P	M 42100
1,1-Dichloropropene	ND	0.0046	0.10	mg/Kg	1	12/19/2018 4:04:45 P	M 42100

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
- PQL Practical Quanitative Limit
- 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 40 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF VZ04

Project: OCD Central Landfarm Semiannual Sam
Collection Date: 12/10/2018 4:55:00 PM
Lab ID: 1812713-009
Matrix: SOIL
Received Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Hexachlorobutadiene	ND	0.0051	0.10		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
2-Hexanone	ND	0.0083	0.50		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Isopropylbenzene	ND	0.0036	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
4-Isopropyltoluene	ND	0.0041	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
4-Methyl-2-pentanone	ND	0.0094	0.50		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Methylene chloride	ND	0.0088	0.15		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
n-Butylbenzene	ND	0.0047	0.15		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
n-Propylbenzene	ND	0.0040	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
sec-Butylbenzene	ND	0.0056	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Styrene	ND	0.0039	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
tert-Butylbenzene	ND	0.0047	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,1,1,2-Tetrachloroethane	ND	0.0034	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,1,2,2-Tetrachloroethane	ND	0.0051	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Tetrachloroethene (PCE)	ND	0.0040	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
trans-1,2-DCE	ND	0.0046	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
trans-1,3-Dichloropropene	ND	0.0053	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,2,3-Trichlorobenzene	ND	0.0044	0.10		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,2,4-Trichlorobenzene	ND	0.0051	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,1,1-Trichloroethane	ND	0.0045	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,1,2-Trichloroethane	ND	0.0035	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Trichloroethene (TCE)	ND	0.0058	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Trichlorofluoromethane	ND	0.017	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
1,2,3-Trichloropropane	ND	0.0081	0.10		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Vinyl chloride	ND	0.0033	0.050		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Xylenes, Total	ND	0.013	0.10		mg/Kg	1	12/19/2018 4:04:45 PM	1 42100
Surr: Dibromofluoromethane	101		70-130		%Rec	1	12/19/2018 4:04:45 PM	1 42100
Surr: 1,2-Dichloroethane-d4	98.6		70-130		%Rec	1	12/19/2018 4:04:45 PM	1 42100
Surr: Toluene-d8	98.5		70-130		%Rec	1	12/19/2018 4:04:45 PM	1 42100
Surr: 4-Bromofluorobenzene	99.4		70-130		%Rec	1	12/19/2018 4:04:45 PM	1 42100
EPA METHOD 418.1: TPH							Analyst: CLP	
Petroleum Hydrocarbons, TR	26	2.7	20		mg/Kg	1	12/17/2018	42110

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

Qualifiers: * Value exceed

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

PQL Practical Quanitative Limit

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 41 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF DUP01

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018

Lab ID: 1812713-010 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: TOM	
Aroclor 1016	ND	0.050	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1221	ND	0.093	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1232	ND	0.11	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1242	ND	0.061	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1248	ND	0.093	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1254	ND	0.093	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Aroclor 1260	ND	0.044	0.12		mg/Kg	1	1/4/2019 8:44:48 PM	42179
Surr: Decachlorobiphenyl	120	0	31.9-130		%Rec	1	1/4/2019 8:44:48 PM	42179
Surr: Tetrachloro-m-xylene	124	0	21.2-142		%Rec	1	1/4/2019 8:44:48 PM	42179
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	570	19	96		mg/Kg	10	12/18/2018 9:27:19 PM	42113
Motor Oil Range Organics (MRO)	610	480	480		mg/Kg	10	12/18/2018 9:27:19 PM	42113
Surr: DNOP	0	0	50.6-138	S	%Rec	10	12/18/2018 9:27:19 PM	42113
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	5.0		mg/Kg	1	12/14/2018 11:38:58 A	42100
Surr: BFB	96.3	0	73.8-119		%Rec	1	12/14/2018 11:38:58 A	42100
EPA METHOD 300.0: ANIONS							Analyst: MRA	
Fluoride	4.5	1.0	1.5		mg/Kg	5	12/27/2018 5:38:20 PM	42333
Chloride	270	30	30		mg/Kg	20	12/27/2018 5:50:45 PM	42333
Nitrogen, Nitrate (As N)	3.1	0.28	1.5		mg/Kg	5	12/27/2018 5:38:20 PM	42333
Sulfate	690	1.3	7.5		mg/Kg	5	12/27/2018 5:38:20 PM	42333
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0064	0.032		mg/Kg	1	12/18/2018 10:31:17 A	42145
EPA METHOD 6010B: SOIL METALS							Analyst: JLF	
Arsenic	ND	6.9	12		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Barium	250	0.11	0.48		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Cadmium	ND	0.12	0.48		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Chromium	11	0.39	1.5		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Copper	2.3	0.55	1.5		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Iron	15000	71	240		mg/Kg	100	12/19/2018 8:40:31 AM	l 42118
Lead	5.2	1.2	1.2		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Manganese	410	0.10	0.48		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Selenium	ND	6.1	12		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Silver	ND	0.16	1.2		mg/Kg	5	12/22/2018 3:11:53 PM	42118
Uranium	ND	2.1	4.8		mg/Kg	1	12/18/2018 5:07:12 PM	42118
Zinc	14	0.38	2.4		mg/Kg	1	12/18/2018 5:07:12 PM	42118

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 42 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF DUP01

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018

Lab ID: 1812713-010 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: D	AM
Acenaphthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Acenaphthylene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Aniline	ND	0.93	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Anthracene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Azobenzene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benz(a)anthracene	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzo(a)pyrene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzo(b)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzo(g,h,i)perylene	ND	1.6	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzo(k)fluoranthene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzoic acid	ND	1.4	4.8	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Benzyl alcohol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Bis(2-chloroethoxy)methane	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Bis(2-chloroethyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Bis(2-chloroisopropyl)ether	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Bis(2-ethylhexyl)phthalate	ND	2.7	4.8	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
4-Bromophenyl phenyl ether	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Butyl benzyl phthalate	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Carbazole	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
4-Chloro-3-methylphenol	ND	1.3	4.8	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
4-Chloroaniline	ND	1.1	4.8	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
2-Chloronaphthalene	ND	1.0	2.4	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
2-Chlorophenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
4-Chlorophenyl phenyl ether	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Chrysene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Di-n-butyl phthalate	ND	2.6	3.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Di-n-octyl phthalate	ND	1.1	3.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Dibenz(a,h)anthracene	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Dibenzofuran	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
1,2-Dichlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
1,3-Dichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
1,4-Dichlorobenzene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
3,3´-Dichlorobenzidine	ND	0.96	2.4	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Diethyl phthalate	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
Dimethyl phthalate	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
2,4-Dichlorophenol	ND	1.2	3.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
2,4-Dimethylphenol	ND	0.91	2.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
4,6-Dinitro-2-methylphenol	ND	0.88	3.9	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141
2,4-Dinitrophenol	ND	0.62	4.8	D	mg/Kg	1	12/31/2018 6:47:47	PM 42141

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

Qualifiers: * Va

- * 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
- PQL Practical Quanitative Limit
- 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 43 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812713

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF DUP01

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018

Lab ID: 1812713-010 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDI	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DA	M
2,4-Dinitrotoluene	ND	0.98	4.8	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2,6-Dinitrotoluene	ND	1.2	4.8	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Fluoranthene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Fluorene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Hexachlorobenzene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Hexachlorobutadiene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Hexachlorocyclopentadiene	ND	0.96	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Hexachloroethane	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Indeno(1,2,3-cd)pyrene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Isophorone	ND	1.2	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
1-Methylnaphthalene	ND	1.4	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2-Methylnaphthalene	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2-Methylphenol	ND	1.3	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
3+4-Methylphenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
N-Nitrosodi-n-propylamine	ND	1.5	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
N-Nitrosodiphenylamine	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Naphthalene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2-Nitroaniline	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
3-Nitroaniline	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
4-Nitroaniline	ND	0.93	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Nitrobenzene	ND	1.1	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2-Nitrophenol	ND	1.2	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Pentachlorophenol	ND	0.97	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Phenanthrene	ND	0.98	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Phenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Pyrene	ND	1.0	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Pyridine	ND	1.1	3.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
1,2,4-Trichlorobenzene	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2,4,5-Trichlorophenol	ND	1.1	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
2,4,6-Trichlorophenol	ND	1.3	1.9	D	mg/Kg	1	12/31/2018 6:47:47 F	PM 42141
Surr: 2-Fluorophenol	0		21.7-87.9	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
Surr: Phenol-d5	0		30.2-92.2	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
Surr: 2,4,6-Tribromophenol	0		47.1-103	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
Surr: Nitrobenzene-d5	0		23.9-102	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
Surr: 2-Fluorobiphenyl	0		32.6-101	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
Surr: 4-Terphenyl-d14	0		37.2-117	SD	%Rec	1	12/31/2018 6:47:47 F	PM 42141
EPA METHOD 8260B: VOLATILES							Analyst: AG	;
Benzene	ND	0.0041	0.025		mg/Kg	1	12/19/2018 4:33:19 F	PM 42100
D 4 1 000				100				

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

PQL Practical Quanitative Limit

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 44 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF DUP01

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018

Lab ID: 1812713-010 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
Toluene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Ethylbenzene	ND	0.0029	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Methyl tert-butyl ether (MTBE)	ND	0.012	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2,4-Trimethylbenzene	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,3,5-Trimethylbenzene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2-Dichloroethane (EDC)	ND	0.0051	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2-Dibromoethane (EDB)	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Naphthalene	ND	0.010	0.10	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1-Methylnaphthalene	ND	0.029	0.20	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
2-Methylnaphthalene	ND	0.022	0.20	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Acetone	ND	0.041	0.75	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Bromobenzene	ND	0.0048	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Bromodichloromethane	ND	0.0046	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Bromoform	ND	0.0045	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
2-Butanone	ND	0.058	0.50	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Carbon disulfide	ND	0.017	0.50	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Carbon tetrachloride	ND	0.0047	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Chlorobenzene	ND	0.0064	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Chloroethane	ND	0.0074	0.10	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Chloroform	ND	0.0040	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Chloromethane	ND	0.0048	0.15	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
2-Chlorotoluene	ND	0.0044	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
4-Chlorotoluene	ND	0.0041	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
cis-1,2-DCE	ND	0.0068	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
cis-1,3-Dichloropropene	ND	0.0042	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2-Dibromo-3-chloropropane	ND	0.0051	0.10	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Dibromochloromethane	ND	0.0035	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Dibromomethane	ND	0.0054	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2-Dichlorobenzene	ND	0.0041	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,3-Dichlorobenzene	ND	0.0043	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,4-Dichlorobenzene	ND	0.0042	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
Dichlorodifluoromethane	ND	0.012	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,1-Dichloroethane	ND	0.0032	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,1-Dichloroethene	ND	0.020	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,2-Dichloropropane	ND	0.0036	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,3-Dichloropropane	ND	0.0054	0.050	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
2,2-Dichloropropane	ND	0.016	0.10	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100
1,1-Dichloropropene	ND	0.0046	0.10	mg/Kg	1	12/19/2018 4:33:19 PI	M 42100

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

PQL Practical Quanitative Limit

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 45 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF DUP01

Project: OCD Central Landfarm Semiannual Sam Collection Date: 12/10/2018

Lab ID: 1812713-010 **Matrix:** SOIL **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Hexachlorobutadiene	ND	0.0051	0.10		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
2-Hexanone	ND	0.0083	0.50		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Isopropylbenzene	ND	0.0036	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
4-Isopropyltoluene	ND	0.0041	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
4-Methyl-2-pentanone	ND	0.0094	0.50		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Methylene chloride	ND	0.0088	0.15		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
n-Butylbenzene	ND	0.0047	0.15		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
n-Propylbenzene	ND	0.0040	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
sec-Butylbenzene	ND	0.0056	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Styrene	ND	0.0039	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
tert-Butylbenzene	ND	0.0047	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,1,1,2-Tetrachloroethane	ND	0.0034	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,1,2,2-Tetrachloroethane	ND	0.0051	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Tetrachloroethene (PCE)	ND	0.0040	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
trans-1,2-DCE	ND	0.0046	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
trans-1,3-Dichloropropene	ND	0.0053	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,2,3-Trichlorobenzene	ND	0.0044	0.10		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,2,4-Trichlorobenzene	ND	0.0051	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,1,1-Trichloroethane	ND	0.0045	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,1,2-Trichloroethane	ND	0.0035	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Trichloroethene (TCE)	ND	0.0058	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Trichlorofluoromethane	ND	0.017	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
1,2,3-Trichloropropane	ND	0.0081	0.10		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Vinyl chloride	ND	0.0033	0.050		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Xylenes, Total	ND	0.013	0.10		mg/Kg	1	12/19/2018 4:33:19 PM	1 42100
Surr: Dibromofluoromethane	104		70-130		%Rec	1	12/19/2018 4:33:19 PM	1 42100
Surr: 1,2-Dichloroethane-d4	99.5		70-130		%Rec	1	12/19/2018 4:33:19 PM	1 42100
Surr: Toluene-d8	100		70-130		%Rec	1	12/19/2018 4:33:19 PM	1 42100
Surr: 4-Bromofluorobenzene	98.3		70-130		%Rec	1	12/19/2018 4:33:19 PM	1 42100
EPA METHOD 418.1: TPH							Analyst: CLP	
Petroleum Hydrocarbons, TR	760	14	99		mg/Kg	5	12/17/2018	42110

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
- PQL Practical Quanitative Limit
- 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 46 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Received Date: 12/12/2018 8:40:00 AM

%Rec

Date Reported: 1/9/2019

12/17/2018 12:07:44 P A56399

Hall Environmental Analysis Laboratory, Inc.

Lab ID:

1812713-011

Surr: Toluene-d8

CLIENT:MarathonClient Sample ID: CENTRAL OCD LF FB01Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 5:05:00 PM

Matrix: AQUEOUS

105

Result **MDL PQL Oual Units** DF **Date Analyzed Batch ID** Analyses **EPA METHOD 8260: VOLATILES SHORT LIST** Analyst: AG ND 0.17 1.0 μg/L 1 12/17/2018 12:07:44 P A56399 Toluene ND 0.17 12/17/2018 12:07:44 P A56399 1.0 μg/L 1 Ethylbenzene ND 0.22 12/17/2018 12:07:44 P A56399 1.0 μg/L 1 Xylenes, Total A56399 ND 0.64 1.5 μg/L 1 12/17/2018 12:07:44 P Surr: 1,2-Dichloroethane-d4 100 0 70-130 %Rec 1 12/17/2018 12:07:44 P A56399 Surr: 4-Bromofluorobenzene 97.0 0 %Rec A56399 70-130 1 12/17/2018 12:07:44 P Surr: Dibromofluoromethane 103 0 70-130 %Rec 1 12/17/2018 12:07:44 P A56399

70-130

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

PQL Practical Quanitative Limit

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 47 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: CENTRAL OCD LF EB01

Project:OCD Central Landfarm Semiannual SamCollection Date: 12/10/2018 5:10:00 PMLab ID:1812713-012Matrix: AQUEOUSReceived Date: 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: AG	
Benzene	ND	0.17	1.0	μg/L	1	12/17/2018 12:36:29 F	A56399
Toluene	ND	0.17	1.0	μg/L	1	12/17/2018 12:36:29 F	A56399
Ethylbenzene	ND	0.22	1.0	μg/L	1	12/17/2018 12:36:29 F	A56399
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/17/2018 12:36:29 F	A56399
Surr: 1,2-Dichloroethane-d4	102	0	70-130	%Rec	1	12/17/2018 12:36:29 F	A56399
Surr: 4-Bromofluorobenzene	98.8	0	70-130	%Rec	1	12/17/2018 12:36:29 F	A56399
Surr: Dibromofluoromethane	105	0	70-130	%Rec	1	12/17/2018 12:36:29 F	A56399
Surr: Toluene-d8	103	0	70-130	%Rec	1	12/17/2018 12:36:29 F	A56399

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
- PQL Practical Quanitative Limit
- 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 48 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812713**

Date Reported: 1/9/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam Collection Date:

Lab ID: 1812713-013 **Matrix:** AQUEOUS **Received Date:** 12/12/2018 8:40:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed B	atch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: AG	
Benzene	ND	0.17	1.0	μg/L	1	12/14/2018 12:44:18 P	A56370
Toluene	ND	0.17	1.0	μg/L	1	12/14/2018 12:44:18 P	A56370
Ethylbenzene	ND	0.22	1.0	μg/L	1	12/14/2018 12:44:18 P	A56370
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/14/2018 12:44:18 P	A56370
Surr: 1,2-Dichloroethane-d4	104	0	70-130	%Rec	1	12/14/2018 12:44:18 P	A56370
Surr: 4-Bromofluorobenzene	102	0	70-130	%Rec	1	12/14/2018 12:44:18 P	A56370
Surr: Dibromofluoromethane	102	0	70-130	%Rec	1	12/14/2018 12:44:18 P	A56370
Surr: Toluene-d8	103	0	70-130	%Rec	1	12/14/2018 12:44:18 P	A56370

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
- PQL Practical Quanitative Limit
- 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 49 of 72
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1812713-001C CENTRAL OCD LF TZ01

SAMPLE RESULTS - 01

DISCHAR NATIONADE

製

Collected date/time: 12/10/18 14:15

Wet Chemistry by Method 9012B

	Result	Qualifier	ROL	Diuton	Analysis	Batch -
Analyte	mg/kg		mg/kg		date / Jime	
Evanide	ND		0.250	4	12/20/2018 17/02	WG121349

















1812713-002C CENTRAL OCD LF VZ01

SAMPLE RESULTS - 02

ONE LAS NATIONWIDE

Collected data/time: 12/10/18 14:25

Wet Chemistry by Memod 9012B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		frg/kg		pate / time	
Cyanide	ND		0.250	1	12/20/2018 17:04	WG1213499















1812713-003C CENTRAL OCD LF TZ02

SOMMOSTAN BALLBAGE

Collected date/time: 12/10/18 15:20

Wet Chemistry by Method 9012B

SAMPLE RESULTS - 03

Result Dilution Analysis Qualifier RDL Batch cate/(me.

Analyte mg/kg mg/kg Cyanide ND 0.250 12/20/2018 17:07

W5023494

Ss













1812713-004C CENTRAL OCD LF VZ02

SAMPLE RESULTS - 04

ONE LAB. NATIONWIDE

Wet Chemistry by Memod 90128

Collected date/frms: 12/10/18 15:35

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	ngykg		mg/kg		clate / time	-
Cyanide	ND-		0.250	1	12/20/2018 17:10	WG121349E

















1812713-006C CENTRAL OCD LF TZC3

SAMPLE RESULTS - 05

ONE LAB NATIONWIDE

Collected date/time: 12/10/18 16:00

Wet Chemistry by Method 9012B

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		gate / time	1
Cyanide	ND:		0.250	4	12/20/2018 17:11	WG1218439















1812713-007C CENTRAL OCD LF VZ03

SAMPLE RESULTS - 06

ONE LAB NATIONAVIDE

験

Collected date/time: 12/10/18 15:15

Analyte

Cyanide

We: Cnemistry by Method 9012B

 Result
 Qualifier
 RDL
 Dilution
 Analysis
 Batch

 mg/kg
 Ing/kg
 date / lime

 NUS
 0.258
 f
 12/20/2018 17:12
 V/G* 2/34/3s

















1812713-008C CENTRAL OCD LF TZ04

SAMPLE RESULTS - 07

ONE LAB NATIONWIDE

Collected date/time: 12/10/18 16:40

Wet Chemistry by Method 9012B

	Result	Qualifier	RDL	Dilution	-Analysis -	Batch
Analyte	mg/kg		mg/kg		cate / time	
Cyanide	0.789		0.250	1	12/20/2018 17:13	W\$\$7123 15

















1812713-009C CENTRAL OCD LF VZ04

SAMPLE RESULTS - 08

ONE LAB. NATIONWIDE

Wet Chemistry by Method 90126

Collected date/lime: 12/10/18 16:55

	Result	Qualifier	RDL	Dilution	Analysis	Batch -
Annlyte	myrkig		mg/kg		date / rime	-
Cyanide	ND		0.250	1	12/20/2018 17:14	WGUALARSE

















1812713-010C CENTRAL OCD LF DUP01

SAMPLE RESULTS - 09

ONE IAB, NATIONWIDE

凝

Collected date/time: 12/10/18 00:00

Wet Chemistry by Method 90128

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Cyanida	NO		0.750	T	12/20/2018 17: 5	WWALSON















	War Chemistry by Method 90128			5	5017	11053/84-01,02,03,04,05,16,07,08,09	14,05,06,07,1	U053894-31,02,03,04,05,36,07,08,09	× ×			DNE LAB. NA HONWIDE
Muthod Black (MB)	K,MB)											
(WB) R3370176-1 12/20/IB 16-59 MB Res Malyte mij/kg Cyenlos u	12/20/18 16:58 MB Resuit mg/kg	MB Duairfier	MB MDL mg/cg 5,0390	MB RDL mg/kg 0.250								
10-668800	. 058394-01 Orginal Sample (CS)+ Dubicate, DUF)	SPERIOR DATE	ordate Di	F								
05) 1 (053194-01	(OS) 1.1053194-01 12/2048 17:02 - (DUP) R3370176-3 12/2048 (7.03	R3370176-3 (2/20/18 (7:03			The state of						
Analyte	Orginal Resunity NO	Onginal Result DUP Result nigkg mg/kg nu 0.0569	Delugion		U.J. Qualiffor	Dup HpD Limits						
1054755-02	L1054785-02 Sriginal Sample 10Sj - Duplicare (DUIR)	eros) - Du	plicate (C	0.00%								
05 1054765-02	(OS) 10554765-02 12/20781810 - (DUP) R3370176-8 12/204818:11	P) R3370176-8	12/20/18 18:1									
	Original Resu	Original Result DUP Result	Diffution	DUP RPD	DUP Gualifier	DUP RPD						
Analyte	(Indian)	mg/kg		46		30						
Cyveride	OND	0.10	-	0.31M		P						
alboratory C	Laboratory Control Sample (LCS)	0										
LCS) R3370176-2 12/20/18 16:59 School	12/20/18 (6:59) Setke Amount	Taisa Amenit ITS Pecult	CS.Roc	Sec Limbs	LES Ousifier	à						
Analyte	makei	ma/ka	ari	-	1000	21						
Cyanido	05.2		200	50.0-150								
N53/94-02	LINES/94-02 Original Sampre (OS) • Marrix Spike (WS) • Warr	S (OS) · MB	пх Бріке	WiS) - Men	× Spike L	A Spike Duplicate (WSD)	Œ.					
35) L1053394-07	(DS) L1053194-02 12/20/18 (7:04 - (MS) R3370176-4 12/20/18 17:05 - (MS); R3370176-5 12/20/18 17:05 (MS); L1053194-02 (MS); R92 (MS); R92 (MS); R92 (MS); R92 (MS); R92 (MS); R92 (MS); R93	77:04 • (MS) R3370176-4 12/20/18 17:09 Spike Amount Original Result W5 Result	/20/18 17/05 NS Result	+ (MSD) R3370) +	176-5 12/20/13 MS Rec.	8 17;05 MSD Rec	Dilution	Rec Limits	MS Qualifier	MSD Qualifier	RPD	APD Limits
Analyte	81/6u	BAYSIL	By/6w	mg/kg	32	ŧΪ		32				de
Syanide	1.67	ON.	1,48	<u> </u>	345	1.98	_	75 0-425			2,47	×
1054593,03	LIOSABSERS Original Sample (OS) - Mannx Spike (MS) - (Mannx Spike Quo) (MSD)	e (05) - Ma	IIIN Spi-ce	1MS) = [M] =	nv Spike	An elegicate (A	(6)58					
(DS) L1054592-03 Analyte	(CS) L1054592-03 12(20/0818:06 • (MS) R33/01/6-6 12/20/18 18:07 • (MSD) R3370176-7 12/20/18 18:09 (CS) L1054592-03 12(20/18 18:09 (MS) R6sult MS R	TB:06 • (MS) R33/01/6-6 T2/2018 18:07 Spike Amount Onginal Result MS Result mg/kg mg/kg	MS Result	7 - (MSD) R33701 MSD Result mg/kg	775-7 12/20/7 MS Rec. %	IS 19:08 MSD Rec	Dilution	Rec. Limits	MS Qualifier	MSD Cualifier	% % %	RPD Limits
Суалиди	191	Q.	150	1.48	75.9	7.47	-	75.0-125		OF OF	1,32	- X
1	ACCOUNT:			å	PROJECT		* (SOS		ENAUG.	DATE/TIME	
TO TOP	The second of th						CLT-	53384		12/21/1	S 08:05	



55

Cn

S

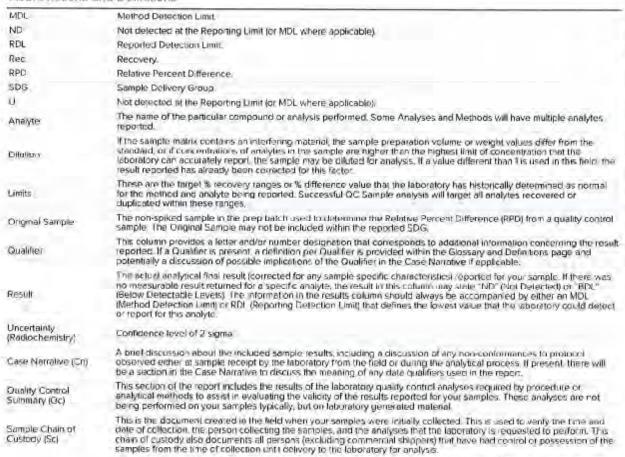
QC

GI

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions



administration (22)	times of preparation and/or analysis.
Ouglifler	Passintan

each sample will provide the name and method number for the analysis reported.

Qualifier	Description	
3	The identification of the enalyte is acceptable: the reported value is an estimate	
J6.	The sample matrix interferent with the ability to make any accurate determination; spixe value is low.	

This section of your report will provide the results of all testing performed on your samples. These results are provided by sample. Die header line of each analysis section for

This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and

Sample Results (Sri

Sample Summary (5s)



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1812713

Pace Project No.:

30274468

Sample: 1812713-001D CENTRAL OCDLFTZ01

Lab ID: 30274468001

Collected: 12/10/18 14:15 Received: 12/14/18 10:40 Matrix: Solid

PWS:

Sile ICI:

Sample Type.

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No	Qua
Radium 226	EPA 901.1	1.635 ± 0.376 (0.247) C:NA T:NA	pCvg	01/09/19 08:41	13982-63-3	Ra
Radium-228	EPA 901 1	2.134 ± 0.546 (0.272)	pCl/g	01/09/19 08:41	15262-26-1	

Sample: 1812713-002D CENTRAL

Lab ID: 30274468002

Lab ID: 30274468003

Lah ID | 30274468904

Collected: 12/10/18 14:25 Received: 12/14/18 10:40 Matrix Solid

OCOLFVZ01 FWS:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	-Oual
Radium-226	EPA 901 1	1.519 ± 0.341 (0.181) C:NA TINA	pCl/g	01/09/19 09:12	13982-63-3	Ra
Radum-228	EPA 901.1	2.099 ± 0.477 (0.454) C:NA T:NA	pCi/g	D1/09/19 09:12	15262-2011	

Sample: 1812713-003D CENTRAL DCDLFTZ02

Site (D.

Collected: 12/10/18 15:20 Received: 12/14/18 10:40 Matrix: Solid

Collected: 12/10/18 15:35 Received: 12/14/18 10:40

PWS:

Site ID

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901 1	1,716 ± 0.408 (0.205) C:NA T:NA	pGl/g	01/09/19 09 13	13082-63-3	Ra
Radium-228	EPA 901 T	2.090 ± 0.576 (0.339) C:NA T:NA	pCi/g	01/09/19 00 13	15262-20-1	

Sample: 1812713-904D CENTRAL

OCDLFVZ02

Site ID:

Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Und (MDC) Carr Trac	Units	Analyzed	CAS No	Qual
Radium-226	EPA 901 1	1.320 ± 0.336 (0.216) C:NA T:NA	pC/g	01/09/19 09:29	13982-63-3	Ra
Radium-228	EPA 901 1	1,988 ± 0.490 (0.428) C:NA T:NA	pC//g	01/09/10 09:29	15262-20-1	

Sample: 1812713-006D CENTRAL

Lab ID: 30274468005

Collected: 12/10/18 16:00 Received: 12/14/18 10:40

Matrix: Solid

OCDLFTZ03 PWS:

Site ID:

Sample Type.

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unic (MDC) Carr Trac	Unita	Analyzed	CAS No.	Qual
Radium-228	EPA.901.1	1.249 ± 0.350 (0.217) C:NA T:NA	pCi/g	01/09/19 09:30	13982-63-3	Ra

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1812713

Pace Project No.:

30274468

Sample: 1812713-006D CENTRAL OCDLFTZ03

Lab ID: 30274468005

Collected: 12/10/18 16.00 Received: 12/14/18 10.40 Matrix: Solid

Analyzed

PWS:

PWS:

Radium-226

Fiedium-228

PWS.

Site ID:

Sample Type:

Results reported on a "dry-weight" besis

Parameters

Method

Act ± Unc (MDC) Carr Trac

Linus

CAS No.

Qual

Radium-228 EPA 901.1 1.066 ± 0.443 (0.561) pCVg 01/08/19 09:30 15262-20-1 CINA TINA

Lab ID: 30274468006

Sample: 1812713-007D CENTRAL OCOLFVZ03

Site ID:

Sample Type:

Act & Unc (MDC) Carr Trac

Collected: 12/10/18 16:15 Received: 12/14/18 10:40

Results reported on a "dry-weight" basis

Parameters Method

> EPA 901.1 1.785 ± 0.384 (0.226) C:NA T:NA 1.339 ± 0.511 (0.588) EPA 901.1

Units Analyzed D1/09/19 09:46 13982 63 3 Ra pCi/g

CAS No.

Qual

pCV4 D1709/19 09:46 15262-20-1 C:NA T:NA

Sample: 1012713-008D CENTRAL

DCDLFTZ04

Lab ID: 30274468007

Collected 12/10/18 16:15 Received 12/14/15 10:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters.

Method Radium-226 EPA 9011 Rindium-228 EPA 901.1

1.344 ± 0.369 (0.279) G:NA T:NA 1.915 ± 0.509 (0.299) C:NA TINA

Sample Type:

Act ± Linc (MDC) Carr Trac

pCi/g pCi/g

Units

CAS No. Analyzed 01/09/19 09:47 13982 63-3 Rs

Qual

01/09/19 09:47 15262-20-1

Sample: 1812713-009D CENTRAL

OCOLFVZ04

Sife ID:

Lab ID: 30274468008 Collected 12/10/16 16 55 Received: 12/14/16 10:40 Matrix: Solid

Analyzad

PWS

Site ID:

Saropio Typo:

Act ± Unc (MDC) Carr Trac

Results reported on a "dry-weight" basis

Melhod Parameters: Radium-226 EPA 901.1 Radium-228 EPA 901.1

1.279 ± 0.308 (0.191) C:NA T:NA 1.520 ± 0.440 C:NA TINA

pCi/q pC//g

Units

01/09/19 10:03 13982-63-3 Ra 01/09/19 10:03 15262-20-1

CAS No.

Sample: 1812713-010 CENTRAL

OCDLFDUP01

Lab ID: 30274468009

Site ID

Method

Collected: 12/10/18 00:01

Received: 12/14/18 10:40 Matrix Solid

PWS:

Results reported on a "dry-weight" basis Parameters:

Radium-226 EPA 901.1

Act ± Unc (MDC) Carr Trac 1.345 ± 0.348 (0.232) C:NA T:NA

Sample Type:

Units. pCl/g

Analyzed CAS No. 01/09/19 10:04 13982-83-3 Ra

Qual

Qual

Radium-228 EPA 901.1

1.920 ± 0.459 (0.311) C:NA T:NA

pCi/g 01/09/19 10:04 15282-28-1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full. without the written consent of Pace Analytical Services, LLC.





QUALITY CONTROL - RADIOCHEMISTRY

Project:

1812713

Page Project No.

30274468

QC Batch:

324910

Analysis Method:

EPA 901.1

QC Batch Method: EPA 901.1

Analysis Description:

901.1 Gamma Spec Ingrowth

Associated Lab Samples:

30274468001, 30274468002, 30274468003, 30274468004, 30274468005, 30274468006, 30274468007,

30274469009, 30274468009

METHOD BLANK: 1683636

Matrix: Solid

Associated Lab Samyes 30274468001, 30274468002, 30274468003, 30274468004, 30274468005, 30274468006, 30274468009

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.083 ± 0.059 (0.123) C:NA TNA	pCi/g	01/02/19 14:51	Ra
Radium-228	0.000 ± 0.077 (0.491) C.NA T.NA	pCVg	01/02/19 14:51	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC



Pace Analytical Services, LLC 1638 Roseylown Road - Suites 2 3,4 Greensburg, PA 15601 (724)650-5600

QUALIFIERS

Project

1812713

Pace Project No.: 30274468

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot

NO - Not Detected at or above adjusted reporting limit

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix

S - Surrogate

 2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUF - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration:

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.98.

Gamma Spec: The Unc, reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Page Analytical is TNI accredited. Contact your Page PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Ro

The reported Ra-226 results were determined by inermetically sealing the dried, processed sample in an appropriatesized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Re-226 and daughters. Bi-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from garnina peaks attributable to Bi-214 and Pb-214.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, 14 C.

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Sulfate

Project: OCD Central Landfarm Semiannual Sampling

ND

1.5

Sample ID MB-42333 SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: **PBS** Batch ID: 42333 RunNo: 56621 Prep Date: 12/27/2018 Analysis Date: 12/27/2018 SeqNo: 1895320 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Fluoride 0.30 ND Chloride ND 1.5 Nitrogen, Nitrate (As N) ND 0.30

Sample ID LCS-42333 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: **LCSS** Batch ID: 42333 RunNo: 56621 Prep Date: Analysis Date: 12/27/2018 SeqNo: 1895321 Units: mg/Kg 12/27/2018 %REC **RPDLimit** POL SPK value SPK Ref Val HighLimit %RPD Analyte Result LowLimit Qual Fluoride 1.5 0.30 1.500 0 98.9 90 110 0 93.4 90 Chloride 14 1.5 15.00 110 Nitrogen, Nitrate (As N) 7.4 0.30 7.500 0 98.7 90 110 Sulfate 29 1.5 30.00 0 95.5 90 110

Sample ID 1812713-002AMS SampType: ms TestCode: EPA Method 300.0: Anions Client ID: **CENTRAL OCD LF V** Batch ID: 42333 RunNo: 56621 Prep Date: 12/27/2018 Analysis Date: 12/27/2018 SeqNo: 1895335 Units: mg/Kg %REC %RPD **RPDLimit** Analyte Result **PQL** SPK value SPK Ref Val LowLimit HighLimit Qual Fluoride 4.3 1.5 1.500 3.660 44.9 15 119 Nitrogen, Nitrate (As N) 7.9 1.5 7.500 1.636 84.1 61.8 142 Sulfate 360 7.5 30.00 1092 -2440 71.9 115 S

Sample ID 1812713-002AMSD SampType: msd TestCode: EPA Method 300.0: Anions **CENTRAL OCD LF V** Batch ID: 42333 Client ID: RunNo: 56621 Prep Date: 12/27/2018 Analysis Date: 12/27/2018 SeqNo: 1895336 Units: mg/Kg %REC %RPD **RPDLimit** Analyte **PQL** SPK value SPK Ref Val LowLimit HighLimit Result Qual Nitrogen, Nitrate (As N) 7.5 1.5 7.500 1.636 77.5 61.8 142 6.41 20 Sulfate 320 7.5 30.00 1092 -2580 71.9 115 12.6 20 S

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 50 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42110 SampType: MBLK TestCode: EPA Method 418.1: TPH

Client ID: PBS Batch ID: 42110 RunNo: 56388

Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885105 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR ND 20

Sample ID LCS-42110 SampType: LCS TestCode: EPA Method 418.1: TPH

Client ID: LCSS Batch ID: 42110 RunNo: 56388

Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885106 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR 92 20 100.0 0 92.5 84.7 129

Sample ID 1812713-002AMS SampType: MS TestCode: EPA Method 418.1: TPH

Client ID: CENTRAL OCD LF V Batch ID: 42110 RunNo: 56388

Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885110 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Petroleum Hydrocarbons, TR 110 20 99.50 51.40 61.8 80 120 S

Sample ID 1812713-002AMSD SampType: MSD TestCode: EPA Method 418.1: TPH

Client ID: CENTRAL OCD LF V Batch ID: 42110 RunNo: 56388

Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885111 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 20 Petroleum Hydrocarbons, TR 130 97.66 51.40 77.3 80 120 11.7 20 S

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 51 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812713

09-Jan-19

Client: Marathon

Sample ID MB-42113

Project: OCD Central Landfarm Semiannual Sampling

SampType: MBLK

Sample ID LCS-42113 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: **LCSS** Batch ID: 42113 RunNo: 56382 Prep Date: Analysis Date: 12/17/2018 SeqNo: 1885014 12/14/2018 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 46 10 O 50.00 92.2 70 130 Surr: DNOP 4.6 5.000 92.8 50.6 138

TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 42113 RunNo: 56382 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885015 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 ND Motor Oil Range Organics (MRO) 50 Surr: DNOP 10.00 95.5 50.6 138 9.6

Sample ID 1812713-002AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics CENTRAL OCD LF V Batch ID: 42113 RunNo: 56382 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885909 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 82 10 11.09 142 53.5 49.90 126 S Surr: DNOP 4.8 4.990 96.5 50.6 138

SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID 1812713-002AMSD Client ID: **CENTRAL OCD LF V** Batch ID: 42113 RunNo: 56382 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885910 Units: mg/Kg LowLimit SPK value SPK Ref Val %REC %RPD **RPDLimit** Qual Analyte Result **PQL** HighLimit Diesel Range Organics (DRO) 80 9.5 47.57 11.09 145 53.5 126 2.16 21.7 S Surr: DNOP 4.8 4.757 101 50.6 138 0 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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Page 52 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42100 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: **PBS** Batch ID: 42100 RunNo: 56353 Analysis Date: 12/14/2018 SeqNo: 1884432 Prep Date: 12/13/2018 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) ND 5.0 Surr: BFB 920 1000 92.0 73.8 119 Sample ID LCS-42100 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 42100 RunNo: 56353 Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884434 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 5.0 25.00 98.2 80.1 123 1100 1000 106 73.8 Surr: BFB 119 TestCode: EPA Method 8015D: Gasoline Range Sample ID 1812713-009AMS SampType: MS Client ID: CENTRAL OCD LF V Batch ID: 42100 RunNo: 56353 Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884440 Units: mg/Kg PQL Analyte %REC LowLimit %RPD **RPDLimit** Result SPK value SPK Ref Val HighLimit Qual Gasoline Range Organics (GRO) 27 4.7 23.72 0 113 77.8 128 Surr: BFB 1000 948.8 106 73.8 119 Sample ID 1812713-009AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: CENTRAL OCD LF V Batch ID: 42100 RunNo: 56353 Analysis Date: 12/14/2018 Prep Date: 12/13/2018 SeqNo: 1884442 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 26 4.7 0 112 77.8 128 0.855 20 23.65 Surr: BFB 1000 946.1 108 73.8 119 0 Sample ID MB-42099 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

APO Hallan NA
1458 Units: mg/Kg
owLimit HighLimit %RPD RPDLimit Qual
73.8 119

Sample ID LCS-42099	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range
Client ID: LCSS	Batch ID: 42099	RunNo: 56353	
Prep Date: 12/13/2018	Analysis Date: 12/14/2018	SeqNo: 1884460	Units: mg/Kg
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 53 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID LCS-42099 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 42099 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SegNo: 1884460 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 25.00 0 80.1 26 5.0 104 123

 Gasoline Range Organics (GRO)
 26
 5.0
 25.00
 0
 104
 80.1
 123

 Surr: BFB
 1100
 1000
 107
 73.8
 119

Sample ID 1812713-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: CENTRAL OCD LF V Batch ID: 42099 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884464 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Gasoline Range Organics (GRO)
 25
 4.9
 24.30
 0
 104
 77.8
 128

 Surr: BFB
 1100
 971.8
 113
 73.8
 119

Sample ID 1812713-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: CENTRAL OCD LF V Batch ID: 42099 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884465 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result LowLimit Gasoline Range Organics (GRO) 24 4.7 23.74 0 102 77.8 128 4.39 20 Surr: BFB 1000 949.7 73.8 0 109 119 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

PQL Practical Quanitative Limit

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

D C 1 HN I D

Page 54 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42179	SampType: MBLK			TestCode: EPA Method 8082A: PCB's							
Client ID: PBS	Batc	h ID: 42	179	F	RunNo: 5	6755					
Prep Date: 12/19/2018	Analysis [Date: 1/	4/2019	9	SeqNo: 1	899675	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aroclor 1016	ND	0.025									
Aroclor 1221	ND	0.025									
Aroclor 1232	ND	0.025									
Aroclor 1242	ND	0.025									
Aroclor 1248	ND	0.025									
Aroclor 1254	ND	0.025									
Aroclor 1260	ND	0.025									
Surr: Decachlorobiphenyl	0.049		0.06250		78.4	31.9	130				
Surr: Tetrachloro-m-xylene	0.048		0.06250		77.2	21.2	142				
Sample ID LCS-42179	Samp	Гуре: LC	s	Tes	TestCode: EPA Method			s			

Sample ID LCS-42179	Samp1	ype: LC	S	Tes	tCode: E	s				
Client ID: LCSS	Batcl	h ID: 42	179	F	RunNo: 5					
Prep Date: 12/19/2018	Analysis D	Date: 1/	4/2019	S	SeqNo: 1	899676	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.17	0.025	0.1250	0	133	35.9	162			
Aroclor 1260	0.12	0.025	0.1250	0	92.2	37.9	147			
Surr: Decachlorobiphenyl	0.058		0.06250		92.0	31.9	130			
Surr: Tetrachloro-m-xvlene	0.058		0.06250		93.2	21.2	142			

Sample ID 1812713-002AM	3	TestCode: EPA Method 8082A: PCB's								
Client ID: CENTRAL OCD	F	RunNo: 5	6755							
Prep Date: 12/19/2018	Analysis D	oate: 1/	4/2019	8	SeqNo: 1	900305	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.10	0.025	0.1263	0	79.8	15	153			
Aroclor 1260	0.098	0.025	0.1263	0	77.6	15	180			
Surr: Decachlorobiphenyl	0.050		0.06316		78.8	31.9	130			
Surr: Tetrachloro-m-xylene	0.052		0.06316		82.4	21.2	142			

Sample ID 1812713-002AMSI	D SampT	ype: MS	SD	TestCode: EPA Method 8082A: PCB's						
Client ID: CENTRAL OCD L	F V Batch	ID: 42	179	R	RunNo: 5	6755				
Prep Date: 12/19/2018	Analysis Da	ate: 1/	4/2019	SeqNo: 1900306 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.089	0.022	0.1097	0	81.1	15	153	12.5	32.9	
Aroclor 1260	0.090	0.022	0.1097	0	82.4	15	180	8.02	31.1	
Surr: Decachlorobiphenyl	0.046		0.05487		84.0	31.9	130	0	0	
Surr: Tetrachloro-m-xylene	0.05487		86.0	21.2	142	0	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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 55 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42384 SampType: MBLK TestCode: EPA Method 8082A: PCB's Client ID: PBS Batch ID: 42384 RunNo: 56755 Prep Date: 12/31/2018 Analysis Date: 1/4/2019 SeqNo: 1900316 Units: %Rec Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: Decachlorobiphenyl 0.045 0.06250 31.9 72.0 130 Surr: Tetrachloro-m-xylene 0.048 0.06250 76.0 21.2 142 Sample ID LCS-42384 SampType: LCS TestCode: EPA Method 8082A: PCB's

Client ID: LCSS Batch ID: 42384 RunNo: 56755 Analysis Date: 1/4/2019 SeqNo: 1900317 Prep Date: 12/31/2018 Units: %Rec Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: Decachlorobiphenyl 0.062 0.06250 98.4 31.9 130 0.062 0.06250 98.4 21.2 Surr: Tetrachloro-m-xylene 142

Sample ID LCSD-42384 SampType: LCSD TestCode: EPA Method 8082A: PCB's Client ID: LCSS02 Batch ID: 42384 RunNo: 56755 Prep Date: 12/31/2018 Analysis Date: 1/4/2019 SeqNo: 1900318 Units: %Rec %RPD **RPDLimit PQL** SPK value SPK Ref Val %REC Qual Analyte Result LowLimit HighLimit Surr: Decachlorobiphenyl 0.058 0.06250 93.2 31.9 130 0 0 0.06250 82.8 0 Surr: Tetrachloro-m-xylene 0.052 21.2 142 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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 56 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42099	SampT	уре: МВ	BLK	Tes	tCode: El	PA Method	8260B: Volat	iles		
Client ID: PBS	Batch	n ID: 42 0	099	F	RunNo: 50	6400				
Prep Date: 12/13/2018	Analysis D	oate: 12	2/18/2018	\$	SeqNo: 18	885587	Units: mg/K	.g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 57 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42099	SampT	Гуре: MBLK	TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch	h ID: 42099	RunNo	: 56400					
Prep Date: 12/13/2018	Analysis D	Date: 12/18/2018	SeqNo	: 1885587	Units: mg/Kg				
Analyte	Result	PQL SPK value	SPK Ref Val %R	EC LowLimit	HighLimit %RPI	RPDLimit	Qual		
1,1-Dichloropropene	ND	0.10							
Hexachlorobutadiene	ND	0.10							
2-Hexanone	ND	0.50							
Isopropylbenzene	ND	0.050							
4-Isopropyltoluene	ND	0.050							
4-Methyl-2-pentanone	ND	0.50							
Methylene chloride	ND	0.15							
n-Butylbenzene	ND	0.15							
n-Propylbenzene	ND	0.050							
sec-Butylbenzene	ND	0.050							
Styrene	ND	0.050							
tert-Butylbenzene	ND	0.050							
1,1,1,2-Tetrachloroethane	ND	0.050							
1,1,2,2-Tetrachloroethane	ND	0.050							
Tetrachloroethene (PCE)	ND	0.050							
trans-1,2-DCE	ND	0.050							
trans-1,3-Dichloropropene	ND	0.050							
1,2,3-Trichlorobenzene	ND	0.10							
1,2,4-Trichlorobenzene	ND	0.050							
1,1,1-Trichloroethane	ND	0.050							
1,1,2-Trichloroethane	ND	0.050							
Trichloroethene (TCE)	ND	0.050							
Trichlorofluoromethane	ND	0.050							
1,2,3-Trichloropropane	ND	0.10							
Vinyl chloride	ND	0.050							
Xylenes, Total	ND	0.10							
Surr: Dibromofluoromethane	0.56	0.5000	1	12 70	130				
Surr: 1,2-Dichloroethane-d4	0.53	0.5000	1	07 70	130				
Surr: Toluene-d8	0.56	0.5000	1	11 70	130				
Surr: 4-Bromofluorobenzene	0.52	0.5000	1	05 70	130				
Sample ID Ics-42099	SampT	Гуре: LCS	TestCode	EPA Method	l 8260B: Volatiles				
Client ID: LCSS	Batch	h ID: 42099	RunNo: 56400						

Qualifiers:

Chlorobenzene

Analyte

Benzene Toluene

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Prep Date: 12/13/2018

H Holding times for preparation or analysis exceeded

Analysis Date: 12/18/2018

PQL

0.025

0.050

0.050

SPK value SPK Ref Val

1.000

1.000

1.000

Result

0.95

1.0

1.0

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

LowLimit

70

70

70

- E Value above quantitation range
- J Analyte detected below quantitation limits

SeqNo: 1885588

%REC

94.6

100

101

0

0

0

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

%RPD

RPDLimit

Page 58 of 72

Qual

Units: mg/Kg

130

130

130

HighLimit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-42099	SampT	ype: LC	s	Tes	tCode: E	tiles					
Client ID: LCSS	Batch	n ID: 42 0	099	F	RunNo: 56400						
Prep Date: 12/13/2018	Analysis D	ate: 12	2/18/2018	5	SeqNo: 1	885588	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	1.0	0.050	1.000	0	104	50.8	164				
Trichloroethene (TCE)	0.98	0.050	1.000	0	98.3	70	130				
Surr: Dibromofluoromethane	0.58		0.5000		115	70	130				
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130				
Surr: Toluene-d8	0.57		0.5000		113	70	130				
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130				

Sample ID Ics-42100	Samp	ype: LC	s	Tes	tCode: E	tiles				
Client ID: LCSS	Batc	h ID: 42	100	F	RunNo: 5					
Prep Date: 12/13/2018	Analysis [Date: 12	2/19/2018	S	SeqNo: 1	888583	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.3	70	130			
Toluene	0.89	0.050	1.000	0	88.9	70	130			
Chlorobenzene	0.94	0.050	1.000	0	94.3	70	130			
1,1-Dichloroethene	0.88	0.050	1.000	0	88.1	50.8	164			
Trichloroethene (TCE)	0.85	0.050	1.000	0	85.5	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.7	70	130			

Sample ID mb-42100	SampType: MBLK			Tes	tCode: El	iles				
Client ID: PBS	Batch	h ID: 42	100	R	tunNo: 5	6477				
Prep Date: 12/13/2018	Analysis D	Date: 12	2/19/2018	S	eqNo: 1	888584	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 59 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812713

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42100 SampType: MBLK TestCode: EPA Method 8260B: Volatiles Client ID: **PBS** Batch ID: 42100 RunNo: 56477 Analysis Date: 12/19/2018 Prep Date: 12/13/2018 SeqNo: 1888584 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Bromodichloromethane ND 0.050 Bromoform ND 0.050 ND Bromomethane 0.15 2-Butanone ND 0.50 Carbon disulfide ND 0.50 Carbon tetrachloride ND 0.050 Chlorobenzene ND 0.050 ND 0.10 Chloroethane Chloroform ND 0.050 ND Chloromethane 0.15 2-Chlorotoluene ND 0.050 ND 0.050 4-Chlorotoluene cis-1,2-DCE ND 0.050 cis-1,3-Dichloropropene ND 0.050 1,2-Dibromo-3-chloropropane ND 0.10 Dibromochloromethane ND 0.050 Dibromomethane ND 0.050 1,2-Dichlorobenzene ND 0.050 1,3-Dichlorobenzene ND 0.050 ND 0.050 1.4-Dichlorobenzene ND 0.050 Dichlorodifluoromethane 1.1-Dichloroethane ND 0.050 1,1-Dichloroethene ND 0.050 1,2-Dichloropropane ND 0.050 1,3-Dichloropropane ND 0.050 ND 0.10 2,2-Dichloropropane 1,1-Dichloropropene ND 0.10 Hexachlorobutadiene ND 0.10 2-Hexanone ND 0.50 ND 0.050 Isopropylbenzene ND 0.050 4-Isopropyltoluene 4-Methyl-2-pentanone ND 0.50 Methylene chloride ND 0.15 n-Butylbenzene ND 0.15 ND 0.050 n-Propylbenzene sec-Butylbenzene ND 0.050 ND 0.050 Styrene tert-Butylbenzene ND 0.050 1,1,1,2-Tetrachloroethane ND 0.050

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 60 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42100	SampT	уре: МЕ	BLK	Tes	tCode: El	iles				
Client ID: PBS	Batcl	h ID: 42	100	F	RunNo: 5	6477				
Prep Date: 12/13/2018	Analysis D	Date: 12	2/19/2018	S	SeqNo: 1	888584	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 61 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID 100ng lcs	SampT	ype: LC	s	TestCode: EPA Method 8260: Volatiles Short List									
Client ID: LCSW	Batch	n ID: A5	6370	F	RunNo: 5								
Prep Date:	Analysis D	Analysis Date: 12/14/2018			SeqNo: 1884632 Ui				Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	20	1.0	20.00	0	97.7	70	130						
Toluene	19	1.0	20.00	0	93.8	70	130						
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130						
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130						
Surr: Dibromofluoromethane	9.8		10.00		97.5	70	130						
Surr: Toluene-d8	9.6		10.00		96.0	70	130						
Sample ID rb	SampT	ype: ME	BLK	TestCode: EPA Method 8260: Volatiles Short List									

Campic ID 10	Campi	ypc. WIL	JLK	restoode. Li A Method 0200. Volatiles Short List						
Client ID: PBW	Batch	n ID: A5	6370	R	RunNo: 5	6370				
Prep Date:	Analysis Date: 12/14/2018			S	SeqNo: 1	884635	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID 100ng lcs	SampT	SampType: LCS TestCode: EPA Method 8260: Volatiles Short List								
Client ID: LCSW	Batch	ID: A5	6399	R	RunNo: 5	6399				
Prep Date:	Analysis D	ate: 12	2/17/2018	S	SeqNo: 1	885667	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	87.4	70	130			
Toluene	18	1.0	20.00	0	91.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID rb	SampTy	ype: ME	BLK	TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW	Batch	ID: A5	6399	R	RunNo: 5	6399					
Prep Date:	Analysis Da	ate: 12	2/17/2018	S	SeqNo: 1	885678	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	1.0									
Toluene	ND	1.0									

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

PQL Practical Quanitative Limit

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 62 of 72

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	Batch ID: A56399 RunNo: 56399								
Prep Date:	Analysis D	ate: 12	2/17/2018	S	SeqNo: 1	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	10		10.00		99.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 63 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID 1812713-002ams	ms SampType: MS TestCode: EPA Method 8270C: Semivolatiles									
Client ID: CENTRAL OCD L	F V Batch	ID: 42	141	F	RunNo: 5	6691				
Prep Date: 12/17/2018	Analysis D	ate: 12	2/31/2018	8	SeqNo: 1	897150	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.40	1.670	0	73.0	23.7	110			D
4-Chloro-3-methylphenol	2.4	1.0	3.330	0	71.4	23.5	109			D
2-Chlorophenol	2.5	0.40	3.330	0	74.3	15	106			D
1,4-Dichlorobenzene	1.2	0.40	1.670	0	69.2	16	98.5			D
2,4-Dinitrotoluene	1.0	1.0	1.670	0	61.0	23.3	92.8			D
N-Nitrosodi-n-propylamine	1.2	0.40	1.670	0	73.4	17	111			D
4-Nitrophenol	2.4	0.50	3.330	0	73.0	30.9	103			D
Pentachlorophenol	2.0	0.80	3.330	0	59.6	20.8	92.7			D
Phenol	2.5	0.40	3.330	0	73.7	17	107			D
Pyrene	1.3	0.40	1.670	0	75.2	27.9	111			D
1,2,4-Trichlorobenzene	1.4	0.40	1.670	0	82.8	19.5	118			D
Surr: 2-Fluorophenol	2.5		3.330		76.0	21.7	87.9			D
Surr: Phenol-d5	2.6		3.330		77.9	30.2	92.2			D
Surr: 2,4,6-Tribromophenol	2.8		3.330		83.7	47.1	103			D
Surr: Nitrobenzene-d5	1.5		1.670		88.3	23.9	102			D
Surr: 2-Fluorobiphenyl	1.4		1.670		86.7	32.6	101			D
Surr: 4-Terphenyl-d14	1.8		1.670		108	37.2	117			D

Sample ID 1812713-002ams	d SampT	ype: MS	SD	Tes	tCode: El	PA Method	8270C: Sem	ivolatiles		
Client ID: CENTRAL OCD L	.F V Batch	n ID: 42	141	F	RunNo: 5					
Prep Date: 12/17/2018	Analysis D	ate: 12	2/31/2018	SeqNo: 1897151 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.38	1.583	0	85.9	23.7	110	10.9	43.1	D
4-Chloro-3-methylphenol	2.7	0.95	3.156	0	84.5	23.5	109	11.5	52.2	D
2-Chlorophenol	2.6	0.38	3.156	0	83.9	15	106	6.78	42.5	D
1,4-Dichlorobenzene	1.3	0.38	1.583	0	82.2	16	98.5	11.9	50.4	D
2,4-Dinitrotoluene	1.2	0.95	1.583	0	74.8	23.3	92.8	15.0	24.2	D
N-Nitrosodi-n-propylamine	1.4	0.38	1.583	0	86.9	17	111	11.6	39.7	D
4-Nitrophenol	2.8	0.47	3.156	0	89.4	30.9	103	14.8	59.4	D
Pentachlorophenol	2.1	0.76	3.156	0	67.3	20.8	92.7	6.81	32.7	D
Phenol	2.6	0.38	3.156	0	83.7	17	107	7.39	41.2	D
Pyrene	1.4	0.38	1.583	0	86.0	27.9	111	8.09	34	D
1,2,4-Trichlorobenzene	1.5	0.38	1.583	0	96.8	19.5	118	10.3	35.8	D
Surr: 2-Fluorophenol	2.7		3.156		85.1	21.7	87.9	0	0	D
Surr: Phenol-d5	2.7		3.156		85.3	30.2	92.2	0	0	D
Surr: 2,4,6-Tribromophenol	3.0		3.156		94.8	47.1	103	0	0	D
Surr: Nitrobenzene-d5	1.5		1.583		95.1	23.9	102	0	0	D
Surr: 2-Fluorobiphenyl	1.5		1.583		95.6	32.6	101	0	0	D

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 64 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID 1812713-002amsd SampType: MSD TestCode: EPA Method 8270C: Semivolatiles

Client ID: CENTRAL OCD LF V Batch ID: 42141 RunNo: 56691

Prep Date: 12/17/2018 Analysis Date: 12/31/2018 SeqNo: 1897151 Units: mg/Kg

Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: 4-Terphenyl-d14 SD 2.0 1.583 126 37.2 117 0

Sample ID Ics-42141	SampT	ype: LC	S	Tes	tCode: El	ivolatiles				
Client ID: LCSS	Batch	n ID: 42	141	F	RunNo: 5	6691				
Prep Date: 12/17/2018	Analysis D	Date: 12	2/31/2018	9	SeqNo: 1	897163	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	84.4	42	110			
4-Chloro-3-methylphenol	2.6	0.50	3.330	0	78.1	42.3	117			
2-Chlorophenol	2.3	0.20	3.330	0	70.5	27.6	117			
1,4-Dichlorobenzene	1.2	0.20	1.670	0	73.5	28.8	105			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	71.0	42	98.7			
N-Nitrosodi-n-propylamine	1.4	0.20	1.670	0	80.9	41.8	112			
4-Nitrophenol	2.9	0.25	3.330	0	86.1	54	113			
Pentachlorophenol	2.4	0.40	3.330	0	72.2	41.5	101			
Phenol	2.5	0.20	3.330	0	74.1	32.2	115			
Pyrene	1.4	0.20	1.670	0	85.5	48.5	121			
1,2,4-Trichlorobenzene	1.5	0.20	1.670	0	90.2	39.9	112			
Surr: 2-Fluorophenol	2.3		3.330		68.3	21.7	87.9			
Surr: Phenol-d5	2.5		3.330		76.5	30.2	92.2			
Surr: 2,4,6-Tribromophenol	3.0		3.330		89.5	47.1	103			
Surr: Nitrobenzene-d5	1.4		1.670		86.7	23.9	102			
Surr: 2-Fluorobiphenyl	1.6		1.670		93.7	32.6	101			
Surr: 4-Terphenyl-d14	1.8		1.670		108	37.2	117			

Sample ID mb-42141	SampT	уре: МЕ	BLK	Tes	tCode: El					
Client ID: PBS	Batch	ID: 42	141	F	RunNo: 5	6691				
Prep Date: 12/17/2018	Analysis D	Analysis Date: 12/31/2018			SeqNo: 1	897165	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20				•		•		
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	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

PQL Practical Quanitative Limit

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

D----

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 65 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42141 SampType: MBLK TestCode: EPA Method 8270C: Semivolatiles Client ID: **PBS** Batch ID: 42141 RunNo: 56691 Prep Date: 12/17/2018 Analysis Date: 12/31/2018 SeqNo: 1897165 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Benzoic acid ND 0.50 Benzyl alcohol ND 0.20 ND Bis(2-chloroethoxy)methane 0.20 Bis(2-chloroethyl)ether ND 0.20 Bis(2-chloroisopropyl)ether ND 0.20 Bis(2-ethylhexyl)phthalate ND 0.50 4-Bromophenyl phenyl ether ND 0.20 Butyl benzyl phthalate ND 0.20 Carbazole ND 0.20 ND 4-Chloro-3-methylphenol 0.50 4-Chloroaniline ND 0.50 ND 0.25 2-Chloronaphthalene 2-Chlorophenol ND 0.20 4-Chlorophenyl phenyl ether ND 0.20 ND 0.20 Chrysene Di-n-butyl phthalate ND 0.40 Di-n-octyl phthalate ND 0.40 Dibenz(a,h)anthracene ND 0.20 Dibenzofuran ND 0.20 ND 0.20 1.2-Dichlorobenzene 0.20 1,3-Dichlorobenzene ND 1.4-Dichlorobenzene ND 0.20 3,3´-Dichlorobenzidine ND 0.25 Diethyl phthalate ND 0.20 Dimethyl phthalate ND 0.20 2,4-Dichlorophenol ND 0.40 2,4-Dimethylphenol ND 0.30 4,6-Dinitro-2-methylphenol ND 0.40 2,4-Dinitrophenol ND 0.50 2,4-Dinitrotoluene ND 0.50 2.6-Dinitrotoluene ND 0.50 ND 0.20 Fluoranthene Fluorene ND 0.20 Hexachlorobenzene ND 0.20 ND 0.20 Hexachlorobutadiene Hexachlorocyclopentadiene ND 0.20 ND 0.20 Hexachloroethane Indeno(1,2,3-cd)pyrene ND 0.20 Isophorone ND 0.40

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 66 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID mb-42141	SampT	уре: МЕ	BLK	TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBS	Batch	ID: 42	141	R	tunNo: 50	6691				
Prep Date: 12/17/2018	Analysis D	ate: 12	/31/2018	S	eqNo: 18	897165	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.2		3.330		66.6	21.7	87.9			
Surr: Phenol-d5	2.4		3.330		72.2	30.2	92.2			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.8	47.1	103			
Surr: Nitrobenzene-d5	1.3		1.670		80.1	23.9	102			
Surr: 2-Fluorobiphenyl	1.3		1.670		76.9	32.6	101			
Surr: 4-Terphenyl-d14	1.6		1.670		94.4	37.2	117			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 67 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42145 SampType: MBLK TestCode: EPA Method 7471: Mercury

Client ID: **PBS** Batch ID: **42145** RunNo: **56412**

Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SeqNo: 1886129 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury ND 0.033

Sample ID LLLCS-42145 SampType: LCSLL TestCode: EPA Method 7471: Mercury

Client ID: BatchQC Batch ID: 42145 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SeqNo: 1886130 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury ND 0.033 0.006660 0 119 70 130

Sample ID LCS-42145 SampType: LCS TestCode: EPA Method 7471: Mercury

Client ID: LCSS Batch ID: 42145 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SeqNo: 1886131 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.14 0.033 0.1667 0 86.4 80 120

Sample ID 1812713-002BMS SampType: MS TestCode: EPA Method 7471: Mercury

Client ID: CENTRAL OCD LF V Batch ID: 42145 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SeqNo: 1886136 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.15 0.034 0.1732 0 88.9 80 120

Sample ID 1812713-002BMSD SampType: MSD TestCode: EPA Method 7471: Mercury

Client ID: CENTRAL OCD LF V Batch ID: 42145 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SegNo: 1886137 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.16 0.035 0.1777 0 89.9 80 120 3.69 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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 68 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-42118 SampType: MBLK TestCode: EPA Method 6010B: Soil Metals Client ID: **PBS** Batch ID: 42118 RunNo: 56432 Prep Date: 12/14/2018 Analysis Date: 12/18/2018 SeqNo: 1886934 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Cadmium 0.10 ND Manganese ND 0.10 ND Uranium 5.0

Sample ID LCS-42118 TestCode: EPA Method 6010B: Soil Metals SampType: LCS Client ID: LCSS Batch ID: 42118 RunNo: 56432 Analysis Date: 12/18/2018 SeqNo: 1886936 Prep Date: 12/14/2018 Units: mg/Kg Analyte **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Cadmium 25 0.10 25.00 0 101 80 120 Manganese 25 0.10 25.00 0 101 80 120 22 5.0 25.00 0 89.8 80 120 Uranium

TestCode: EPA Method 6010B: Soil Metals Sample ID MB-42118 SampType: MBLK **PBS** Client ID: Batch ID: 42118 RunNo: 56432 Prep Date: 12/14/2018 Analysis Date: 12/18/2018 SeqNo: 1886941 Units: mg/Kg Analyte **PQL** SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** HighLimit Qual Uranium ND 5.0 Zinc ND 2.5

Sample ID MB-42118 SampType: MBLK TestCode: EPA Method 6010B: Soil Metals Client ID: **PBS** Batch ID: 42118 RunNo: 56472 Units: mg/Kg Prep Date: 12/14/2018 Analysis Date: 12/19/2018 SeqNo: 1888298 Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Arsenic	ND	2.5
Barium	ND	0.10
Cadmium	ND	0.10
Chromium	ND	0.30
Lead	ND	0.25
Manganese	ND	0.10
Selenium	ND	2.5
Silver	ND	0.25
Uranium	ND	5.0
Zinc	ND	2.5

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 69 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812713

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID LCS-42118	SampType: LCS TestCode: EPA Method 6010B: Soil Metals									
Client ID: LCSS	Batch	h ID: 42	118	F	RunNo: 5					
Prep Date: 12/14/2018	Analysis D	Date: 12	2/19/2018	9	SeqNo: 1888299 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	105	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	103	80	120			
Chromium	26	0.30	25.00	0	103	80	120			
Iron	28	2.5	25.00	0	111	80	120			
Lead	25	0.25	25.00	0	101	80	120			
Manganese	25	0.10	25.00	0	100	80	120			
Selenium	24	2.5	25.00	0	95.7	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			
Uranium	25	5.0	25.00	0	99.8	80	120			
Zinc	25	2.5	25.00	0	101	80	120			
Sample ID MB-42118	SampT	Type: MBLK TestCode: EPA Method 6010B: Soil Met					Metals			

Client ID: PBS Batch ID: 42118 RunNo: 56472 Prep Date: 12/14/2018 Analysis Date: 12/19/2018 SeqNo: 1888301 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Iron ND 2.5

Sample ID MB-42118 SampType: MBLK TestCode: EPA Method 6010B: Soil Metals Client ID: **PBS** Batch ID: 42118 RunNo: 56498 Prep Date: 12/14/2018 Analysis Date: 12/20/2018 SeqNo: 1889591 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte ND 2.5 Arsenic ND Barium 0.10 Cadmium ND 0.10 Chromium ND 0.30 Copper ND 0.30 ND 0.25 Lead Manganese ND 0.10 Selenium ND 2.5

Sample ID LCS-42118 SampType: LCS TestCode: EPA Method 6010B: Soil Metals Client ID: LCSS Batch ID: 42118 RunNo: 56498 Prep Date: 12/14/2018 Analysis Date: 12/20/2018 SeqNo: 1889594 Units: mg/Kg %RPD SPK value SPK Ref Val %REC LowLimit **RPDLimit** Analyte Result PQL HighLimit Qual

Qualifiers:

Silver

Zinc

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Η

ND

ND

0.25

2.5

ND Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

Page 70 of 72

P Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID LCS-42118	SampT	ype: LC	S	TestCode: EPA Method 6010B: Soil Metals						
Client ID: LCSS	Batch	h ID: 42	118	R	RunNo: 5					
Prep Date: 12/14/2018	Analysis D	Date: 12	2/20/2018	S	SeqNo: 1	889594	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	27	2.5	25.00	0	109	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	105	80	120			
Chromium	27	0.30	25.00	0	107	80	120			
Copper	26	0.30	25.00	0	104	80	120			
Lead	26	0.25	25.00	0	105	80	120			
Manganese	26	0.10	25.00	0	103	80	120			
Selenium	27	2.5	25.00	0	107	80	120			
Silver	5.1			0	102	80	120			
Zinc	27	2.5	25.00	0	109	80	120			

Sample ID 181	12713-002BMS	Sampl	ype: MS	5	les						
Client ID: CE	NTRAL OCD L	F V Batcl	h ID: 42	118	F	RunNo: 5	6598				
Prep Date: 12	2/14/2018	Analysis Date: 12/22/2018			S	SeqNo: 1	893451	Units: mg/Kg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		27	12	24.65	0	108	75	125			
Barium		360	0.49	24.65	265.4	380	75	125			S
Cadmium		23	0.49	24.65	0	92.1	75	125			
Chromium		41	1.5	24.65	15.91	103	75	125			
Copper		27	1.5	24.65	3.454	95.2	75	125			
Lead		25	1.2	24.65	4.310	84.0	75	125			
Manganese		320	0.49	24.65	352.7	-114	75	125			S
Selenium		21	12	24.65	0	87.0	75	125			
Silver		2.8	1.2	4.930	0	57.1	75	125			S
Uranium		ND	25	24.65	0	0	75	125			S
Zinc		49	12	24.65	22.67	106	75	125			

Sample ID 1812713-002		ype: M \$			tCode: El		6010B: Soil	Metals		
		· · - · · -								
Prep Date: 12/14/2018	Analysis D	ate: 12	2/22/2018	S	SeqNo: 1	893452	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	28	12	24.68	0	112	75	125	3.70	20	
Barium	260	0.49	24.68	265.4	-11.5	75	125	31.1	20	RS
Cadmium	23	0.49	24.68	0	93.5	75	125	1.61	20	
Chromium	37	1.5	24.68	15.91	87.2	75	125	9.83	20	
Copper	27	1.5	24.68	3.454	94.0	75	125	0.970	20	
Lead	28	1.2	24.68	4.310	97.9	75	125	12.9	20	
Manganese	430	0.49	24.68	352.7	314	75	125	28.0	20	RS

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 71 of 72

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812713**

09-Jan-19

Client: Marathon

Project: OCD Central Landfarm Semiannual Sampling

Sample ID 1812713-002BMSD SampType: MSD TestCode: EPA Method 6010B: Soil Metals Client ID: **CENTRAL OCD LF V** Batch ID: 42118 RunNo: 56598 Prep Date: 12/14/2018 Analysis Date: 12/22/2018 SeqNo: 1893452 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Selenium 18 12 24.68 0 75 125 18.0 20 S 72.5 3.3 4.935 0 66.2 75 S Silver 1.2 125 14.8 20 S ND 25 0 75 125 20 Uranium 24.68 0 0 Zinc 45 12 24.68 22.67 90.9 75 125 7.62 20

Sample ID 181	2713-002BPS	SampTy	pe: PS		Tes	tCode: El	PA Method	6010B: Soil I	Metals		
Client ID: CE	NTRAL OCD LF V	Batch	ID: 42 1	118	F	RunNo: 5	6598				
Prep Date:	A	nalysis Da	ite: 12	2/22/2018	8	SeqNo: 1	893453	Units: mg/K	ίg		
Analyte	I	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		380	0.49	123.0	265.4	89.3	80	120			
Manganese		460	0.49	123.0	352.7	86.0	80	120			
Selenium		120	12	123.0	0	97.5	80	120			
Silver		21	1.2	24.60	0	83.7	80	120			
Uranium		83	25	123.0	0	67.4	80	120			S

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 72 of 72



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

Client Name: MARATHON GALLUP	Work Order Number: 1812	713	RcptNo	1
Received By: Victoria Zellar	12/12/2018 8:40:00 AM	Victoria G Ann. S	&ila _?	
Completed By: Anne Thorne Reviewed By:	12/13/2018 8:48:44 AM	Anne St	/	
Labeled by, AT 12/13/	77			
Chain of Custody				
1. Is Chain of Custody complete?	Yes	✓ No □	Not Present	
2. How was the sample delivered?	Couri	<u>er</u>		
<u>Log In</u>				
3. Was an attempt made to cool the samples?	Yes	✓ No □	na 🗆	
4. Were all samples received at a temperature	of >0° C to 6.0°C Yes	No 🗆	NA \square	
5. Sample(s) in proper container(s)?	Yes	✓ No □		
6. Sufficient sample volume for indicated test(s	? Yes	✓ No □		
7. Are samples (except VOA and ONG) properl	y preserved? Yes	✓ No 🗆		
8. Was preservative added to bottles?	Yes	□ No 🗹	NA \square	
9. VOA vials have zero headspace?	Yes [□ No □	No VOA Vials	
10. Were any sample containers received broke	n? Yes (No ✓	# of preserved	
11. Does paperwork match bottle labels?	Yes [✓ No 🗆	bottles checked for pH:	
(Note discrepancies on chain of custody)	163 (2 110 🗆		>12 unless noted)
2. Are matrices correctly identified on Chain of	Custody? Yes	✓ No □	Adjusted?	
3. Is it clear what analyses were requested?		✓ No 🗆		
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	✓ No ⊔	Checked by:	
Special Handling (if applicable)				
15. Was client notified of all discrepancies with t	his order? Yes	□ No □	NA 🗹	_
Person Notified:	Date	THE IN THE PROPERTY OF THE PRO	4	
By Whom:	Via: ☐ eMa	I ☐ Phone ☐ Fax	K 🔲 In Person	
Regarding:				
Client Instructions:				
16. Additional remarks:		-		-
17. Cooler Information				
	al Intact Seal No Seal Da	e Signed By		
1 2.1 Good Yes				

1.	_ ≿								(1	10)	() s	Air Bubbles							_			
1	HALL ENVIKONMENTAL ANALYSTS LABOBATOBY	5										ХЭТВ					-		×	_		
,	<u> </u>	- f	•								1	SIJ DAMN	×	×	×	×	×	×				
	ξ <u>σ</u>	2	7109						1	SIT 3	INC	VADOSE ZO	×	×	×	×	×	×				
			8	1 7	÷					(AO	V-ir	m98) 07S8										
•	¥ ₹		ne L	505-345-4107	Request					<u>. </u>		82608										
	7 v	֓֞֞֞֞֜֞֜֞֜֞֜֜֞֜֟֓֓֟֟֟֟֟֟֟֟֟֟֟֟	nerd	506					_	_		8081 Pesti										
	Z		Albuquerane, NM 87109	Fax	Analysis		(°OS	"Oc	1.60			D, F) enoinA			<u>.</u>							
	- Z	www.hallenvironmental.com			Ana	-	2 /	(CIAI				0168) HA9 M 8 A939				· ·					2118	
	7 2	WW.	S NE	-397		-	2121	SVV			_	EDB (Meth						_			12/12	
		\$ 5	wkir	-346		Ε.	F					rtem) H9T	-		·						811211212M	!
	7 [4901 Hawkins NE	Tel. 505-345-3975		-		IW/C				3108 H9T	×	×		*	×	メ			.s. <	
			490	Ē			(ʎjuc	98	 €)⊦	IdT+	- BE	TM+X3T8									Remarks: (bullul)	을
	_ L						(12	Z08))s,g	MT+	38	TM+X3T8										Ď
		DFARM	·		-					2a10 1	180	HEAL No. 2713	70)	202	202	202	CC3	204	205		Date Time 12/12/10/16/10/10	
		OCD LAN	<u>ত</u>			Moore			00	□ No - No		2										Uate
Time:	□ Rush	CENTRAL	L SAMPLIN			ger: Brian	ı	,	TRITI	¥ Yes	Came o	Preservative Type	None	None	None	None	None	None	HCI		1900an	
Tum-Around Time:	X Standard	Project Name: CENTRAL OCD LANDFARM	SEMIANNUAL SAMPLING	Project #:		Project Manager: Brian Moore			Sampler:	On Ice: V Yes		Container Type and #	8oz jar - 3 4oz jar - 1	80z jar - 3 40z jar - 1	8oz jar - 3 4oz jar - 1	8oz jar - 3 4oz jar - 1	802 jar - 3 402 jar - 1	80z jar - 3 40z jar - 1	40ml voa-3		Received by:	Received by:
Chain-of-Custody Record			92 Giant Crossing Road	301		BMcore1@Marathonpetroleum.com	DISUSTA DISUSTO ATTERISTIS	* Level 4 (Full Validation)				Sample Request ID	CENTRAL OCD LF T201	CENTRAL OCD LF VZ01	CENTRAL OCD LF VZ01MS	CENTRAL OCD LF VZ01MSD	CENTRAL OCD LF TZ02	CENTRAL OCD LF VZ02	TRIP BLANK		rico	
ustody	Client: Marathon Petroleum	егу	iant Cros	Gailup, NM 87301	505-726-3745	1@Maratho	LIG 9TY	¥ Level 4	ļ				CENTRA	CENTRA	CENTI	CENT	CENTRA	CENTRA	· 		led by:	led by:
-of-C	hon Pe	Gallup Refinery		Gallt	505-7	BMoore				EXCE		Matrix	SOIL						WATER		Relinquished by:	Kelinquished by
hain	Marat	Gallu	Mailing Address:		#	email or Fax#:	QA/QC Package:	ndard	ē	X EDD (Type)		Time	31418	1425	14/16	2/1/38	1520	1535	!			:: E = -
	Client:		Mailing		Phone #:	email c	QA/QC	⊈ Standard	□ Other	×		Date	17-10-18/14/5		ε _{(t}				→		Date:	Date:
													· ·		Fred	W. Jan					A.	

HALL Martin Petroleum X Sandard Rush		ح		T. 100 A 00117	Time 6.													ı
Marathon Petroleum	Ollain-Ol	֚֚֚֚֡֞֟֝֟֟֓֓֓֓֓֓֓֓֓֓֓֓֟֜֜֟֓֓֓֓֓֓֓֓֟֜֜֓֓֓֡֓֡֓֡֓֡֡֡֓֜֡֓֡֡֡֡֡֡֓		ı uiri-Around	- III e.				I				FNVTDONMENTAL	2	<u> </u>	ŀ		
Sallup Refinery Project Name: CENTRAL OCD LANDFARM SEMINANUAL SAMPLING	nt: Marathon	n Pet	troleum	X Standard	□ Rush				4		į ×	U	1	Ç	2	: C : F	֡֝֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	
Callup, NM 87301 Project #: Tel. 506-345-3875 Project #: EMORE (@Margin Diagram) Project #: Tel. 506-345-3875 Project #: EMORE (@Margin Diagram) Project Manager. Brian Moore (@Margin Diagram) Project Moore (@Margin Di	Gallup Re	efine		Project Name	: CENTRAL	OCD LANDFARM			`	ww.ha	Illenvi		ental c) . <u></u>) -		_
CENTRAL OCD LF TZ04 40ml voa-3 Hole CENTRAL OCD LF EBOT 40ml voa-3 Hole CENTRAL OCD LF EBOT 40ml voa-3 Hole CENTRAL OCD LF EBOT 40ml voa-3 Hole CENTRAL OCD LF EBOT 40ml voa-3 Hole CENTRAL OCD LF EBOT 40ml voa-3 Hole COle CENTRAL OCD LF EBOT 40ml voa-3 Hole COle Cole		2 Gi		SEMIANNUA	L SAMPLING	(D	4	901 F	awkin	S N S	- Alb	naner	Albuqueraue: NM 87109	[8]	7109			
or Fax#: 5065-726-3745 or Fax#: BMOOFET@Marathompetroleum.com Project Manager: Brian Moore Or Fax#: BMOOFET@Marathompetroleum.com Project Manager: Brian Moore Package: Ar Is_IBIN: Sample: Ar Is_IBIN: Index Ar Is_IBIN: Sample: Ar Is_IBIN: Index Ar Is_IBIN: Sample: Ar Is_IBIN: Index Ar Is_IBIN: Sample: Ar Is_IBIN: Index Ar Is_IBIN: Sample: Ar Is_IBIN: Index Ar Is_IBIN: Ar Is_IBIN: Ar Is_IBIN: Index Ar Is_IBIN: Article Article Index Ar Is_IS.Is.Is.Is.Is.Is.Is.Is.Is.Is.Is.Is.Is.Is.	Ű	Sallu		Project #:			•	[el. 5(5-345	-3975		Fax 5(505-345-4107	5-410	<u>}</u>			
Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Moore Project Manager: Brian Matrix Project Manager: Brian Manager: Brian Matrix Project Manager: Brian		5-72	6-3745								ınal	sis Re	senbe	ı;				
Time Matrix Sample Total Validation Sample Total]	loore1		Project Mana	ger: Brian	Moore				0								
Time Matrix Sample Request D Type Typ	_	£ 6	2 [3] 1.3 X Level 4 (Full Validation)						75				807				_	
Time Matrix Sample Request ID Type and # Type FS 2 2 2 2 2 2 2 2 2	ther	=	-	Sampler:	TRITIC	0	_						7 000		1			(1
Time Matrix Sample Request ID Type and # Type Ty	DD (Type) EX	XCEL		On Ice:	MYes	I No.				-	Sli		0 / 92	(AO	LSITE			N 10
Time Matrix Sample Request ID Type and # Type	-			Sample lem	verature: නූ ව	1,0=40					leta		וכוחב	V-ir	∃NO	T	•	Y) s
	Time	atrix		Container Type and #	Preservative Type	HEAL NO. 3 27 3					M 8 AADA),4) anoinA	8081 Pesti	mə2) 0728	VADOSE Z	NMAC LIS	X3T8	Air Bubble
	1600	OF.	CENTRAL OCD LF TZ03		None	26	·	×							×	×		
	1615		CENTRAL OCD LF VZ03	8oz jar - 3 4oz jar - 1	None	207		×					<u> </u>		×	×		
	(640		CENTRAL OCD LF TZ04	8oz jar - 3 4oz jar - 1	None	208		×							×	×		
CENTRAL OCD LF DUP01 8oz jar - 3 None CENTRAL OCD LF B01 4oz jar - 1	1655		CENTRAL OCD LF VZ04		None	709		×							×	×		
1005 WATER CENTRAL OCD LF FB01 40ml voa-3 +Het	15 /21/3/16		CENTRAL OCD LF DUP01	8oz jar - 3 4oz jar - 1	None					_					×	×		
71 WATER CENTRAL OCD LF EB01 40ml voa-3	1705 WAT	\TER	CENTRAL OCD LF FB01	40ml voa-3	+lcı	110	,										×	
WATER TRIP BLANK 40ml voa-3 HCI — 1/3 Time: Relinquished by: Repeived by: 1/1, Chi.M.M. vy. Date Time Remarks:		TER	CENTRAL OCD LF EB01	40ml voa-3	+12+	-0/2	_			<u> </u>						<u> </u>	×	
Time: Relinquished by: Repeived by: 10, (HUNM v/2 Date Time Remarks:		TER	TRIP BLANK	40ml voa-3	HG.	-1113										<u> </u>	×	
ONS JOE TRITICO MINIMUME BIBLIE	١	nquishe ${\mathcal{T}O}$ (TRITICO T	Appeived by:	Course Silver	Date Time	Remark	rks.	1/21/2 10 Ogi	I'm Ru	4	2 B 0 C	S S S	FB	deed	- % .	With.	74
by: Date		nquishe		Received by:		ľ	¥	2	Sav	zole	S)	1 <u>11</u> _	1001		and	区1301	000
are not preserve			•				are		_	pre	Sc.V	727	<u>.</u>					

vadobe xine analytes and reported limits, gentral CP. Comminyation dimeion landfafer meetran remains southwest, gallup represy, gallup, non mosco

Amilyin	Analytical Motion	Papating Unite	Pinquesieci Hepariing Limit
Orloyda	E300	Pholice	- 86
Bryon	SVR350		0.030
3,41,6141.00	SWARRE	no les	0.680
I Charge	SA12503		700
Zylenies, Total	SARIBLE		0.100
Patroleum Hydrocarbons, TR	6418.1	medica	<u> </u>

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Pluside Miroson, Nicala (As N)	E300	make	0.3000 2.2000
i Sufficien		melle	21,6000
*Redun-220 *Redun-220	P901.1	WZ FI	1,9650
ARRIVA - SOUL BANKS OF THE	2901.1 2901.1	pCle	1,2600
Apageri Begteri Cardelin	SWELLA SWELLIA SWELLIA SWELLIA SWELLIA	INC. NO.	2,6460 2,6300
Beturn	9WAD IOA	8050	2.5000 1.6000
Chemium Chemium	SWEDTOA	maño	0.1000 0.8000
Copper	SWEDTEA SWEDTEA EVENTEA SWEDTEA	maka Maka	0.8000
iran	ANDO10A	Make	840.0000
United the Control of	SWEDIGA	maka	0.9500
Belantem	SWEDTION SWEDTION SWEDTION	mona :	1.0000 2.6000
- Giver	SWEETER	steple	A 0 200
Unglish Zic		मकारा	5000b
Memory	SW/5010A 8W7471	mako	9.6000 0.0580
Acceptor 1016	89/5052	mo/es	0.0200
Arador 1221 Arador 1201	8WE052 \$W6082	iiinikii	0.0200
Arctio 1242	87/8/62 87/8/62	regives regives	0.0200
Arcein 1242 Arcein 1248 Arcein 1254 Asset 1260	SYR082 SW8082 SW8082	anti-fec	0.0200
A/000/ 1254	8W8062	malka	0.0000
4.1.4.Thehiamalagia	61//5092	males males	0.0200
1.1.1-Tichi grostnane 1,1.2-Tetahoroshum	SACTOR S		0.0200 0.0400 0.0460
1.1-Uichkroekane 1.1-Uichkroekane 12-Uichkroekane		mala	0.0070
1.1-Dight moditions	8AU225	molec	0.0403
Carbon in published	SWEETENS SWEETENS SWEETENS	mate:	0.0465 0.0670
Chileraform	SWEETS	Rafe	C.C48D
Literature diduide	- managements	(IV)	Q.100D
Tehtchlacoubene	SWEEDS SWEEDS	make	0.1500 0.0480
Trichicsoethene	SWEETE	HID KO	0.6490 0.0480
Trichicoethere Vinel chiarice 2.4.5 Trichicopheroi	8.VE2.808	770 ⁹ ta	0.0480
2.4.8-Tilchkanchanci	3W8270C \$W8270C	VIDENCE VIDENCE	0.2000
Z4-Dichimorana a	8W8270C \$48270C	and/fed	0.4000
2,4-Dignatrylongrad 2,4-Dignatrylongrad	SM82700	mo/so_	0,2000
	SW8270C SW8270C	mo/A	0.4000
2 Motingpheani 2 Miscore not	8N=270C	mg/kg mg/kg	0.1000
2 Miscoha sol	80492700	tratalista papaka	0.1000 0.1000 0.1000
344-Mathylphenor 4-9-Dinker-2-mathylphenor	PANIZYOC SANZYOC SANZYOG	70.00 10.00	
4.6 Unitro 2-mathylohansi 4-Chiara 3-mathylohansi 4-Uliraphensi	8W8270C	1984 B	0.5000
4 direptend		11000	0.1000
Penlashioropheras Phanol	\$66270C	erotes .	0.4000
1-Matrofrachtiniere	\$W\$200B	marka	0.2000 0.2000
2-Maringshift days	SAME TOC SWEET OC SWEET OC SWEET OC SWEET OC SWEET OC	molica molica molica molica	
Aconopidismo Aconopidismo	8W6270C	WINNER .	0.2000
Antheosije Benzo(s)erdenos/s	5W6270C	सार्थ्य । सार्थ्यक	0.2000 0.2000
Henzo(e)enthrecezia	SWEZAC	स्थानिक	0.22000
Butto(a)gyrane Butto(b)frommittens	8W8276C	mariles	0.2000
A STATE OF THE STA	SVANZZZIIC	mg/leg mg/leg	0.2000
Begrand kiffunyangka ne	SWE276C	matro	0.200b
Chrysene Diterminations	SW8276C	TINE I	0.2500
Figurations	SW6270C SW6270C	marks marks	0.2000 0.2000
Fluorens Fluorens	SW8270C	maka .	0.2000
Attent (1,2,5-c.4) pyrana Nachimilara	SWB27GC SWB27GC	मध्येष शक्येष	0.2000 0.2000
Pharanthrens		mg/kg	6,200p
Parene	5W9270C	mgDag	0,2000 0,2000
Cyanide Diseal Range Chasties (DRO)	EPA 338A	ms/kg	0.8000
Gasoline Rema Dyranics (GRC)	5V/9015	maka erofea	12
		والمستعدد	

Annual Groundwater Monitoring Report 2018 92 Giant Crossing Road Gallup, NM 87301



APPENDIX G LAND TREATMENT UNIT – SOIL AND GROUNDWATER ANALYTICAL DATA (ON ATTACHED CD)



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

January 04, 2019

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

FAX

RE: 2018 Post Closure Sampling LTU OrderNo.: 1812373

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 8 sample(s) on 12/6/2018 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Field Blank

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 7:00:00 AM

 Lab ID:
 1812373-001
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 8260B: VOLATILES							Analyst: A	G	
Benzene	0.21	0.17	1.0	J	μg/L	1	12/11/2018 6:26:34	РМ	D56250
Toluene	0.29	0.17	1.0	J	μg/L	1	12/11/2018 6:26:34	РМ	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Acetone	3.8	0.76	10	J	μg/L	1	12/11/2018 6:26:34	РМ	D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 6:26:34		D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 6:26:34		D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 6:26:34		
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 6:26:34		D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 6:26:34		D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 6:26:34		D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 6:26:34	РМ	D56250

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

PQL Practical Quanitative Limit

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 38

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Field Blank

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 7:00:00 AM

 Lab ID: 1812373-001
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
1,1-Dichloropropene	ND	0.16	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Hexachlorobutadiene	ND	0.39	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
2-Hexanone	ND	0.91	10	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Isopropylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
4-Isopropyltoluene	ND	0.24	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
4-Methyl-2-pentanone	ND	0.45	10	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Methylene Chloride	ND	0.21	3.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
n-Butylbenzene	ND	0.25	3.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
n-Propylbenzene	ND	0.24	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
sec-Butylbenzene	ND	0.20	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 6:26:34 PM	/ D56250
1,4-Dioxane	ND	2.3	10	μg/L	1	12/13/2018 6:13:28 PM	A56304
Surr: 1,2-Dichloroethane-d4	101	0	70-130	%Rec	1	12/11/2018 6:26:34 PM	/ D56250
Surr: 4-Bromofluorobenzene	96.6	0	70-130	%Rec	1	12/11/2018 6:26:34 PM	/ D56250
Surr: Dibromofluoromethane	101	0	70-130	%Rec	1	12/11/2018 6:26:34 PM	/ D56250
Surr: Toluene-d8	102	0	70-130	%Rec	1	12/11/2018 6:26:34 PM	/ D56250

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
- PQL Practical Quanitative Limit
- 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 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 7:00:00 AM

 Lab ID:
 1812373-002
 Matrix: TRIP BLANK
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Acetone	3.3	0.76	10	J	μg/L	1	12/11/2018 7:52:23 F	M D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 7:52:23 F	M D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 7:52:23 F	M D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 7:52:23 F	M D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 7:52:23 F	M D56250

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
- PQL Practical Quanitative Limit
- 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 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 7:00:00 AM

 Lab ID:
 1812373-002
 Matrix: TRIP BLANK
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
1,1-Dichloropropene	ND	0.16	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Hexachlorobutadiene	ND	0.39	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
2-Hexanone	ND	0.91	10	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Isopropylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
4-Isopropyltoluene	ND	0.24	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
4-Methyl-2-pentanone	ND	0.45	10	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Methylene Chloride	ND	0.21	3.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
n-Butylbenzene	ND	0.25	3.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
n-Propylbenzene	ND	0.24	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
sec-Butylbenzene	ND	0.20	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 7:52:23 PM	1 D56250
1,4-Dioxane	25	2.3	10	μg/L	1	12/13/2018 6:42:39 PM	1 A56304
Surr: 1,2-Dichloroethane-d4	99.8	0	70-130	%Rec	1	12/11/2018 7:52:23 PM	1 D56250
Surr: 4-Bromofluorobenzene	95.4	0	70-130	%Rec	1	12/11/2018 7:52:23 PM	1 D56250
Surr: Dibromofluoromethane	99.0	0	70-130	%Rec	1	12/11/2018 7:52:23 PM	1 D56250
Surr: Toluene-d8	102	0	70-130	%Rec	1	12/11/2018 7:52:23 PM	1 D56250

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
- PQL Practical Quanitative Limit
- 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 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-1

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:10:00 AM

 Lab ID:
 1812373-003
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0049	0.0096		μg/L	1	12/17/2018 11:08:28 P	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 8:44:47 PM	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 8:44:47 PM	
Surr: DNOP	109	0	76.7-135		%Rec	1	12/12/2018 8:44:47 PM	
EPA METHOD 8015D: GASOLINE RANGE	<u>:</u>						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 11:47:13 A	G56246
Surr: BFB	82.8	0	72.8-125		%Rec	1	12/11/2018 11:47:13 A	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:52:47 PM	42079
Arsenic	0.0011	0.00050	0.0010		mg/L	1	12/17/2018 3:52:47 PM	
Lead	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:52:47 PM	42079
Selenium	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:52:47 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000096	0.000038	0.00020	J	mg/L	1	12/11/2018 5:51:48 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ALS						Analyst: rde	
Barium	ND	0.020	0.020		mg/L	1	12/14/2018 9:44:53 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:44:53 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:44:53 AM	41991
Chromium	ND	0.0011	0.0060		mg/L	1	12/14/2018 9:44:53 AM	41991
Cobalt	ND	0.00098	0.0060		mg/L	1	12/14/2018 9:44:53 AM	41991
Nickel	ND	0.0027	0.010		mg/L	1	12/14/2018 9:44:53 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:44:53 AM	41991
Vanadium	ND	0.0023	0.050		mg/L	1	12/14/2018 9:44:53 AM	41991
Zinc	ND	0.0033	0.020		mg/L	1	12/14/2018 9:44:53 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 8:20:57 PM	
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 8:20:57 PM	D56250
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 8:20:57 PM	D56250

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

Qualifiers:	*	Value exceeds Maximum Cor	ntaminant Level.
--------------------	---	---------------------------	------------------

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 5 of 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-1

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:10:00 AM

 Lab ID: 1812373-003
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Acetone	3.6	0.76	10	J	μg/L	1	12/11/2018 8:20:57 P	M D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 8:20:57 P	M D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 8:20:57 P	M D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
2-Hexanone	ND	0.91	10		μg/L	1	12/11/2018 8:20:57 P	M D56250
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/11/2018 8:20:57 P	M D56250
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/11/2018 8:20:57 P	M D56250

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
- PQL Practical Quanitative Limit
- 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 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-1

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:10:00 AM

 Lab ID:
 1812373-003
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 8:20:57 P	M D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 8:20:57 P	M D56250
1,4-Dioxane	32	2.3	10	μg/L	1	12/13/2018 7:11:55 P	M A56304
Surr: 1,2-Dichloroethane-d4	103	0	70-130	%Rec	1	12/11/2018 8:20:57 P	M D56250
Surr: 4-Bromofluorobenzene	95.8	0	70-130	%Rec	1	12/11/2018 8:20:57 P	M D56250
Surr: Dibromofluoromethane	99.8	0	70-130	%Rec	1	12/11/2018 8:20:57 P	M D56250
Surr: Toluene-d8	101	0	70-130	%Rec	1	12/11/2018 8:20:57 P	M D56250

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
- PQL Practical Quanitative Limit
- 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 7 of 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-2

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:37:00 AM

 Lab ID: 1812373-004
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0049	0.0095		μg/L	1	12/17/2018 11:23:15 P	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 9:06:43 PM	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 9:06:43 PM	
Surr: DNOP	108	0	76.7-135		%Rec	1	12/12/2018 9:06:43 PM	
EPA METHOD 8015D: GASOLINE RANGE	.						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 12:09:55 P	G56246
Surr: BFB	87.9	0	72.8-125		%Rec	1	12/11/2018 12:09:55 P	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:57:08 PM	42079
Arsenic	0.0011	0.00050	0.0010		mg/L	1	12/17/2018 3:57:08 PM	
Lead	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:57:08 PM	42079
Selenium	ND	0.00050	0.0010		mg/L	1	12/17/2018 3:57:08 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000091	0.000038	0.00020	J	mg/L	1	12/11/2018 6:00:52 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ΓALS						Analyst: rde	
Barium	ND	0.020	0.020		mg/L	1	12/14/2018 9:50:37 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:50:37 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:50:37 AM	41991
Chromium	ND	0.0011	0.0060		mg/L	1	12/14/2018 9:50:37 AM	41991
Cobalt	ND	0.00098	0.0060		mg/L	1	12/14/2018 9:50:37 AM	41991
Nickel	ND	0.0027	0.010		mg/L	1	12/14/2018 9:50:37 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:50:37 AM	41991
Vanadium	ND	0.0023	0.050		mg/L	1	12/14/2018 9:50:37 AM	41991
Zinc	ND	0.0033	0.020		mg/L	1	12/14/2018 9:50:37 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 8:49:32 PM	D56250
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 8:49:32 PM	
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 8:49:32 PM	D56250

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 8 of 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-2

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:37:00 AM

 Lab ID:
 1812373-004
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
Acetone	9.2	0.76	10	J	μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 8:49:32 PI	M D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 8:49:32 P	M D56250
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/11/2018 8:49:32 P	M D56250
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/11/2018 8:49:32 P	M D56250
2-Hexanone	ND	0.91	10		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/11/2018 8:49:32 Pl	M D56250

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

PQL Practical Quanitative Limit

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 9 of 38

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-2

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 8:37:00 AM

 Lab ID: 1812373-004
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	_
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 8:49:32 P	M D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 8:49:32 P	M D56250
1,4-Dioxane	11	2.3	10	μg/L	1	12/13/2018 7:41:06 P	M A56304
Surr: 1,2-Dichloroethane-d4	99.3	0	70-130	%Rec	1	12/11/2018 8:49:32 P	M D56250
Surr: 4-Bromofluorobenzene	100	0	70-130	%Rec	1	12/11/2018 8:49:32 P	M D56250
Surr: Dibromofluoromethane	98.9	0	70-130	%Rec	1	12/11/2018 8:49:32 P	M D56250
Surr: Toluene-d8	101	0	70-130	%Rec	1	12/11/2018 8:49:32 P	M D56250

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
- PQL Practical Quanitative Limit
- 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 10 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-5

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 9:18:00 AM

 Lab ID: 1812373-005
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0049	0.0095		μg/L	1	12/17/2018 11:38:02 P	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 9:28:29 PM	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 9:28:29 PM	42033
Surr: DNOP	111	0	76.7-135		%Rec	1	12/12/2018 9:28:29 PM	42033
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 12:32:40 P	G56246
Surr: BFB	85.5	0	72.8-125		%Rec	1	12/11/2018 12:32:40 P	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:01:29 PM	42079
Arsenic	0.0010	0.00050	0.0010		mg/L	1	12/17/2018 4:01:29 PM	42079
Lead	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:01:29 PM	42079
Selenium	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:01:29 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000089	0.000038	0.00020	J	mg/L	1	12/11/2018 6:04:18 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ALS						Analyst: rde	
Barium	ND	0.020	0.020		mg/L	1	12/14/2018 9:52:35 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:52:35 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:52:35 AM	41991
Chromium	ND	0.0011	0.0060		mg/L	1	12/14/2018 9:52:35 AM	41991
Cobalt	ND	0.00098	0.0060		mg/L	1	12/14/2018 9:52:35 AM	41991
Nickel	ND	0.0027	0.010		mg/L	1	12/14/2018 9:52:35 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:52:35 AM	41991
Vanadium	ND	0.0023	0.050		mg/L	1	12/14/2018 9:52:35 AM	
Zinc	ND	0.0033	0.020		mg/L	1	12/14/2018 9:52:35 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 9:18:10 PM	D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 9:18:10 PM	
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 9:18:10 PM	
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 9:18:10 PM	D56250

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 11 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-5

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 9:18:00 AM

 Lab ID: 1812373-005
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
2-Methylnaphthalene	ND	0.35	4.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Acetone	ND	0.76	10	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Bromobenzene	ND	0.32	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Bromodichloromethane	ND	0.28	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Bromoform	ND	0.32	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Bromomethane	ND	0.27	3.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
2-Butanone	ND	1.4	10	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Carbon disulfide	ND	0.39	10	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Carbon Tetrachloride	ND	0.14	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Chlorobenzene	ND	0.29	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Chloroethane	ND	0.16	2.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Chloroform	ND	0.24	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Chloromethane	ND	0.32	3.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
2-Chlorotoluene	ND	0.25	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
4-Chlorotoluene	ND	0.28	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
cis-1,2-DCE	ND	0.38	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
cis-1,3-Dichloropropene	ND	0.30	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Dibromochloromethane	ND	0.24	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Dibromomethane	ND	0.32	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,2-Dichlorobenzene	ND	0.31	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,3-Dichlorobenzene	ND	0.31	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,4-Dichlorobenzene	ND	0.29	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Dichlorodifluoromethane	ND	0.26	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,1-Dichloroethane	ND	0.18	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,1-Dichloroethene	ND	0.12	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,2-Dichloropropane	ND	0.17	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,3-Dichloropropane	ND	0.27	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
2,2-Dichloropropane	ND	0.23	2.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
1,1-Dichloropropene	ND	0.16	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Hexachlorobutadiene	ND	0.39	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
2-Hexanone	ND	0.91	10	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Isopropylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
4-Isopropyltoluene	ND	0.24	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
4-Methyl-2-pentanone	ND	0.45	10	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
Methylene Chloride	ND	0.21	3.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
n-Butylbenzene	ND	0.25	3.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
n-Propylbenzene	ND	0.24	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250
sec-Butylbenzene	ND	0.20	1.0	μg/L	1	12/11/2018 9:18:10 PM	1 D56250

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
- PQL Practical Quanitative Limit
- 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 12 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-5

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 9:18:00 AM

 Lab ID: 1812373-005
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 9:18:10 P	M D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 9:18:10 Pl	M D56250
1,4-Dioxane	12	2.3	10	μg/L	1	12/13/2018 8:10:17 PI	M A56304
Surr: 1,2-Dichloroethane-d4	102	0	70-130	%Rec	1	12/11/2018 9:18:10 Pl	M D56250
Surr: 4-Bromofluorobenzene	101	0	70-130	%Rec	1	12/11/2018 9:18:10 Pl	M D56250
Surr: Dibromofluoromethane	97.7	0	70-130	%Rec	1	12/11/2018 9:18:10 P	M D56250
Surr: Toluene-d8	103	0	70-130	%Rec	1	12/11/2018 9:18:10 Pl	M D56250

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
- PQL Practical Quanitative Limit
- 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 13 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: SMW-4

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:45:00 PM

 Lab ID:
 1812373-006
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0049	0.0095		μg/L	1	12/17/2018 11:52:50 P	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 9:50:14 PM	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 9:50:14 PM	42033
Surr: DNOP	115	0	76.7-135		%Rec	1	12/12/2018 9:50:14 PM	42033
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 12:55:14 P	G56246
Surr: BFB	91.5	0	72.8-125		%Rec	1	12/11/2018 12:55:14 P	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:05:50 PM	42079
Arsenic	0.0029	0.00050	0.0010		mg/L	1	12/17/2018 4:05:50 PM	
Lead	0.0010	0.00050	0.0010		mg/L	1	12/17/2018 4:05:50 PM	42079
Selenium	0.00053	0.00050	0.0010	J	mg/L	1	12/17/2018 4:05:50 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000091	0.000038	0.00020	J	mg/L	1	12/11/2018 6:07:45 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ALS						Analyst: rde	
Barium	0.032	0.020	0.020		mg/L	1	12/14/2018 9:54:32 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:54:32 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:54:32 AM	41991
Chromium	0.011	0.0011	0.0060		mg/L	1	12/14/2018 9:54:32 AM	41991
Cobalt	0.019	0.00098	0.0060		mg/L	1	12/14/2018 9:54:32 AM	41991
Nickel	0.0095	0.0027	0.010	J	mg/L	1	12/14/2018 9:54:32 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:54:32 AM	41991
Vanadium	0.050	0.0023	0.050		mg/L	1	12/14/2018 9:54:32 AM	
Zinc	0.0072	0.0033	0.020	J	mg/L	1	12/14/2018 9:54:32 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 9:46:47 PM	D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 9:46:47 PM	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 9:46:47 PM	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 9:46:47 PM	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 9:46:47 PM	
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 9:46:47 PM	
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 9:46:47 PM	
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 9:46:47 PM	
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 9:46:47 PM	
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 9:46:47 PM	D56250

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 14 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: SMW-4

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:45:00 PM

 Lab ID: 1812373-006
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	1
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Acetone	2.9	0.76	10	J	μg/L	1	12/11/2018 9:46:47 F	PM D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
2-Hexanone	ND	0.91	10		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250

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
- PQL Practical Quanitative Limit
- 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 15 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: SMW-4

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:45:00 PM

 Lab ID: 1812373-006
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	<u> </u>
Styrene	ND	0.25	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
tert-Butylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Tetrachloroethene (PCE)	ND	0.15	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
trans-1,2-DCE	ND	0.18	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
trans-1,3-Dichloropropene	ND	0.28	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1,1-Trichloroethane	ND	0.16	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,1,2-Trichloroethane	ND	0.23	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Trichloroethene (TCE)	ND	0.26	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Trichlorofluoromethane	ND	0.14	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,2,3-Trichloropropane	ND	0.57	2.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Vinyl chloride	ND	0.12	1.0		μg/L	1	12/11/2018 9:46:47 F	PM D56250
Xylenes, Total	ND	0.64	1.5		μg/L	1	12/11/2018 9:46:47 F	PM D56250
1,4-Dioxane	8.6	2.3	10	J	μg/L	1	12/13/2018 8:39:22 F	PM A56304
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	12/11/2018 9:46:47 F	PM D56250
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	1	12/11/2018 9:46:47 F	PM D56250
Surr: Dibromofluoromethane	96.4	0	70-130		%Rec	1	12/11/2018 9:46:47 F	PM D56250
Surr: Toluene-d8	104	0	70-130		%Rec	1	12/11/2018 9:46:47 F	PM D56250

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
- PQL Practical Quanitative Limit
- 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 16 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-4

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:00:00 PM

 Lab ID: 1812373-007
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0049	0.0096		μg/L	1	12/18/2018 12:07:39 A	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 10:12:04 P	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 10:12:04 P	42033
Surr: DNOP	114	0	76.7-135		%Rec	1	12/12/2018 10:12:04 P	42033
EPA METHOD 8015D: GASOLINE RANGE	.						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 1:18:03 PM	G56246
Surr: BFB	87.9	0	72.8-125		%Rec	1	12/11/2018 1:18:03 PM	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:10:11 PM	42079
Arsenic	0.00075	0.00050	0.0010	J	mg/L	1	12/17/2018 4:10:11 PM	
Lead	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:10:11 PM	42079
Selenium	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:10:11 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000087	0.000038	0.00020	J	mg/L	1	12/11/2018 6:11:10 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ΓALS						Analyst: rde	
Barium	0.021	0.020	0.020		mg/L	1	12/14/2018 9:56:17 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:56:17 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:56:17 AM	41991
Chromium	ND	0.0011	0.0060		mg/L	1	12/14/2018 9:56:17 AM	41991
Cobalt	ND	0.00098	0.0060		mg/L	1	12/14/2018 9:56:17 AM	41991
Nickel	ND	0.0027	0.010		mg/L	1	12/14/2018 9:56:17 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:56:17 AM	41991
Vanadium	ND	0.0023	0.050		mg/L	1	12/14/2018 9:56:17 AM	41991
Zinc	ND	0.0033	0.020		mg/L	1	12/14/2018 9:56:17 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
Toluene	ND	0.17	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/11/2018 10:15:21 P	D56250
Naphthalene	ND	0.29	2.0		μg/L	1	12/11/2018 10:15:21 P	D56250
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/11/2018 10:15:21 P	D56250

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

Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 17 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-4

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:00:00 PM

 Lab ID: 1812373-007
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Acetone	3.7	0.76	10	J	μg/L	1	12/11/2018 10:15:21 F	D56250
Bromobenzene	ND	0.32	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Bromoform	ND	0.32	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Bromomethane	ND	0.27	3.0		μg/L	1	12/11/2018 10:15:21 F	D56250
2-Butanone	ND	1.4	10		μg/L	1	12/11/2018 10:15:21 F	D56250
Carbon disulfide	ND	0.39	10		μg/L	1	12/11/2018 10:15:21 F	D56250
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Chloroethane	ND	0.16	2.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Chloroform	ND	0.24	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Chloromethane	ND	0.32	3.0		μg/L	1	12/11/2018 10:15:21 F	D56250
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Dibromomethane	ND	0.32	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/11/2018 10:15:21 F	D56250
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
2-Hexanone	ND	0.91	10		μg/L	1	12/11/2018 10:15:21 F	D56250
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/11/2018 10:15:21 F	D56250
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/11/2018 10:15:21 F	D56250
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/11/2018 10:15:21 F	D56250
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/11/2018 10:15:21 F	D56250

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
- PQL Practical Quanitative Limit
- 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 18 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: MW-4

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:00:00 PM

 Lab ID: 1812373-007
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: AG	
Styrene	ND	0.25	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/11/2018 10:15:21 P	D56250
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/11/2018 10:15:21 P	D56250
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/11/2018 10:15:21 P	D56250
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/11/2018 10:15:21 P	D56250
1,4-Dioxane	ND	2.3	10	μg/L	1	12/13/2018 9:08:28 PM	A56304
Surr: 1,2-Dichloroethane-d4	103	0	70-130	%Rec	1	12/11/2018 10:15:21 P	D56250
Surr: 4-Bromofluorobenzene	97.7	0	70-130	%Rec	1	12/11/2018 10:15:21 P	D56250
Surr: Dibromofluoromethane	99.8	0	70-130	%Rec	1	12/11/2018 10:15:21 P	D56250
Surr: Toluene-d8	104	0	70-130	%Rec	1	12/11/2018 10:15:21 P	D56250

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
- PQL Practical Quanitative Limit
- 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 19 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: DUPLICATE

Project: 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:10:00 PM

 Lab ID: 1812373-008
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8011/504.1: EDB							Analyst: JME	
1,2-Dibromoethane	ND	0.0050	0.0096		μg/L	1	12/18/2018 12:22:30 A	42092
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: Irm	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/12/2018 10:34:01 P	42033
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/12/2018 10:34:01 P	42033
Surr: DNOP	112	0	76.7-135		%Rec	1	12/12/2018 10:34:01 P	42033
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/11/2018 1:40:50 PM	G56246
Surr: BFB	87.4	0	72.8-125		%Rec	1	12/11/2018 1:40:50 PM	G56246
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:14:32 PM	42079
Arsenic	0.00078	0.00050	0.0010	J	mg/L	1	12/17/2018 4:14:32 PM	
Lead	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:14:32 PM	42079
Selenium	ND	0.00050	0.0010		mg/L	1	12/17/2018 4:14:32 PM	42079
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000090	0.000038	0.00020	J	mg/L	1	12/11/2018 6:27:18 PM	42021
EPA 6010B: TOTAL RECOVERABLE MET	ALS						Analyst: rde	
Barium	0.021	0.020	0.020		mg/L	1	12/14/2018 9:58:15 AM	41991
Beryllium	ND	0.00044	0.0030		mg/L	1	12/14/2018 9:58:15 AM	41991
Cadmium	ND	0.00099	0.0020		mg/L	1	12/14/2018 9:58:15 AM	41991
Chromium	ND	0.0011	0.0060		mg/L	1	12/14/2018 9:58:15 AM	41991
Cobalt	ND	0.00098	0.0060		mg/L	1	12/14/2018 9:58:15 AM	41991
Nickel	ND	0.0027	0.010		mg/L	1	12/14/2018 9:58:15 AM	41991
Silver	ND	0.0018	0.0050		mg/L	1	12/14/2018 9:58:15 AM	41991
Vanadium	ND	0.0023	0.050		mg/L	1	12/14/2018 9:58:15 AM	
Zinc	0.0058	0.0033	0.020	J	mg/L	1	12/14/2018 9:58:15 AM	41991
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.17	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Toluene	ND	0.17	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Naphthalene	ND	0.29	2.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/12/2018 11:47:56 A	R56282

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

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 20 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: DUPLICATE

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:10:00 PM

 Lab ID:
 1812373-008
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Acetone	8.8	0.76	10	J	μg/L	1	12/12/2018 11:47:56 A	R56282
Bromobenzene	ND	0.32	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Bromoform	ND	0.32	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Bromomethane	ND	0.27	3.0		μg/L	1	12/12/2018 11:47:56 A	R56282
2-Butanone	ND	1.4	10		μg/L	1	12/12/2018 11:47:56 A	R56282
Carbon disulfide	ND	0.39	10		μg/L	1	12/12/2018 11:47:56 A	R56282
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Chloroethane	ND	0.16	2.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Chloroform	ND	0.24	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Chloromethane	ND	0.32	3.0		μg/L	1	12/12/2018 11:47:56 A	R56282
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Dibromomethane	ND	0.32	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/12/2018 11:47:56 A	R56282
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
2-Hexanone	ND	0.91	10		μg/L	1	12/12/2018 11:47:56 A	R56282
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/12/2018 11:47:56 A	R56282
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/12/2018 11:47:56 A	R56282
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/12/2018 11:47:56 A	R56282
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/12/2018 11:47:56 A	R56282

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

Qualifiers: * Value exce

- * 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
- PQL Practical Quanitative Limit
- 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 21 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812373**

Date Reported: 1/4/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: DUPLICATE

105

 Project:
 2018 Post Closure Sampling LTU
 Collection Date: 12/6/2018 1:10:00 PM

 Lab ID:
 1812373-008
 Matrix: AQUEOUS
 Received Date: 12/6/2018 5:08:00 PM

Result **PQL Oual Units Date Analyzed** Analyses **MDL** DF **Batch ID EPA METHOD 8260B: VOLATILES** Analyst: AG Styrene ND 0.25 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 tert-Butylbenzene ND 0.22 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 1,1,1,2-Tetrachloroethane ND 0.25 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 1,1,2,2-Tetrachloroethane ND 0.33 μg/L R56282 2.0 1 12/12/2018 11:47:56 A Tetrachloroethene (PCE) ND 0.15 1.0 μg/L 12/12/2018 11:47:56 A R56282 1 trans-1,2-DCE ND 0.18 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 trans-1,3-Dichloropropene ND 0.28 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 1,2,3-Trichlorobenzene ND 0.28 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 1,2,4-Trichlorobenzene ND 0.27 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 ND 0.16 1.0 12/12/2018 11:47:56 A 1,1,1-Trichloroethane μg/L 1 R56282 1,1,2-Trichloroethane ND 0.23 1.0 μg/L 12/12/2018 11:47:56 A R56282 Trichloroethene (TCE) ND 0.26 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 Trichlorofluoromethane ND 0.14 1.0 μg/L 12/12/2018 11:47:56 A R56282 1 1,2,3-Trichloropropane ND 0.57 2.0 R56282 μg/L 1 12/12/2018 11:47:56 A Vinvl chloride ND 0.12 1.0 μg/L 1 12/12/2018 11:47:56 A R56282 Xylenes, Total ND 0.64 1.5 μg/L 1 12/12/2018 11:47:56 A R56282 1,4-Dioxane 8.9 2.3 10 J μg/L 1 12/13/2018 9:37:30 PM A56304 70-130 R56282 Surr: 1,2-Dichloroethane-d4 101 0 %Rec 1 12/12/2018 11:47:56 A Surr: 4-Bromofluorobenzene 98.5 0 70-130 %Rec 12/12/2018 11:47:56 A R56282 1 Surr: Dibromofluoromethane 101 0 70-130 %Rec 1 12/12/2018 11:47:56 A R56282

0

70-130

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

Qualifiers:

Surr: Toluene-d8

- 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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range

%Rec

1

- J Analyte detected below quantitation limits
 - Page 22 of 38

12/12/2018 11:47:56 A R56282

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1202 Alturas Drive • Moscow, ID 83843 • (208) 885-2839 • Fax (208) 882-9246 • smail moscow@analeklabs.com 504 E Sprague Sta. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@analeklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

49

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-001

1812373-003E/MW-1

Sampling Date 12/6/2018 Sampling Time 8:10 AM

Date/Time Received Extraction Date 12/12/20112:05 PM 12/12/2018

Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 1.46:00 AM	HSW	EPA 8270D	
2,3,4,6-Tetrachlorophenol	NET	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2.3,5,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2.4.fi-Trichlorophenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	FPA 8270D	
2,4,6-Trichlorophenol	NO.	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2,4-Dichlorophenul	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2,4-Dimethylphenal	ND.	ug/L	0.5	12/14/2018 1.46:00 AM	HSW	EPA 8270D	
2,4-Dinkrophenal	ND	ug/L	0.5	12/14/2018 1.46.00 AM	HSW	EPA 8270D	
2,4-Diretrotoluens	ND	113/0	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2,6-Dinitrotoluene	NEX.	Mg/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Chroronaphthalene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Methylphenni	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
3-Nitroaniline	ND	ug/L	0,5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0,5	12/14/2018 1:46:00 AM	HSW	EPA 82700	
4-Bromophenyl-phenylether	ND	ug/L	0,5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4-Chlora-3-methylphenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4-Chloroaniline	ND	Ug/L	0.6	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
4-Nitrophenol	ND	ug/L	D.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Anitine	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	

Centications hald by Anales I also (0. EPA 000015 AZ-0701; FL(NELAP) E57893; ID:D00013; A/T-CERT0028; NM: ID00013; NV:ID00012: OR:ID00001-002; V/A C605 Centications hald by Anales Lates WA EPA-WAD0159; ID-WAD0159; WA C585; MT.Cert0085; FL(NELAP); E871099

1282 Altures Drive - Moscow, ID 83843 · (208) 863-2839 · Fax (208) 862-9246 · email moscow@analeklabs.com 604 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1012373

Analytical Results Report

Sample Number Client Sample ID 181212072-001

Sampling Date Sampling Time

12/6/2018 8 10 AM

Date/Time Received

Extraction Date

12/12/20112:05 PM

12/12/2018

Matrix

Water

1812373-003E/MW-1

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Anthracene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Benzidine	ND	ug/i_	0.5	12/14/2018 1:46:00 AM	H5W	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Benzo(a)anthracene	ND	ug/L	0.5	12/14/2018 1.46 00 AM	HSW	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	USW	EPA 8270D	
Benzo(k) Illuoranihene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW/	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
bis(2 Chloroethyl)ether	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
bis(2-Elhylhexyl)phthalate	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 82700	
Butylbenzylphthalate	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Dibenz(a,h)anthracene	ND:	Ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/14/2018 1 46:00 AM	HSW	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/14/2018 1:48:00 AM	HSW	EPA 8270D	
Dimethylphthalale	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Di-n-actylphthalale	ND	ugal	0.5	12/14/2018 1.46:00 AM	HSW	EPA 8270D	
Fluoranthene	NO	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Hexachlorobenzana	ND.	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Hexachlorobutadiene	ND.	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Hexachlorocyclopentad ene	ND"	02/1	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Hexachloroethane	ND.	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND'	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Isophorone	ND	100/1	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Naphthalene	NES	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Nitrosodimethylamine	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/14/2018 1:46:00 AM		EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0,5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Pentachlorophanal	ND	ug/L	0.5	12/14/2018 1:46:00 AM	LISW	EPA 8270D	

Certifications held by Anates Labs. D. EPA:I000013, AZ:0701; FL(NELAP):E87893. IO:ID00013, MT:CERT0828; NM; I000013; NV:I000013; GR:I0200001-002; WA:C593-Certifications held by Anates Labs. WA: EPA:WA00169, ID:WA00169, WA:C585, MT:Certi0095; FL(NELAP): E871099

1282 Alluras Drive · Moscow, ID 83843 · (208) 883-2839 · Fax (208) 882-9246 · small moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181212072

Address:

4901 HAWKINS NE SUITE D

Project Name:

ALBUQUERQUE, NM 87109

1812373

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number Client Sample ID 181212072-001

12/6/2018 Sampling Date Sampling Time 8:10 AM

Oate/Time Received

12/12/20112:05 PM

Matrix

1812373-003E/MW-1 Waler

Extraction Date 12/12/2018

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phononthrong	ND:	ug/L	0.5	12/14/2018 1:46:00 AM	Hsw	EPA 8270D	
Phenol	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	
Pyridine	ND.	ug/L	0.5	12/14/2018 1:46:00 AM	HSW	EPA 8270D	

Surrogate Data

Sample Number 181212072-001			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	98.6	43-120
2-Fluorobiphenyl	EPA 8270D	90.8	55-127
2-Fluorophenol	EPA 8270D	90.4	41-119
Nitrobenzene-d5	EPA 8270D	100.8	55-120
Phenol-d5	EPA 8270D	97.6	52-115
Terphenyl-d14	EPA 8270D	126.0	22-133

1282 Alturas Drive • Moscow, ID 83843 • (208) 583-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

181212072

Project Name: 1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-003

Sampling Date

12/6/2018

Date/Time Received

12/12/20112:05 PM

Matrix

1812373-004E/MW-2

Sampling Time 8:37 AM Estraction Date

12/12/2018

Comments

Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifie
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/14/2018 2:14.00 AM	HSW	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
2,4,5-Trichlarophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
2,4,6-Trichlorophenal	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,4-Dimethylphenol	ND-	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2,4-Cinilrotoluene	ND	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 6270D	
2,6-Dinitrotoluene	ND	trg/L	D.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2-Chlorophenal	ND	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
2-Methylnaphthalana	ND	Hg/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2-Methylphenol	ND-	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
3,3'-Dichlorobenzidine	ND -	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	FPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
4 Chloro-3-methylphenal	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
4-Chlorcariline	ND	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
4-Nitroaniline	ND	ug/L	05	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Acenaphthene	ND	Ug/L	0.5	12/14/2018 2 14:00 AM		EPA 8270D	
Acenaphthylene	ND	ug/L	0.5		HSW	EPA 8270D	
Aniline	ND	ug/L	0.5	12/14/2018 Z 14:00 AM	HSW	EPA 8270D	
Anthracene	NO	Ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 82700	

Certifications field by Analist Labs (D. EPA/ID00013: AZ:0701; FL(NF) AP) E87893; ID:ID00013: MT.CERT0028; NM: ID00013: NV:ID00013; OR:ID200001-802; WA:CSe5 Certifications field by Analist Labs WA: EFA/WA(0169; ID:WA00169; WA:CS65 MT.Cert0095; FL(NELAF): E87:1099

12E2 Alturas Drive · Moscow, ID 83843 · (208) 885-2539 · Fax (208) 882-9246 · email moscow@analeklabs.com 504 E Sprague Ste, D · Spókane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spókane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number

181212072-003

Sampling Date 12/6/2018 Date/Time Received

12/12/20112:05 PM

Client Sample ID

1812373 004E/MW-2

Sampling Time 8:37 AM Extraction Date

12/12/2018

Matrix Comments Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Benzo(ghl)perylene	ND	ug/L	0.5	12/14/2018 2/14:00 AM	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Benzofa)pyrene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
bis(2-Chloroethyl)ether	ND	ид/С	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	lig/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Chrysene	ND	ng/l	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 82700	
Dibenzoluran	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Diethylphthalale	NO	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Dimethylphthatate	NO	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Di-n-butylphtralate	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/14/2018 2:14 00 AM	HSW	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Hexachlorobuladinno	ND:	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Hexachlorocyclopeniadiene	ND	ug/L	0.5	12/14/2016 2:14:00 AM	HSW	EPA 8270D	
Hexachloroethane	NO	Ug/L	0,5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Inceno[1,2,3-sd]pyrene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Naphlhalene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Nitrosodimethylamine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
n-Nitrosodiphonylamine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Pentachlorophwnol	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/14/2018 2.14:00 AM	HSW	EPA 8270D	

Certifications held by Anales Labs ID. EPA://000013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT.CERT0028; NM: ID00013:AV ID00013; DR:ID200001-002; WAIC595; Certifications held by Anales Labs WA: EPA://WA00169; ID://WA00169; WA.C595; MT.Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 + (208) 883-2839 • Fax (208) 882-9246 • email moscow@analeklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • cmail spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-003 1812373-004E/MW-2 Sampling Date Sampling Time 12/6/2018 8:37.AM

Date/Time Received Extraction Date

12/12/20112:05 PM 12/12/2018

Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phenol	ND.	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/14/2018 2:14:00 AM	HSW	EPA 8270D	

Surrogate Data

Surrogate Standard	Method	Water of Plantings	A G. (344 Sec.)
		Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 82700	90.4	43-120
2-Fluorobiphenyl	EPA 8270D	89.6	55-127
2-Fluorophenol	EPA 8270D	83.2	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	87.8	52-115
Terphenyl-d14	EPA 8270D	1232	22-133

1282 Alluras Drive . Moscow, ID 83843 . (208) 883-2839 . Fax (208) 882-9246 . email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • amail spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-005

Sampling Date 12/6/2018

Date/Time Received

12/12/20112:05 PM

Matrix

1812373-005F/MW-5 Water

Sampling Time 918 AM

Extraction Date

12/12/2018

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 82700	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
1.3-Dichlorobenzene	ND.	ug/l	0.5	12/14/2018 3:09 OC AM	HSW	EPA 82700	
1,4-Dichlorobenzena	ND.	ug/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
2,3.5,6-Tetrach orophenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,4.5-Trichlorophenol	ND	ug/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
2,4,6-Trichlorophenol	ND:	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,4-Dichloropherrol	ND	Ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2-Chloronaphthalene	NO	ug/L	0.5	12/14/2018 3:09:00 AM		EPA 8270D	
2-Chlorophenol	NO:	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/14/2018 3.09.00 AM	HSW	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM		EPA 8270D	
3.3'-Dichlorobenzidine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/14/2018 3.09:00 AM	HSW	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4,6-Dinitro-2-methylphenoi	NO	vg/t	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Chloro-3-methylphenel	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Chlorophenyl-phenylether	NO	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Nitroaniline	NO	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Acenaphthens	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Acenaphthylene	ND	ng/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Aniline	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Anthragene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	

Conflications held by Anatek Labs 10; EPA/IC00013; AZ:07J1; FL/NELAPJ E87893; ID:[D00013; MT. CERT0028; NN: (D00013 NV:)D00013; OR:(D200001-002; WA:C595-CertColline) rely by Anatek Labs WA: EPA-WA00169; ID:WA00169; WA:C586; NT Cert0005; FL;NELAPJ; E871089

1282 Alturas Drive • Moscow, ID B3843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 638 3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-005

Sampling Date Sampling Time 9 18 AM

12/6/2018

Date/Time Received Extraction Date

12/12/20112-05 PM

12/12/2018

Matrix

1812373-005E/MW-5 Water

Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 82700	
Benzo(ghi)perylene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 82700	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 82700	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	lig/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
bis(2-Chloroethyl)ether	ND.	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
bis(2-chloroisopropyl)ether	NO.	ug/L	0.5	12/14/2018 3:09 00 AM	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.12	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Bulylbenzylphthalate	NO	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Chrysene	ND.	og/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Dioonz[a h]anthracene	ND	ug/L	0.5	12/14/2018 3.09:00 AM	HSW	EPA 82700	
Dipenzofuran	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Diethylphthalate	NO.	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Di-n-butylphthalate	ND	ug/t	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Di-n-octylphthalate	ND	uy/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
luorene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/14/2018 3/09/00 AM	HSW	EPA 8270D	
Hexachlorobutadiene	NO	ug/L	0.5	12/14/2018 3:09:00 AM	LISW	EPA 8270D	
lexach orocyclopentadiene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
fexachioroethane	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
ndeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
suphorone	NO	rig/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Naphthalene	NO	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Virrobenzene	NO	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
titrosodimethylamine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
n-Nitroso-di-ri-propylamine	NO	ug/L	0,5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
- Nitrosodiphenylamine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 82700	
Pentachlorophonol	NO	ug/L	0.5	12/14/2018 3 09 00 AM	HSW	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/14/2018 3:09:00 AM		EPA 8270D	

Certifications held by Anatol Labor D. EPA (D00013: AZ:0731; FL(NELAP):E87893; ID:(D00013: MT CERTIFICAR, NM (D00013: NV:(D00013: OR:10200(C01202; WA Caps-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications hald by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications had by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications had by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications had by Anatol Labor WA: EPA WA00169; ID:WA00169; WA Caps-MT-Certifications had by Anatol Labor WA: EPA WA00169; ID:WA00169

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@analeklabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID

181212072-005 1812379-005E/MW-5 Sampling Date Sampling Time

12/6/2018 D:18 AM

Date/Time Received Extraction Date

12/12/20112:05 PM

12/12/2016

Matrix

Water Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
Prienul	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/14/2018 3:09:00 AM	HSW	EPA 8270D	

Surrogate Data

iample Number 181212072-005			
Surrogate Standard	Method	Percent Recovery	Control Limits
2.4.6-Tribramophenal	EPA 82700	80.8	43-120
2-Flucrobiphenyl	EPA 8270D	94.0	55-127
2-Fluorophenol	EPA 8270D	79.4	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	83.6	52-115
Terphenyl-d14	EPA 8270D	126.8	22-133

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@analeklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 638-3999 • Fax (509) 838-4433 • email spokane@analeklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-007 1812373-006E/SMW-4 Sampling Date Sampling Time 12/6/2018 1:45 PM

Date/Time Received

12/12/20112:05 PM

Matrix

0123/3

Extraction Date

12/12/2018

Comments

Water

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
1,2-Dichlarobenzene	ND	ug/L	0.5	12/14/2018 3:37:00 AM		EPA 8270D	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
1,3-Dichterohenzene	ND	og/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
(4-Dichlorobanzane	ND	Agu	0.5	12/14/2018 3:37:00 AM	H5W	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
2,3,5,6-Tetrachiorophenol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HsW	EPA 8270D	
2,4.5-Trichlorophenol	ND	ug/t	0.5	12/14/2018 3:37:00 AM	IISW	EPA 8270D	
2,4,6-Trichlarophenol	NO	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2,4-Dichlorophenal	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2.4-Dinitrotolumno	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2,6-Dinitrololuane	ND	ug/L	0.5	12/14/2018 3:37:00 AM	200	EPA 8270D	
2-Chioronaphthalene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
2-Chiorophenal	ND-	ug/L	0,5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2-Mathylphenal	ND	ug/L	0.5	12/14/2018 3 37 DO AM	HSW	EPA 8270D	
2-Nitroaniline	NO	09/6	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
2-Nitrophenol	NO	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
3+4-Methylphenol	NO.	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
3-Nitroaniline	ND	og/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
4,6-Dinitro-2-methylphenal	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
4-Chloro-3-methylphenal	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	12/14/2018 3:37 00 AM	HSW	EPA 8270D	
1-Chlorophonyl-phenylether	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
4-Nitroaniline	ND	Ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
4-Nitraphenal	ND	ug/L	0.5	12/14/2018 3:37:00 AM		EPA 8270D	
Acenaphthene	ND -	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Acenaphthylene	NO	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Anilina	ND	uy/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Anthracene	NO	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	

Certifications held by Analek Labs ID: EPA:ID00013; AZ 0701; FL(NELAP); E87893; ID:1000013; MT.CERT0038; NM: ID00013; NV:ID00013; DR:ID200001-002; WA:C595; Certifications held by Analek Labs WA: EPA:WA00169; ID:WAI0169; WA:C585; MT Cert0035; FL(NELAP); E87:1099

1282 Alturas Drive • Mescow. ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@analeklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-007

Sampling Date 12/

12/6/2018

Date/Time Received

12/12/20112:05 PM

Matrix

1812373-006E/SMW 4 Water Sampling Time 145 PM Extraction Date 12/12/2018

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	-	EPA 8270D	
Benzo(ghi)peryiene	ND	ug/L	0.5	12/14/2018 3:37:00 AM		EPA 8270D	
Benzo(a)anthracene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Benzo[a]pyrene	NO.	Up/I	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Benzo[b]fluoranthane	NICK	ug/L	0.5	12/14/2016 3:37:00 AM	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/14/2018 3:37:00 AM	Hsw	EPA 8270D	
bis(2-Chioroethyl)athar	ND	ug/L	0.5	12/14/2018 3:37:00 AM		EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
bis(2-Ethy/hexyl)phthalate	ND	ug/t	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
Butylbenzylphthalate	ND	ug/L	0.5	12/14/2018 3:37:00 AM		EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Dibenz[a,h]anthracono	ND	ug/L	0.5	12/14/2018 3.37.00 AM	10000000	EPA 8270D	
Dibenzoluran	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Diethylphthalale	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Dimethylphthalate	NO	ug/L	0.5	12/14/2018 3:37 DO AM	HSW	EPA 8270D	
Oi-n-butylphihalate	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Di n octylphthalata	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Fluorene	ND-	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Hexachlorosyclopentadiene	ND	Lig/L	0.5	12/14/2018 3:37:00 AM	1	EPA 8270D	
Hexachloroelnane	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/14/2018 3,37:00 AM	HSW	EPA 8270D	
sophorone	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Naphihalene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Nitroberizene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Nitrosodimelnylamine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/t_	0.5	12/14/2018 3:37:00 AM	HSW	EPA 82700	
Phenanthrene	ND	ug/L	0.5	12/14/2018 3 37:00 AM	HSW	EPA 8270D	

Certifications hold by Anatok Lebs ID: EPA;ID00013; AZ:D701; FL(NELAP) (E87833; ID;ID00013; MT-CERT0028; NM: ID00013; MT-CERT0028; NM: ID00013; OR:ID200001-NI2: WA C595 Certifications held by Anatok Labe WA: EPA;WA(0159; ID:WA(0159; WA:C586; MT-Certifications Fully E871092

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-007 1812373-006E/SMW-4 Sampling Date Sampling Time 12/6/2018 1:45 PM

Date/Time Received **Extraction Date**

12/12/20112:05 PM

12/12/2018

Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phenol	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	
Pyridine	NĐ	ug/L	0.5	12/14/2018 3:37:00 AM	HSW	EPA 8270D	

Surrogate Data

mple Number 181212072-007			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	90.4	43-120
2-Fluorobiphenyl	EPA 8270D	88.4	55-127
2-Fluorophenoi	EPA 8270D	83.0	41- 11 9
Nitrobenzene-d5	EPA 8270D	95.2	55-120
Phenof-d5	EPA 8270D	86.0	52-115
Terphenyl-d14	EPA 8270D	106.0	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 583-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-009 1812373-007E/MW-4 Sampling Date Sampling Time 12/6/2018 1.00 PM Date/Time Received

12/12/201 12:05 PM

Matris

Water

Extraction Date 12/12/2018

Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
1.2.4-Trichlorobenzene	ND	ug/L	0,5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
1,2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
1,3-Dichlorobenzene	ND.	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
1,4-Dienlorobenzana	NO	ug/L	0.5	12/14/2018 4.05.00 AM	HSW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2,3,4,6-Tetrachierophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2,3,5,6 Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 4:05 00 AM	HSW	EPA 8270D	
2.4.5-Trichlorophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2,4,6 Trichlorophenol	ND.	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
2,4-Dichlorophenol	ND.	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	1000	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2,4-Dinitrololuene	ND:	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2,6-Dinitrotolyene	NO.	ug/L	0.5	12/14/2018 4:05:00 AM	200	EPA 82/00	
2-Chloronaphthalene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
2-Chlorophenol	ND:	ug/L	0.5	12/14/2018 4:05:00 AM	100000	EPA 8270D	
2-Methylnaphlhalane	ND	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
2-Methylphonal	ND	ug/L	0.5	12/14/2018 4:05:00 AM	0.6 4 5 7	EPA 8270D	
2-Nitroaniling	ND	VII/L	0.5	12/14/2018 4:05:00 AM		EPA 82700	
2-Nitrophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
3,3' Dichlorobenzidine	ND	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
3+4-Methylphenol	NO	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
4.6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
4-Chloro-3-methylphenol	NO	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 82700	
4-Chloroaniline	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/14/2018 4:05:30 AM	HSW	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
Acenaphihylene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Antino	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	

Certifications hald by Analiek Labs ID: EPA:ID00013; AZ:0761; FL(NELAP); E87883; D:ID00013; MT-CERT0028; NN: ID00013; NV ID00013; OR:ID200001-302; WA:CS05; Certifications held by Analiek Labs WA: EPA:WAR0169; ID;WAR0169; WA:CS05; MT-Cert0095; FL(NELAP); E871099

1262 Alturas Drive • Moscow, ID 83843 • (208) 583-2839 • Fax (208) 682-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D-ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-009 1812373-007E/MW-4 Sampling Date Sampling Time 12/6/2018 1:00 PM

Date/Time Received

Extraction Date

12/12/20112:05 PM

12/12/2018

Matrix

Weter

Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND	ug/L	0,5	12/14/2018 4:05:00 AM	HSW	EPA 82700	
Benzo(ghi)perylene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Benzo[a]pyrena	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Benzo[b]fluorant/rana	ND	ug/L	0.5	12/14/2018 4.05 00 AM	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND:	og/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
his(2-Chlorosthyl)ether	NO.	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	- ug/II-	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
bis(2-Ethylhexyt)phthalate	'ND'	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/14/2018 4:05:00 AM	1,125,106,	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
Chrysene	ND.	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 6270D	
Dibenz[a,h]ant/magena	NO:	ug/t	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Diethylphthalate	ND:	ug/L-	0.5	12/14/2018 4.05.00 AM	0.44	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Fluorene	NO	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Hexachlorobenzene	ND	- ng/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/14/2018 4.05:00 AM		EPA 8270D	
Hexachlorocyclopentadiene	NO	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Hexachioroethane	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Indeno[1,2,3-cd]pyrene	NO	ug/L	0.5	12/14/2018 4:05:00 AM		EPA 82700	
Isophorone	NO	ug/L	D.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/14/2018 4.05.00 AM	HSW	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	1000000	EPA 8270D	
Nitrosodimethylamine	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
n-Nitrosodiphenylamine	ND	trg/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Phanarithrene	NO.	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	

Certifications held by Anatok Labe ID: EPAUG00013, AZ:07811 FL(NF) AP) E87893. E-(000013; MT:CERT0026; NM. (E000133NV (000013; OR:(0200001 000; WA:C505-Certifications held by Anatok Labe WA: EPA:WA00159; IO;WA00159; WA:C505. MT:Certifications held by Anatok Labe WA: EPA:WA00159; IO;WA00159; WA:C505. MT:Certifications held by Anatok Labe WA: EPA:WA00159; IO;WA00159; WA:C505.

1282 Alturas Drive · Moscow, ID 83843 · (208) 883-2839 · Fax (208) 882-9246 · email moscow@eneleklabs.com 504 E Sprague Ste. D - Spokene WA 99202 - (509) 838-3999 - Fax (509) 838-4433 - email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

161212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID

181212072-009 1812373-007E/MW-4

Sampling Date 12/6/2018 Sampling Time 1300 FM

Date/Time Received Extraction Data

12/12/20112:05 PM

12/12/2018

Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phonol	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/14/2018 4:05:00 AM	HSW	EPA 8270D	

Surrogate Data

ample Number 181212072-009			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 82700	87.4	43-128
2-Fluorobiphenyl	EPA 8270D	89.6	55-127
2-Fluorophenol	EPA 8270D	84.8	41-119
Nitrobenzene-d9	EPA 82700	94.8	55-190
Phenol-u5	EPA 8270D	86.6	52-115
Terphenyl-d14	EPA 8270D	117.2	22-133

1282 Alturas Drive + Moscow, ID 63843 + (208) 883-2839 + Fax (208) 882-9246 + email moscow@analekiabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812375

Analytical Results Report

Sample Number Client Sample ID 181212072 011

Sampling Date Sampling Time 12/6/2018 THOUM

Date/Time Received

Extraction Date

12/12/20112:05 PM

12/12/2018

Matrix

1812373-008F/DUPLICATE

Water

Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
1.2-Diphenyl hydrazine	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
1,3-Dichlorobenzene	NO	1/gu	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
1,4-Dichlorobunzene	NUL	ug/L	0.5	12/14/2018 4:33:00 AM	TISW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW-	EPA 8270D	
2,3,5.6-Tetrachlorophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2,4.5-Trichlorophenol	MIX	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2,4,6-Trichlorophenol	MD	ug/L	0.5	12/14/2018 4:33:00 AM	Haw	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2.1-Dinitrataluana	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
2.6-Dinitrotoluene	NO	ug/L	0.5	12/14/2018 4 33:00 AM		EPA 8270D	
2-Chloronaphthalene	ND:	ug/L	0,5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2-Mothylpherial	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
2 Nitroanil ne	ND	ug/L	0.5	12/14/2018 4.33,00 AM		EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
3,3'-Dichlorobenzidine	ND-	ug/L	9.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82700	
3-Nitroaniline	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
4.6-Dimiro-2-methylphenol	NO	ug/L	0.€	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
4-Bromopheryl-phenylether	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
-Chlore 3 methylphenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
4-Chlorophenyl-phenylether	NO	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Nitroaniline	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
-Nitrophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Acenaphthena	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Anline	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82700	

Certifications held by Analek Lates 17: EPA:ID00013; AZ:0701; FLINELAPI;E87893; DID00013; MT:CERT0028; NM: ID00013; NV:ID000013; NV:ID000013; NV:ID000013; NV:ID000013; NV:ID000013; NV:ID

1282 Alturas Drive · Moscow, ID 83843 · (208) 863-2839 · Fax (208) 862-9246 · email moscow@analektabs.com 504 E Sprague Sle. D - Spokane WA 99202 - (509) 838-3999 - Fax (509) 838-4433 - email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number

181212072-011

1812373-008E/DUPLICATE

12/6/2018 Sampling Date Sampling Time 1.10 PM

Date/Time Received Extraction Date

12/12/20112:05 PM

12/12/2018

Client Sample ID Matrix

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzidine	ND:	ug/L	0.5	12/14/2018 4:33 00 AM	HSW	EPA 8270D	
Benzo(ghi)pergiana	ND	ug/L	0.5	12/14/2018 4:33 00 AM	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
Benzo[a]pyrene	NO	ug/t	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/l	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND.	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
bis(2-Chloroethy()ether	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
his(2-chloroisopropyl)ether	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
Butylbenzylphthalate	NB	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
Chrysene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Dibenzoluran	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82/0D	
Diethylphthalate	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Dimethylphthalate	ND	ug/L	D.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Di-n-butyiphthalate	MIT	11071	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Hexachlorobutadiene	NO	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82700	
Hexachiloroethane	ND:	ug/L	0,5	12/14/2018 4:33:00 AM		EPA 8270D	
indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82700	
sophorone	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 82700	
Nitrobenzene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Nitrosodimethylamine	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/14/2018 4:33:00 AM		EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	

Certifications held by Analek Late. ID: EPA.IO00013; AZ.0701; PLINELAP): E67893; ID:ID00013; MT:CERT0028; NM; ID00013; NV:ID00013; OR:ID200011-302, WA.C585 Certifications held by Analek Labs WA: EPA.WA00169; ID:WA00169; WA:C585, MT:Cert0095, FLINELAP); E871090

1282 Alturos Drive · Moscow, ID 83543 · (206) 883-2839 · Fax (208) 882-9246 - email moscow@analeklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

181212072

Address:

4901 HAWKINS NE SUITE D

Project Name:

1812373

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number Client Sample ID 181212072-011

Sampling Date

12/6/2018

Date/Time Received

12/12/20112:05 PM

1812373-008E/DUPLICATE

Sampling Time 1.10 PM

Extraction Date

12/12/2018

Matrix Comments Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Phenal	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Pyrane	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/14/2018 4:33:00 AM	HSW	EPA 8270D	

Surrogate Data

Sample Number 181212072.011			
Surrogate Standard	Method	Percent Recovery	Control Limits
2.4,6-Tribromaphenal	EPA 82700	81.6	43-120
2-Fluorobiphenyl	EPA 82700	84.0	55-127
2-Fittorophenol	EPA 8270I7	77 4	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	85.0	52-115
Terphenyl-d14	EPA 8270D	102.8	22-133

Authorized Signature

Todd Taruscio, Lab Manager

MCL

EPA's Maximum Contaminant Level

ND:

Not Detected

PCL

Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory The results reported relate only to the samples indicated. Sall/solid results are reported on a dry-weight basis unless otherwise noted.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs com 504 E Sprague Ste, D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID Matrix 181212072-001 1812373-003E/MW-1

Water

Sampling Date Sampling Time 12/6/2018 8:10 AM

Date/Time Received

12/12/20112:05 PM

Extraction Date 12/12/2018

Comments

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
Benzenethiole	ND	ug/L	0.5	12/15/2018 12:55:00 AM	HSW	EPA 8270D	
Benzo(j)fluoranthene	NO	ug/L	0.6	12/15/2018 12:55:00 AM	HSW	EPA 8270D	
Dibenz(a,j)acridine	ND	ug/L	0.5	12/15/2018 12:55:00 AM	HSW	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/15/2018 12:55:00 AN	HSW	EPA 8270D	
7,12-Dimethylbenz(a)anthracene	ND	ug/L	0.5	1/2/2019 6:12:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	181212072-001			
Surrogate :	Standard	Method	Percent Recovery	Control Limits
Terphenyl-d	114	EPA 8270D	97.6	22-133
Terphenyl-d	114	EPA 8270D	104.4	20-133

1282 Alturas Drive • Moscow, ID 83843 + (208) 883-2839 • Fax (200) 892-9246 • email moscow@analeklabs.com 504 E Sprague Ste. D - Spokane WA 99202 • (509) 838-3999 • F≊x (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-003

Sampling Date 1812373-004E/MW-2 Sampling Time 12/6/2018 8;37.AM

Date/Time Received Extraction Date

12/12/20112:05 PM

12/12/2018

Matrix Comments

Water

Parameter	Result	Units	POL	Analysis Date	Analyst	Method	Qualifier
Benzenelbiole	ND	va/L	0.5	12/15/2018 1:24:00 AM	HSW	EPA 8270D	
Bonzo(j)flooranthens	ND	ug/L	0.5	12/15/2018 1:24:00 AM	HSW	EPA 8270D	
Dibenz(a,j)acridine	ND	ug/L	0.5	12/15/2018 1:24:00 AM	HSW	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/15/2018 1:24:00 AM	HSW	EPA 8270D	
7,12-Dimethylbenz(a)anthracene	ND	ug/L	0.5	1/2/2019 6:39:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	181212072-003
Surrogate 5	Standard
Terphenyl d	14
Terphenyl-d	14

Method
EPA 82700
EPA 8270D

Percent Recovery 110.8

117.6

Control Limits 22-133 20-133

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUEROUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-005 1812373-005E/MW-5 Sampling Date 12/6/2018 Sampling Time 0.18 AM Date/Time Received

12/12/20112:05 PM

Matrix.

Water

MA BLO

Extraction Date 12/12/2018

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzenethiole	ND	ug/L	0.5	12/15/2018 2:21.00 AM	HSW	EPA 82700	
Banzo(j)fluoranthans	ND	ug/L	0.5	12/15/2018 2:21:00 AM	HSW	EPA 8270D	
Dibenz(a,j)acridine	ND	ug/L	0.5	12/15/2018 2:21:00 AM	1,100	EPA 8270D	
Quinoline	ND.	ug/L	0.5	12/15/2018 2:21:00 AM	HSW	EPA 8270D	
7,12-Dimethylbenz(a)anthracene	NO.	ug/L	0.5	1/2/2019 7:33:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number

181212072-005

Surrogate Standard Terphenyl-d-4 Terphenyl-d14 EPA 82700 EPA 82700 Percent Recovery 105.0 115.6

22-133 20-133

1282 Alturas Drive · Moscow, ID 83543 · (208) 883-2839 · Fax (208) 882-9246 · email moscow@analeklabs.com 504 E Sprague Ste D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-007

Sampling Date Sampling Time 12/6/2018 1:45 PM

Date/Time Received

12/12/20112:05 FM

Matrix.

Water

1812373-006E/SMW-4

Estraction Date

12/12/2018

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzonethials	ND	ug/L	0.5	12/15/2018 2:50 90 AM	HSW	EPA 8270D	
Benzo(j)fluoranthene	ND	ug/L	0.5	12/15/2018 2:50 00 AM	HSW	EPA 8270D	
Dibenz(a,j)acridine	ND	ug/L	0.5	12/15/2018 2:50:00 AM	HSW	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/15/2018 2:50:00 AM	HSW.	EPA 8270D	
7.12-Dimethylbenz(a)anthracene	ND	ug/L	0.5	1/2/2019 8:01:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number

181212072-007

Surrogate Standard Terphenyl-d14 Terphenyl-d14

Method EPA 3270D **EPA 8270D**

Percent Recovery 109/2

100.8

Control Limits 22 133 20-133

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • amail moscow@anateklabs.com 504 E Sp/ague Ste D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • amail spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181212072

Address:

4901 HAWKINS NE SUITE D

Project Name:

1812373

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number Client Sample ID 181212072-009

Sampling Date

12/6/2018

Date/Time Received

12/12/20112:05 PM

Matrix

1812373 007E/MW-4

Sampling Time 100 PM

Extraction Date

12/12/2018

Comments

Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzenethiole	ND	ug/L	0.5	12/15/2018 3:18:00 AM	HSW	EPA 8270D	
Benzo(j)fluorantherre	ND	úg/L	0.5	12/15/2018 3:18:00 AM	HSW	EPA 8270D	
Dibenz(a.j)acridine	ND.	ug/L	0.5	12/15/2018 3:18 00 AM	HSW	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/15/2018 3.18:00 AM	HSW	EPA 8270D	
7.12-Dimethylbenz(a)anthracene	ND	ugit	0.5	1/2/2019 B:28:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number

181212072-009

Surrogate Standard Terphenyl-d14 Terphenyl-d14 Method EPA 8270D EPA 6270D Percent Recovery 94.4 107.6

22-133 20-133

Cartifications hate by Anaton Lebe ID: EPA ID00013; AZ:0701; FL(NELAP):E8783; ID:ID00013; NT:CERT0028; NM: ID00013; NV ID00013; NV ID00013; OR:20200001-002; WA:C595-Certifications held by Anaton Labe WA: EPA INVIOLES; ID:WAXD159; WA:C585; MT:Cert0095; FL[NELAP]: E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number Client Sample ID 181212072-011

1812373-008E/DUPLICATE

Sampling Date Sampling Time 12/6/2018 1:10 PM

Date/Time Received **Extraction Date**

12/12/20112:05 PM

12/12/2018

Matrix

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzenethiole	ND	ug/L	0.5	12/15/2018 3:46:00 AM	HSW	EPA 8270D	
Benzo(j)fluoranthene	ND	ug/L	0.5	12/15/2018 3:46:00 AM	HSW	EPA 8270D	
Dibenz(a,j)acridine	ND	ug/L	0.5	12/15/2018 3:46:00 AM	HSW	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/15/2018 3:46:00 AM	HSW	EPA 8270D	
7,12-Dimethylbenz(a)anthracene	ND	ug/L	0.5	1/2/2019 8:55:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	181212072-011								
Surrogate Standard									
Terphenyl-d14									
Terphenyl-d14									

Method **EPA 8270D EPA 8270D**

Percent Recovery 104.4 103.2

Control Limits 22-133 20-133

Authorized Signature

Todd Taruscio, Lab Manager

MCL

EPA's Maximum Contaminant Level

ND

Not Detected

Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory. The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1782 Alturas Drive · Moscow, ID 83843 · (208) 883-2839 · Fax (208) 882-9246 · email moscow@anateklabs.com 804 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4453 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181212072

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 Project Name:

1812373

Attn:

ANDY FREEMAN

Analytical Results Report

Quality Control Data

Lab Control Sample							
Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.12	ug/t	5	1024	45-139	12/12/2018	12/13/2018
Phenol	4.77	ug/L	5	95.4	45-134	12/12/2018	12/13/2018
Pentachlorophenol	4,89	Ng/L	5	97.8	22-138	12/12/2018	12/13/2018
n-Nitroso-di-n-propylamine	4.51	ug/L	5	90.2	46-135	12/12/2018	12/13/2018
bis(2 Ethylhoxyl)phthalate	5 43	ug/L	5	1086	51-149	12/12/2018	12/13/2018
Acenaphthene	4.88	ug/L	5	97.6	45-129	12/12/2018	12/13/2018
4-Nitrophenol	4 20	ug/L	5	85.6	19-141	12/12/2018	12/13/2018
4-Chloro-3-methylonenol	4.84	ug/L	5	96.8	12-139	12/12/2018	12/13/2018
2-Chlorophenol	4.45	ug/L	5	89.0	50-131	12/12/2018	12/13/2018
2,4 Dinitratoluene	5.04	ug/L	5	100.8	42-143	12/12/2018	12/13/2018
1,4-Dichlorobenzene	3.77	ug/L	5	75.4	28-108	12/12/2018	12/13/2018
1,2,4-Trichlorobenzene	4.06	ug/L	5	81.2	33-109	12/12/2018	12/13/2018

Parameter	LCSD	W000	LCSD	100	- Oc. 75	AR		
A section of	Result	Units	Spike	%Rec	%RPD	%RPD	Prop Date	Analysis Date
Pyrena	4.99	ug/L	5	99.8	2.6	0-16	12/12/2018	12/13/2018
Phenol	4.85	ug/L	5	97.0	1.7	0-25	12/12/2018	12/13/2018
entachlorophecol	5.00	ug/L	5	100.0	22	0-39	12/12/2018	12/13/2018
-Nitroso-di-n-propylamine	4.96	ug/L	5	99.2	9.5	0-25	12/12/2018	12/13/2018
is(2-Ethylhexyl)phthalale	5.22	ug/l	5	104.4	3.0	0-43	12/12/2018	12/13/2018
Acenaphthene	4.80	ug/L	5	96.0	1.7	0-22	12/12/2018	12/13/2018
1-Nitrophenol	4.81	ug/L	5	96.2	11.7	0-51	12/12/2018	12/13/2018
-Chloro-3-methylphenol	4.95	ug/L	5	99.0	2.2	0-20	12/12/2018	12/13/2018
2-Chlorophenol	4.48	ug/L:	5	89.6	0.7	0-24	12/12/2018	12/13/2018
2.4-Dinitrotolueru	5 18	ug/L	5	103.6	2.7	0.20	12/12/2018	12/13/2018
,4-Dichlorobenzone	3.50	0g/L	5	70.0	TA	0-31	12/12/2018	12/13/2018
,2,4-Trichlorobenzana	3.62	ug/L	5	72.4	11.5	0.33	12/12/2018	12/13/2018

Method Blank					
Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2.4-Trichlorobenzene	ND	VB/L	0,5	12/12/2018	12/13/2018
1,2-Dichlorobenzene	ND.	ug/L	0.5	12/12/2018	12/13/2018

Certrications held by Anasaki airs ID: EPA-ID(8013; AZ:0701; FLINELAP); E87893; ID:1000013; MT CERT0928; NM: ID80013; NV:ID00013; NV:ID00013; OR:ID200001-00Z, WA:C995 Certrications held by Anasak Lebe WA: EPA-WA:00169, ID WA:00169, WA:C585; MT.Cert0035; FL(NELAP); EBT1099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 - email moscow@analeklabs.com 604 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

181212072

Project Name:

1812373

Analytical Results Report Quality Control Data

Method Blank					
Parameter	Result	Units	PQL	Prop Date	Analysis Date
1,2-Diphenyl hydrazlne	ND	ug/L	0.5	12/12/2018	12/13/2018
1,3-Dichlorobenzene	ND	ug/L	0,5	12/12/2018	12/13/2018
1,4-Dichlorobenzenu	ND	ng/l	0.5	12/12/2018	12/13/2018
1-Methylnaphtnainne	ND	ug/L	0.5	12/12/2018	12/13/2016
2,3,4,6 Tetrachlerophenol	ND	Up/L	0.5	12/12/2018	12/13/2018
2,3,5,6-Tetrachlorophenol	ND	ug/L	0.5	12/12/2018	12/13/2018
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/12/2018	12/13/2018
2,4,6-Trichlorophenol	NO	ug/L	0.5	12/12/2018	12/13/2018
2,4-Dichlorophenol	NO.	ug/l	0.5	12/12/2018	12/13/2018
2,4 Dimethylphenul	ND.	ug/L	0.5	12/12/2018	12/13/2018
2,4-Dinitrophenol	ND.	tag/L	0.5	12/12/2018	12/13/2018
2,4-Dinitroto ueno	ND.	ug/L	0.5	12/12/2018	12/13/2018
2,5-Dinitrotoluene	ND	ug/L	0,5	12/12/2018	12/13/2018
2-Chloronaphthalerm	ND	ug/L	0,5.	12/12/2018	12/13/2018
2-Chlorophenol	ND	46/1	0.5	12/12/2018	12/13/2018
2-Methylnaphthalenn	ND	ug/L	0.5	12/12/2018	12/13/2018
2-Methylphenol	ND	ug/L	0.5	12/12/2018	12/13/2018
2-Nitroaniline	ND	ug/L	0.5	12/12/2018	12/13/2018
2-Nitrophenci	NO	ug/li	0.5	12/12/2018	12/13/2018
3,3'-Dichlorobenzidine	NO	ug/L	0.5	12/12/2018	12/13/2018
3*4-Methylphenol	ND	ug/L	0.5	12/12/2018	12/13/2018
3-Nitroaniline	ND.	ug/E	0.5	12/12/2018	12/13/2018
4.6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/12/2018	12/13/2018
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/12/2018	12/13/2018
4-Chioro-3-methylphenol	ND	.ug/L	0.5	12/12/2018	12/13/2018
4-Chloroaniline	ND	ug/t	0.5	12/12/2018	12/13/2018
4-Chlorophenyl-phenylether	ND	16970	0.5	12/12/2018	12/13/2018
4 Nitroaniline	ND	L/g/L	0.5	12/12/2018	12/13/2018
4-Nitrophenol	ND	ug/L	0.5	12/12/2018	12/13/2018
7,12-Dimethylbenz(a)anthracene	ND	ug/L	0.5	12/12/2018	1/2/2019
Acenaphthène	ND	ug/L	0.5	12/12/2018	12/13/2018
Acenaphthylene	ND	ng/L	0.5	12/12/2018	12/13/2018
Anline	ND	og/L	0.5	12/12/2018	12/13/2016
Anthracene	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzenethiole	ND	ug/L	0.5	12/12/2018	12/15/2018
Benzidine	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzo(chi)perylenu	NO	ug/L	0.5	12/12/2018	12/13/2018

Comments:

Certifications held by Anatak Labs: ID: EPA-1000013; AZ 0701, FL(NELAP); E87833; ID: 1000013; MT.CERT0028; NM: (D00013; NV:1000013; OR: ID200001-802; WA.C595 Certifications held by Anatak Labs: WA. EPA-WA00160; ID: WA00160; WA.C585; MT.Cert0095; FL(NELAP); E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report Quality Control Data

Method Blank	·		-	<u></u>	· · · · · · · · · · · · · · · · · · ·
Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzo(j)fluoranthene	ND	ug/L	0.5	12/12/2018	12/15/2018
Benzo[a]anthracene	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzo[a]pyrene	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzo[b]fluoranthene	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzo[k]fluoranthene	ND	ug/L	0.5	12/12/2018	12/13/2018
Benzyl alcohol	ND	ug/L	0.5	12/12/2018	12/13/2018
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/12/2018	12/13/2018
bis(2-Chloroethyl)ether	ND	ug/L	0.5	12/12/2018	12/13/2018
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/12/2018	12/13/2018
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Butylbenzylphthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Carbazole	ND	ug/L	0.5	12/12/2018	12/13/2018
Chrysene	ND	ug/L	0.5	12/12/2018	12/13/2018
Dibenz(a,j)acridine	ND	ug/L	0.5	12/12/2018	12/15/2018
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/12/2018	12/13/2018
Dibenzofuran	ND	ug/L	0.5	12/12/2018	12/13/2018
Diethylphthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Dimethylphthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Di-n-buty/phthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Di-n-octylphthalate	ND	ug/L	0.5	12/12/2018	12/13/2018
Fluoranthene	ND	ug/L	0.5	12/12/2018	12/13/2018
Fluorene	ND	ug/L	0.5	12/12/2018	12/13/2018
Hexachlorobenzene	ND	ug/L	0.5	12/12/2018	12/13/2018
Hexachlorobutadiene	ND	ug/L	0.5	12/12/2018	12/13/2018
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/12/2018	12/13/2018
Hexachloroethane	ND	ug/L	0.5	12/12/2018	12/13/2018
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/12/2018	12/13/2018
Isophorone	ND	ug/L	0.5	12/12/2018	12/13/2018
Naphthalene	ND	ug/L	0.5	12/12/2018	12/13/2018
Nitrobenzene	ND	ug/L	0.5	12/12/2018	12/13/2018
Nitrosodimethylamine	ND	ug/L	0.5	12/12/2018	12/13/2018
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	12/12/2018	12/13/2018
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/12/2018	12/13/2018
Pentachlorophenol	ND	ug/L	0.5	12/12/2018	12/13/2018
Phenanthrene	ND	ug/L	0.5	12/12/2018	12/13/2018
Phenol	ND	ug/L	0.5	12/12/2018	12/13/2018
Pyrene	ND	ug/L	0.5	12/12/2018	12/13/2018

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Mascow, ID 83843 • (208) 883-2839 • Fax (208) 852-9246 • email moscow@anateklabs.pdin 504 C Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181212072

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Project Name: 1812373

Attn:

ANDY FREEMAN

Analytical Results Report Quality Control Data

Method Blank					
Parameter	Result	Units	PQL	Prep Date	Analysis Date
Pyridine	ND	ug/L	0.5	12/12/2018	12/13/2018
Quinoline	ND	tig/L	0.5	12/12/2018	12/15/2018

AR

Acceptable Range

NO

Not Detected

POL RPD Practical Quantitation Limit Relative Percentage Difference

Comments:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste D • Spokane WA 99202 • (509) 538-3999 • Fax (509) 538-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report

Sample Number

181212072-002

1812373-003F/MW-1

Sampling Date Sampling Time 12/8/2018 810 AM

Date/Time Received 12/12/2018 12:05 PM

Client Sample ID Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifler
Cyanide	ND	mg/L	0.01	12/13/2018 2:40:00 PM	BKP	EPA 335.4	

Sample Number

181212072-004

Water

Sampling Date 12/6/2018 Date/Time Received

Client Sample ID Matrix

1812373-004F/MW-2

Sampling Time

8:37 AM

12/12/2018 12:05 PM

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/13/2018 2:40:00 PM	BKP	EPA 335.4	

12/6/2018

9:10 AM

Sample Number Client Sample ID

181212072-006 1812373-005F/MW 5

Sampling Date Sampling Time Date/Time Received 12/12/2018 12:05 PM

Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Mathod	Qualifier
Cyanide	ND	mg/L	0.01	12/13/2018 2:40:00 PM	BKP	EPA 335.4	

Sample Number Client Sample ID

181212072-008 18123/3-006F/SMW-4 Sampling Date Sampling Time

12/6/2018 1:45 PM

Date/Time Received 12/12/2018 12:05 PM

Matrix Comments Water

Parameter Result Units PQL Analysis Date Analyst Method Qualifier Cyanide ND mg/L 0.01 12/13/2018 2:40:00 PM BKP EPA 335.4

Certifications held by Analisk Latis: Dr. EPA:(100013: AZ,0701; FL)NELAP); E87093; Dr.(D00013: M1; CERT0028; NM: (D00013; NV:(D00013; OR (D200901-002; WA:C595; Certifications held by Analisk Lebs WA: EPA:(WA00168; ID:WA00168; WA:C585; M1; Cert0095; FL(NELAP); E871099

1782 Alluras Drive · Moscow ID 83843 · (208) 883-2839 · Fax (208) 892-9246 · email moscow@enateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4453 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

181212072

Project Name: 1812373

Analytical Results Report

Sample Number

181212072-010

1812373-007F/MW-4

Sampling Date Sampling Time 12/6/2018 1:00 PM

Date/Time Received 12/12/2018 12:05 PM

Client Sample ID Matrix

Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/13/2018 2:40:00 PM	BKP	EPA 335.4	

Sample Number

181212072-012

Water

Sampling Date

12/6/2018

Client Sample ID

1812373-008F/DUPLICATE

Sampling Time 1:10 PM Date/Time Received 12/12/2018 12:05 PM

Matrix

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/13/2018 2:40:00 PM	BKP	EPA 335.4	

Authorized Signature

Tood Taruscio, Lab Manager

MCL

EPA's Maximum Contaminant Level

ND

Not Detected

POI.

Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory. The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 882-9246 - email moscow@anateklabs.com 504 E Sprague Ste D - Spokane WA 99202 - (509) 838-3999 - Fax (509) 838-4433 - email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181212072

Project Name:

1812373

Analytical Results Report
Quality Control Data

Lab Control Sample										
Parameter Cyanide	LCS Result 0.504	Units mg/L			Spike %Rec 0.5 100.8				Date /2018	Analysis Date 12/13/2018
Matrix Spike		X = 1						-		
Sample Number Parameter 181212073-001 Cyanide		Sample Result NO	MS Result 0.484	Units mg/l		MS Spike 05	%Rec 96.8	AR %Rec 80-120	Prep Date 12/13/2016	
Matrix Spike Duplicate				_	-	-	-	_		
Parameter Cyanide	MSD Result 0.484	Units mg/L	MSD Spike 0.5	%R 96.	-	%RPD 0,0	AR %RPD 0-20	-0.75	p Date 3/2018	Analysis Date 12/13/2018
Method Blank			-	-	_	_				
Parameter Cyanide		Res	7.00	Un			PQL 0.01		ep Date 3/2018	Analysis Date 12/13/2018

ARI ND Acceptable Range Not Detected

PQI.

Practical Quantitation Limit

RPD

Relative Percentage Difference

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812373

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID MB-42092 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: PBW Batch ID: 42092 RunNo: 56419

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886382 Units: µg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

1,2-Dibromoethane ND 0.010

Sample ID LCS-42092 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 42092 RunNo: 56419

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886389 Units: µg/L

SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte Result PQL Qual

1,2-Dibromoethane 0.10 0.010 0.1000 0 100 130

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 23 of 38

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

Qual

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID MB-42079 SampType: MBLK TestCode: EPA Method 6020: Total Metals
Client ID: PBW Batch ID: 42079 RunNo: 56395

Client ID: PBW Batch ID: 42079 RunNo: 56395

Prep Date: 12/13/2018 Analysis Date: 12/17/2018 SeqNo: 1885196 Units

Prep Date: 12/13/2018 Analysis Date: 12/17/2018 SeqNo: 1885196 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit

 Antimony
 ND
 0.0010

 Arsenic
 ND
 0.0010

 Lead
 ND
 0.0010

 Selenium
 ND
 0.0010

Sample ID LLLCS-42079 SampType: LCSLL TestCode: EPA Method 6020: Total Metals Client ID: **BatchQC** Batch ID: 42079 RunNo: 56395 Prep Date: Analysis Date: 12/17/2018 SeqNo: 1885197 Units: mg/L 12/13/2018 POL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual 0.00097 0.0010 0.001000 0 96.5 70 Antimony 130 0 101 70 Arsenic 0.0010 0.0010 0.001000 130 Lead 0.0011 0.0010 0.001000 0 108 70 130 0.0012 O 70 Selenium 0.0010 0.001000 121 130

TestCode: EPA Method 6020: Total Metals Sample ID LCS-42079 SampType: LCS Client ID: **LCSW** Batch ID: 42079 RunNo: 56395 Prep Date: 12/13/2018 Analysis Date: 12/17/2018 SeqNo: 1885198 Units: mg/L %RPD Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual 0.053 0.0010 0.05000 0 106 Antimony 80 120 Arsenic 0.049 0.0010 0.05000 0 98.7 80 120 0.050 0.0010 Λ 100 മറ 120 Lead 0.05000 0.050 0.0010 0.05000 0 100 80 120 Selenium

Sample ID 1812373-008DMS SampType: MS TestCode: EPA Method 6020: Total Metals Client ID: Batch ID: 42079 **DUPLICATE** RunNo: 56395 Prep Date: 12/13/2018 Analysis Date: 12/17/2018 SeqNo: 1885205 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Antimony 0.055 0.0010 0.05000 0 111 75 125 0.053 0.0010 0.05000 0.0007786 105 75 125 Arsenic Lead 0.050 0.0010 0.05000 0 99.9 75 125 0.0010 Selenium 0.050 0.05000 0 101 75 125

Sample ID 1812373-008DMSD SampType: MSD TestCode: EPA Method 6020: Total Metals

Client ID: DUPLICATE Batch ID: 42079 RunNo: 56395

Prep Date: 12/13/2018 Analysis Date: 12/17/2018 SeqNo: 1885208 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

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

PQL Practical Quanitative Limit

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 24 of 38

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID 1812373-008DMSI	D Samp	Туре: М	SD	Tes	tCode: El	/letals				
Client ID: DUPLICATE	Bato	ch ID: 420	079	F	RunNo: 5	6395				
Prep Date: 12/13/2018	Analysis	Date: 12	2/17/2018	SeqNo: 1885208			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.056	0.0010	0.05000	0	112	75	125	1.23	20	
Arsenic	0.052	0.0010	0.05000	0.0007786	102	75	125	2.60	20	
Lead	0.050	0.0010	0.05000	0	99.5	75	125	0.345	20	
Selenium	0.051	0.0010	0.05000	0	103	75	125	1.84	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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 25 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID LCS-42033 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Client ID: LCSW Batch ID: 42033 RunNo: 56237 Prep Date: 12/11/2018 Analysis Date: 12/12/2018 SeqNo: 1881629 Units: mg/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 1.0 5.000 0 116 70 5.8 130

 Diesel Range Organics (DRO)
 5.8
 1.0
 5.000
 0
 116
 70
 130

 Surr: DNOP
 0.55
 0.5000
 110
 76.7
 135

TestCode: EPA Method 8015M/D: Diesel Range Sample ID MB-42033 SampType: MBLK Client ID: PBW Batch ID: 42033 RunNo: 56237 Prep Date: Analysis Date: 12/12/2018 12/11/2018 SeqNo: 1881630 Units: mg/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Diesel Range Organics (DRO) ND 1.0
Motor Oil Range Organics (MRO) ND 5.0

Surr: DNOP 1.0 1.000 101 76.7 135

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 26 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812373

07-Jan-19

Client: Marathon

Surr: BFB

Project: 2018 Post Closure Sampling LTU

Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

PBW Client ID: Batch ID: G56246 RunNo: 56246

Prep Date: Analysis Date: 12/11/2018 SeqNo: 1879269 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) ND 0.050

Surr: BFB 20.00 90.1 72.8 18 125

TestCode: EPA Method 8015D: Gasoline Range Sample ID 2.5UG GRO LCS SampType: LCS

Client ID: LCSW Batch ID: G56246 RunNo: 56246

Prep Date: Analysis Date: 12/11/2018 SeqNo: 1879270 Units: mg/L

20.00

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.46 0.050 0.5000 91.9 77.7 130 22 72.8

112

125

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
- POL Practical Quanitative Limit
- % 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
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Page 27 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812373

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID 100ng Ics	SampT	ype: LC	s	Tes	tCode: El	ATILES				
Client ID: LCSW	Batch	1D: D5	6250	R	RunNo: 5	6250				
Prep Date:	Analysis D	ate: 12	2/11/2018	S	SeqNo: 1	879426	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.0	70	130			
Toluene	19	1.0	20.00	0	96.4	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	97.3	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.8	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID 1812373-001ams	SampT	уре: М	3	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: Field Blank	Batch	n ID: D5	6250	F	RunNo: 5	6250				
Prep Date:	Analysis D	ate: 12	2/11/2018	S	SeqNo: 1	879429	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0.2096	94.3	70	130			
Toluene	19	1.0	20.00	0.2904	91.7	70	130			
Chlorobenzene	19	1.0	20.00	0	95.2	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.0	67.6	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.6	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID 1812373-001amsd	SampT	SampType: MSD TestCode: EPA Method 8260B: VOLAT								
Client ID: Field Blank	Batch	n ID: D5	6250	R	RunNo: 5	6250				
Prep Date:	Analysis D	ate: 12	2/11/2018	S	SeqNo: 1	879430	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0.2096	90.2	70	130	4.47	20	·
Toluene	19	1.0	20.00	0.2904	94.1	70	130	2.52	20	
Chlorobenzene	20	1.0	20.00	0	97.7	70	130	2.52	20	
1,1-Dichloroethene	18	1.0	20.00	0	88.9	67.6	130	5.59	20	
Trichloroethene (TCE)	17	1.0	20.00	0	83.2	70	130	4.21	20	
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130	0	0	
Surr: Dibromofluoromethane	9.7		10.00		97.2	70	130	0	0	
Surr: Toluene-d8	10		10.00		101	70	130	0	0	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Page 28 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID rb	SampT	ype: M	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: D5	6250	F	RunNo: 5	6250				
Prep Date:	Analysis D	ate: 12	2/11/2018	5	SeqNo: 1	879451	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
2,2 Digitioroproparts	ND	2.0								

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
- PQL Practical Quanitative Limit
- 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

W Sample container temperature is out of limit as specified

Page 29 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID rb	SampT	SampType: MBLK TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch	n ID: D5	6250	F	RunNo: 5	6250				
Prep Date:	Analysis D	Date: 12	2/11/2018	9	SeqNo: 1	879451	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.1	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
Sample ID 100ng Ics	SamnT	vne. 10	·e	Tes	tCode: E	PA Method	8260B- VOI	ATII ES		

Sample ID 100ng lcs	SampT	ype: LC	s	Tes	tCode: E	ATILES				
Client ID: LCSW	Batch	n ID: R5	6282	F	RunNo: 5	6282				
Prep Date:	Analysis D)ate: 12	2/12/2018	8	SeqNo: 1	880658	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	70	130			
Toluene	19	1.0	20.00	0	93.7	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			

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

PQL Practical Quanitative Limit

8 % 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 30 of 38

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID 100ng lcs	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	n ID: R5	6282	F	RunNo: 5	6282				
Prep Date:	Analysis D	ate: 12	2/12/2018	9	SeqNo: 1	880658	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	97.8	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID rb	SampT	уре: М	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: R5	6282	F	RunNo: 5	6282				
Prep Date:	Analysis D	ate: 12	2/12/2018	S	SeqNo: 1	880668	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 31 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID rb	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: R5	6282	F	RunNo: 5	6282				
Prep Date:	Analysis D	ate: 12	2/12/2018	S	SeqNo: 1	880668	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.8	70	130			

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
- PQL Practical Quanitative Limit
- 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
 W Sample container temperature is out of limit as specified

Page 32 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID rb SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: PBW Batch ID: **R56282** RunNo: 56282 Prep Date: Analysis Date: 12/12/2018 SeqNo: 1880668 Units: µg/L Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: 4-Bromofluorobenzene 9.7 10.00 96.6 70 130 Surr: Dibromofluoromethane 10.00 98.4 70 9.8 130 Surr: Toluene-d8 10 10.00 102 70 130

Sample ID 2ng 8260 pql ag	SampT	ype: LC	:S4	Test	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: BatchQC	Batch	n ID: R5	6282	R	tunNo: 5	6282				
Prep Date:	Analysis D	ate: 12	2/12/2018	S	eqNo: 1	881983	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.47	1.0	0.4000	0	117	70	130			J
Toluene	0.42	1.0	0.4000	0	104	70	130			J
Ethylbenzene	0.39	1.0	0.4000	0	97.4	70	130			J
Methyl tert-butyl ether (MTBE)	ND	1.0	0.8000	0	0	70	130			S
1,2,4-Trimethylbenzene	ND	1.0	0.4000	0	0	70	130			S
1,3,5-Trimethylbenzene	0.44	1.0	0.4000	0	111	70	130			J
1,2-Dichloroethane (EDC)	0.55	1.0	0.4000	0	138	70	130			JS
1,2-Dibromoethane (EDB)	0.45	1.0	0.4000	0	112	70	130			J
Naphthalene	ND	2.0	0.4000	0	0	70	130			S
1-Methylnaphthalene	ND	4.0	0.4000	0	0	60	140			S
2-Methylnaphthalene	ND	4.0	0.4000	0	0	60	140			S
Acetone	2.4	10	0.8000	0	303	70	130			JS
Bromobenzene	0.37	1.0	0.4000	0	93.6	70	130			J
Bromodichloromethane	0.44	1.0	0.4000	0	110	70	130			J
Bromoform	0.51	1.0	0.4000	0	126	70	130			J
Bromomethane	0.51	3.0	0.4000	0	127	41.8	145			J
2-Butanone	2.3	10	0.8000	0	290	70	130			JS
Carbon disulfide	0.80	10	0.8000	0	99.8	70	130			J
Carbon Tetrachloride	0.41	1.0	0.4000	0	104	70	130			J
Chlorobenzene	0.38	1.0	0.4000	0	95.8	70	130			J
Chloroethane	1.2	2.0	0.4000	0	293	70	130			JS
Chloroform	0.43	1.0	0.4000	0	107	70	130			J
Chloromethane	0.69	3.0	0.4000	0	173	56	137			JS
2-Chlorotoluene	0.45	1.0	0.4000	0	111	70	130			J
4-Chlorotoluene	0.50	1.0	0.4000	0	125	70	130			J
cis-1,2-DCE	0.43	1.0	0.4000	0	107	70	130			J
cis-1,3-Dichloropropene	0.42	1.0	0.4000	0	104	70	130			J
1,2-Dibromo-3-chloropropane	ND	2.0	0.4000	0	0	70	130			S
Dibromochloromethane	0.46	1.0	0.4000	0	115	70	130			J
Dibromomethane	0.41	1.0	0.4000	0	104	70	130			J

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 33 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID 2ng 8260 pql ag	Samp	Гуре: LC	S4	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: BatchQC	Batc	h ID: R5	6282	F	RunNo: 5	6282				
Prep Date:	Analysis [Date: 12	2/12/2018	S	SeqNo: 1	881983	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	0.47	1.0	0.4000	0	117	70	130			J
1,3-Dichlorobenzene	0.46	1.0	0.4000	0	115	70	130			J
1,4-Dichlorobenzene	0.49	1.0	0.4000	0	123	70	130			J
Dichlorodifluoromethane	0.35	1.0	0.4000	0	87.0	51.4	146			J
1,1-Dichloroethane	0.58	1.0	0.4000	0	146	70	130			JS
1,1-Dichloroethene	0.52	1.0	0.4000	0	131	70	130			JS
1,2-Dichloropropane	ND	1.0	0.4000	0	0	70	130			S
1,3-Dichloropropane	0.35	1.0	0.4000	0	88.5	70	130			J
2,2-Dichloropropane	0.38	2.0	0.4000	0	94.6	70	130			J
1,1-Dichloropropene	0.48	1.0	0.4000	0	119	70	130			J
Hexachlorobutadiene	0.42	1.0	0.4000	0	105	70	130			J
2-Hexanone	1.1	10	0.8000	0	138	70	130			JS
Isopropylbenzene	0.43	1.0	0.4000	0	107	70	130			J
4-Isopropyltoluene	0.44	1.0	0.4000	0	110	70	130			J
4-Methyl-2-pentanone	0.86	10	0.8000	0	108	70	130			J
Methylene Chloride	0.51	3.0	0.4000	0	128	70	130			J
n-Butylbenzene	0.50	3.0	0.4000	0	124	70	130			J
n-Propylbenzene	0.48	1.0	0.4000	0	120	70	130			J
sec-Butylbenzene	0.48	1.0	0.4000	0	119	70	130			J
Styrene	0.43	1.0	0.4000	0	108	70	130			J
tert-Butylbenzene	0.48	1.0	0.4000	0	119	70	130			J
1,1,1,2-Tetrachloroethane	0.38	1.0	0.4000	0	95.4	70	130			J
1,1,2,2-Tetrachloroethane	0.47	2.0	0.4000	0	116	70	130			J
Tetrachloroethene (PCE)	ND	1.0	0.4000	0	0	70	130			S
trans-1,2-DCE	0.52	1.0	0.4000	0	130	70	130			J
trans-1,3-Dichloropropene	0.46	1.0	0.4000	0	114	70	130			J
1,2,3-Trichlorobenzene	0.51	1.0	0.4000	0	129	70	130			ı
1,2,4-Trichlorobenzene	0.43	1.0	0.4000	0	108	70	130			ı
1,1,1-Trichloroethane	0.44	1.0	0.4000	0	111	70	130			ı
1,1,2-Trichloroethane	0.44	1.0	0.4000	0	111	70	130			J
Trichloroethene (TCE)	0.46	1.0	0.4000	0	116	70	130			J
Trichlorofluoromethane	0.40	1.0	0.4000	0	103	70	130			J
										0
1,2,3-Trichloropropane	ND 0.63	2.0	0.4000	0	0 157	70 67.1	130			S
Vinyl chloride	0.63	1.0	0.4000	0	157	67.1	132			JS
Xylenes, Total	1.2	1.5	1.200	0	102	70	130			J
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.7	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 34 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID rb	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: A5	6304	F	RunNo: 5	6304				
Prep Date:	Analysis D	ate: 12	2/13/2018	9	SeqNo: 1	882423	Units: %Re	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.1	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

Sample ID 100ng lcs	SampT	ype: LC	s	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: A5	6304	R	RunNo: 5	6304				
Prep Date:	Analysis D	ate: 12	2/13/2018	S	SeqNo: 1	882424	Units: %Red	c		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.7	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.3		10.00		93.4	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 35 of 38

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812373

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID MB-42021 SampType: MBLK TestCode: EPA Method 7470: Mercury

Client ID: PBW Batch ID: 42021 RunNo: 56262

Units: mg/L Prep Date: 12/10/2018 Analysis Date: 12/11/2018 SeqNo: 1879715

Analyte **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

0.000094 0.00020 Mercury J

Sample ID LCS-42021 SampType: LCS TestCode: EPA Method 7470: Mercury

Client ID: LCSW Batch ID: 42021 RunNo: 56262

Prep Date: 12/10/2018 Analysis Date: 12/11/2018 SeqNo: 1879716 Units: mg/L

Analyte SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Result PQL Qual

Mercury 0.0052 0.00020 0.005000 0 104 120

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 36 of 38

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID MB-41991	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA 6010B:	Total Recover	able Meta	als	
Client ID: PBW	Bato	ch ID: 41	991	F	RunNo: 5	6358				
Prep Date: 12/8/2018	Analysis	Date: 12	2/14/2018	S	SeqNo: 1	887700	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Beryllium	ND	0.0030								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								
Zinc	0.0049	0.020								J

Sample ID LCS-41991	Samp	Type: LC	s	Tes	tCode: El	PA 6010B:	Total Recove	rable Meta	als	
Client ID: LCSW	Bato	ch ID: 41	991	F	RunNo: 5	6358				
Prep Date: 12/8/2018	Analysis I	Date: 12	2/14/2018	S	SeqNo: 1	887701	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	99.4	80	120			
Beryllium	0.51	0.0030	0.5000	0	103	80	120			
Cadmium	0.50	0.0020	0.5000	0	100	80	120			
Chromium	0.50	0.0060	0.5000	0	99.2	80	120			
Cobalt	0.48	0.0060	0.5000	0	95.7	80	120			
Nickel	0.48	0.010	0.5000	0	96.4	80	120			
Silver	0.10	0.0050	0.1000	0	101	80	120			
Vanadium	0.51	0.050	0.5000	0	102	80	120			
Zinc	0.49	0.020	0.5000	0	97.9	80	120			

Sample ID	1812373-003DMS	Samp	Type: MS	3	Tes	tCode: El	PA 6010B:	Total Recover	able Meta	als	
Client ID:	MW-1	Bato	h ID: 41	991	R	RunNo: 5	6358				
Prep Date:	12/8/2018	Analysis I	Date: 12	2/14/2018	S	SeqNo: 1	887711	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		0.52	0.020	0.5000	0	104	75	125			
Beryllium		0.53				106	75	125			
Cadmium		0.51	0.0020	0.5000	0	101	75	125			
Chromium		0.51	0.0060	0.5000	0	102	75	125			
Cobalt		0.49	0.0060	0.5000	0	97.5	75	125			
Nickel		0.49	0.010	0.5000	0	98.9	75	125			
Silver		0.10	0.0050	0.1000	0	104	75	125			
Vanadium		0.52	0.050	0.5000	0	104	75	125			
Zinc		0.51	0.020	0.5000	0	102	75	125			

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
- PQL Practical Quanitative Limit
- 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 37 of 38

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812373**

07-Jan-19

Client: Marathon

Project: 2018 Post Closure Sampling LTU

Sample ID 1812373-003DMSD SampType: MSD TestCode: EPA 6010B: Total Recoverable Metals Client ID: MW-1 Batch ID: 41991 RunNo: 56358 Prep Date: 12/8/2018 Analysis Date: 12/14/2018 SeqNo: 1887712 Units: mg/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Barium 0.51 0.020 0.5000 0 75 1.92 20 102 125 0.0030 0.5000 0 104 75 Beryllium 0.52 125 2.35 20 0.0020 0.5000 99.6 75 Cadmium 0.50 0 125 1.81 20 Chromium 0.50 0.0060 0.5000 0 99.8 75 125 2.12 20 Cobalt 0.48 0.0060 0.5000 0 96.1 75 125 1.52 20 Nickel 0.49 0.010 0.5000 0 97.4 75 125 1.48 20 Silver 0.10 0.0050 0.1000 0 102 75 125 1.97 20 102 0.51 0.050 0.5000 0 75 125 1.75 20 Vanadium Zinc 0.51 0.020 0.5000 101 75 125 0.869 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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 38 of 38



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

Client Name:	MARATHON GALLUP	Work Order Number	: 1812	373			RcptNo: 1
Received By:	Andy Freeman	12/6/2018 5:08:00 PM			Belo		-
Completed By:	Jazzmine Burkhead	12/7/2018 8:38:10 AM			Jugar Bad	K.	
Reviewed By:	FUM	12/7/18			Mr. Base	na.	
Labele	1 h	-			•		
Chain of Cus	2 4 20 12	17,18					
	custody complete?		Yes	V	No		Not Present
2. How was the	sample delivered?		Clien	<u>t</u>	•		
1 00 10							
Log In 3. Was an atten	npt made to cool the samp	lee?	Yes		No	П	NA 🗆
o. was an atten	mpt made to cool the samp	IC 3 !	res	▼ 1	NU	ш	NA L
4. Were all sam	ples received at a tempera	ture of >0° C to 6.0°C	Yes	~	No		NA 🗆
5 O							
J. Sample(s) in	proper container(s)?		Yes	~	No	Ц	
6. Sufficient san	nple volume for indicated to	est(s)?	Yes	✓	No		
7. Are samples	(except VOA and ONG) pro	pperly preserved?	Yes	✓	No		
8. Was preserva	ative added to bottles?		Yes		No	V	NA 🗆
Q VOA viala ha	/e zero headspace?		. I		s. [П	N. VANGE []
	nple containers received b	rokon?	Yes	<u>v</u> i	No l No		No VOA Vials
10, vicio any sai	TIPLE COTRAINETS TECEIVED D	roken?	Yes		INO		# of preserved
11 Does paperwo	ork match bottle labels?		Yes	~]	No		bottles checked 12 6 for pH:
	ancies on chain of custody					_	(<2 of (12 unless noted)
	correctly identified on Chair	•	Yes				Adjusted No
	t analyses were requested ng times able to be met?	<i>(</i>	Yes	✓ ☑	No [No [片	Checked by: 50 12-71/4
	ustomer for authorization.)		res i	<u>~</u> _	IND		Checked by. 40 /27/7
Special Handl	ing (if applicable)						
	otified of all discrepancies v	vith this order?	Yes		No		NA 🗹
ļ	Notified:						10, 2
By Who		Date:	eMa	I Dhe	one 🗀	Fax	in Person
Regard	5	via.	_ сіліа		JITE	rax	III Person
	nstructions:						The second secon
L		dissolved bothles	tor.	Metal.	Cal	1/0	tient to confirm if the
		5.770 - 50 -014 (eg	, ,		126	ed.	and the second second
17. <u>Cooler Infor</u> Cooler No	ado to the contract of the contract process of a community of	Seal Intact: Seal No S	eal Da	数错图			
1	2.6 Good	Yes	cai Da	A 31 5 9	igned B	y	
	4.8 Good			11			

	<u>ز</u> بـ	5									(N	70 Y) səlddu8 iA												7						
	HALL ENVIRONMENTAL	֡֝֝֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֡֓֓֡֓֓֓֓֡֓֓֡																										Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY (See Attached Skinner List)		ji.
	ME	2)	27109					•		-												_	_	+	+	+	+	Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINU URANIUM, INCLUDES MERCURY (See Attached Skinner List)		Environmental may be scheonfracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
	<u>8</u> .	www.hallenvironmental.com	4901 Hawkins NF - Albumerane NM 87109	Eav 505-345 4107	ISEME		_		*1																		-	RCRA	U	on the an
	5 5	ironma		201 A	Analysis Request										_										1			(See	4,8 6	ty notated
	₩ - -	allenv	Albu		₹	┞																		+	+	+	+	S TO II	2,6 6	l be clear
	Y Z	www.	N. NF	Tel 505-345-3975	0100-0					_		CYANIDE			×	×	×	×	×	×				+		-	╁┈	METAL	2	d data wil
	_ <u>-</u>	. ´	Jawkir	75.34	ŕ						_	Metals - Skinner L			×	×	×	×	×	×					1			/QCC I	3	contracte
			4901	1 2		_	יאט)					8015D EXTENDE			×	7	X	×	×	×				4	\downarrow	_	-	ks: W	2 coolers	ny sub-c
								-				8260 (Skinner Li	×	×	×	×	×	×	×	×	-	\dashv	\dashv	+	+		+	RANI	~	bility. A
								!			1	M		~	2	<u></u>	5	2	Ċ	39	•				\top		<u> </u>	10	1708	his poss
			_				. \	(mc				1EAL NO.	8	8	8	OC	5	\lesssim	ď	$\overleftarrow{\mathcal{D}}$								10/2/mil]me / 2/	otice of t
			3-LT				گر	L M	•		8 c	HEAL NO 123																	1/6	ves as n
			IPLIN				Ž	etrole		⊡.No	2.60 4.8	<u>, X</u>		•														Date) Dafte (2)	This ser
	□ Rush		SAN			!	≤ ₹	thonp	Nos	T. Company		tive									_		_	+	+	+	+	1	٦.	atories.
jej.			2018 POST CLOSURE SAMPLING - LTU	MW/SMW WELLS	1	٠,٠	CHANNESS BIGN NOOF	(CAJohnson1@Marathonpetroleum.com)	C. JOHNSON	¥ Yes	ture:	Preservative Type	HCL	. Ŧ	MISC	MISC	MISC	MISC	MISC	MISC								[]	11	ted labor
F	. 2	me:	TCLC	<u>></u>		anager	₹ Ω	son1@	ij	×	mpera		27	22						_	\dashv	_	-	+		+	ļ			raccredi
Turn-Around Time:	X Standard	Project Name:	8 POS	V/SN		Project Manager:	DSN=	Johns	Sampler:	:es	Sample Temperature:	Container Type and #	3-40ml VOAs	3-40ml VOAs	MISC	MISC	MISC	MISC	MISC	MISC								Received by:	ed by	d to othe
Ľ.	×	Proj	<u>2</u> 02	≥	Τ-	Proj	<u> </u>	Š	Sam	On Ice:	Sam	ა ₽	3-40	3-40				_	_	_			4	_				M	Received by	confracte
								X Level 4 (Full Validation)				t □																\ \	1	y be som
5	:			7301				Valid				ple Request ID	Slank	lank	<u>.</u>	2	<u>ئ</u>	4	4	ATE								$ \setminus $	\nearrow	ental ma
ecord				, NM 87301				4 (Ful			ı	e R	Field Blank	Trip Blank	MW-1	MW-2	MW-5	SMW-4	MW-4	DUPLICATE					ľ				1/4	rvironm
Z R	۶			LUP,				Level				Samp	-	•															11	o Hall Ei
tod	oleur			D, GA	•	3-093(×					S	S	S	<u>0</u>	ω	2	<u>w</u>	<u>s</u>	_	_	4		+		ļ	9g þ.	$\int_{\Omega} d\hat{\xi}$	bmitted t
Cus	Marathon Petroleum	NERY		IG ROA	က္က	505-863-0930				□ Other		Matrix	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS								Relipquished by	Relinquished	If necessary, samples submitted to Hall
-of-	thou	GALLUP REFINERY		OSSIN	2-383	2]	╟	υ υ									_	+	+	+		-	+	7		ssary, sa
Chain-of-Custody R	Mara	GALLU	:25	92 GIANT CROSSING ROAD, GALLUP	505-722-3833		**					Time	700	700	810	837	918	1345	1300	1310								Time:	Time:	If nece
ប			Addre	92 GI		Fax#:	ackage	fard	ation:	اہ	(Jybe)	du du	12/6/2018	2018	12/6/2018	2018	2018	2018	2018	2018	1	1			+	\dagger	1	/8/	, (_V)	
	Client:		Mailing Address:		Phone #:	Email or Fax#:	QA/QC Package:	☐ Standard	Accreditation	□ NELAP	□ EDD (Type)	Date	12/6,	12/6/2018	12/6/	12/6/2018	12/6/2018	12/6/2018	12/6/2018	12/6/2018) / (p		_

	and PHCs1
	Organics
	olatile (
	List 8260 V
	l Skinner L
	Modified
_	Table 2A.

Parameter	EPA Method SW-846	Description	Containers	Preservative	Holding Time/Days	Liquid Reporting ^c Limit (µg/L)	Soil Reporting ^c Limit (mg/kg)	
Benzene	8260	GC/MS	ტ	4°C	14	5	0.67	
2-Butanone (MEK)	8260	GC/MS	ტ	4°C	14	1900	7000	
Carbon Disulfide	8260	GC/MS	ŋ	4°C	. 41	1000	350	
Chlorobenzene	8260	GC/MS	Ü	4°C	14	39	54	
Chloroform	8260	GC/MS	Ö	4°C	14	0.16	0.24	
Chloromethane	8260	GC/MS	ŋ	4°C	14	1.5	1.2	
1,1 Dichloroethane	8260	GC/MS	Ö N	4°C	. 14	25	280	
1,2 Dichloroethane	8260	GC/MS	5	4°C	. 14:	5	0.34	
1,1 Dichloroethene	8260	GC/MS	Ö	4°C	14	5.0	0.053	
trans-1,2-Dichloroethene	8260	GC/MS	Ü	4°C	. 14	100	63	
-1,4-Dioxane	8260	GC/MS	Ö	4°C	14	6.1	44	
Ethylbenzene ^a	8260	GC/MS	ŋ	4°C	14	700	230	
Methylene Chloride	8260	GC/MS	ტ	4°C	14	4.3	8.6	
Styrene	8260	GC/MS	ŋ	4°C	14	100	1700	
1,1,2,2-Tetrachloroethane ^b	8260	GC/MS	Ů	4°C	14	0.055	0.37	
Tetrachloroethene ^b	8260	GC/MS	Ö	4°C	14	5.	4.9	
Toluene	8260	GC/MS	ŋ	4°C	14	750	1000	
1, 1, 1-Trichloroethane	8260	GC/MS	Ö	4°C	14	09	200	
Trichloroethene	8260	GC/MS	ŋ	4°C	14	5	2.7	
Total Xylene ^{a, d}	8260	GC/MS	ŋ	4°C	14	620	860	
Ethylene Dibromide ^b	8260	GC/MS	ŋ	4°C	14	0.1	0.005	
Acetone	8260	GC/MS	O	4°C	14	610	1500	
atherina in the second for the second	1, m, 1, 6, m, 4, 1, 10, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	a Harandana Wasta I	Position Domise					

gas chromatography/mass spec miligrams per kilogram microgram per liter glass with Tefton-lined lid μg/L G GC/MS

Principal hazardous constituent identified in Ciniza Hazardous Waste Facility Permit.

^bAdditional constituents.

^cBased on EPA Region 6, Human Health Medium-Specific Screening Levels (1999) and NM WQCC Regulations (1996). Analytical detection limits are required to be lower than reporting limits.

^cRegulatory limits for individual isomers combined into a 'total' limit for these compounds.

Table 2B. Modified Skinner List 8270 Semivolatile Organics Including TPH and PHCs*

Parameter	EPA Method SW-846	Description	Container	Preservative	Holding Time/Days	Liquid Reporting Limit (ug/L)	Soil Reporting Limit (mg/kg) ^c
Anthrocena	0248	GCMR	٢	4°C	. 	1800	00091
Accuaphthene	8270	GC/MS) ()	- 4	. 7	370	2800
Benzo(a) Anthracene	8270	GC/MS	Ö	4°C	14	0.09	0.62
Benzo(b)Fluoranthene	8270	GC/MS	ප	4°C	14	60.0	0.62
Benzo(k)Fluoranthene	8270	GC/MS	Ö	4°C	14	6.0	6.2
Benzo(a)Pyrene	8270	GC/MS	Ö	4°C	14	0.0007	0.062
Butvi Benzyl Phthalate	8270	GC/MS	Ö	4°C	14	7300	240
Chrysene	8270	GC/MS	Ö	4°C	14	9.2	62
Diethyl Phthalate	8270	GC/MS	_ෆ	4°C	14	29000	49000
7,12-Dimethylbenz(a)-Antluacene	8270	GC/MS	ŋ	4°C	14	v	 eu
Directly! Phthalate	8270	GC/MS	ტ	4°C	14	370000	100000
Di-n-Octyl Pluthalate	8270	·GC/MS	Ö	4°C	14	730	1200
Fluorauthene	8270	GC/MS	ŋ	4°C	14	1500	2300
Fluorene	8270	GC/MS	Ö	4° د ک	14	240	2000
Indeno(1,2,3-cd)Pyrene	8270	GC/MS	ŋ	4°C	14	60.0	0.62
2-Methylnaphthalene ^a	8270	GC/MS	Ö	4°C	14	30	099
2-Methylphenol (Cresol)	8270	GC/MS	Ů	4°C	14	1800	3000
3/4-Methylphenol (Cresol)	8270	GC/MS	Ö	4°C	14	1980	3300
Naphthalene ⁸	8270	GC/MS	ن	4°C	14	30	55
Nitrobenzene	8270	GC/MS	Ö	4°C	14	3.4	17
4-Nitrophenol	8270	GC/MS	හ	4°C	14	2300	3800
Phenanthrene"	8270	GC/MS	_ප	4°C	14	Ð	U
Pyrene ^a	8270	GC/MS	Ö	4°C	14	180	1700
Pyridine	8270	GC/MS	_G	4°C	14	37	61
Quinoline	8270	GC/MS	ტ	4°C	14	0.0056	0.04
Benzenethiole	8270	GC/MS	_ප	4°C	14	e	10
Phenol	8270	GC/MS	ტ	4°C	14	5	36000
Bis(2-Ethylhexyl)phthalate ^b	8270	GC/MS	ڻ ت	4°C	14	0.9	35
Dibenz(a,j)acridine ^b	8270	GC/MS	IJ	4°C	14	υ	Ð
Dibenz(a,h)-anthracene	8270	GC/MS	Ö	4°C	14	0.0092	0.062
Dichlorobenzene ^{b, I}	8270	GC/MS	Ü	4°C	14	675	410
Methyl Naphthalene	8270	GC/MS	ග	4°C	14	30	o
2,4-Dimethylphenol	8270	GC/MS	<u>ග</u>	4°C	14	730	1200
2,4-Dimirofoluene	87.70	GC/MS	פ	4-	14	/3	120

	7	1							
(p	Soil Reporting Limit (mg/kg) ^c	120	, i	2 4	6100	18000	9300	s are required to be	
Table 2B. Modified Skinner List 8270 Semivolatile Organics Including TPH and PHCs* (Continued)	Liquid Reporting Limit (μg/L) ^c	73	ĵ Ç	6.1	3700	11000	3780	ilytical detection limit	
g TPH and]	Holding Time/Days	14	1 7	1 4	14	14	14	ions (1996). Ans	
ganics Includin	· Preservative	4°C	^{န္} န	, 4)	4°C	4 4 م م	+ 4 ¢	M WQCC Regulati	
nivolatile Or	Container	9	ט פ		Ö	თ ლ) © C	els (1999) and Nese compounds ug/L for aqueous uge Organics	
List 8270 Ser	Description	GC/MS	CC/MS	GC/MS	GC/MS	GCMS	GC/MS	ardous Waste Facing Screening Lev t will be used to yimit is < 30, ics and Diesel Ra ics and Diesel Ra	
fied Skinner	EPA Method SW-846	8270	8270	8270	8270	8270 8270	8270 8015m	fied in Ciniza Hazz th Medium-Specif ory detection limi rs combined into a phthalenes regula bline Range Organ lid ass spectrometry	
Table 2B. Modi	Parameter	2,4-Dinitrophenol	Benzo(t)Fluoranthene 2-Chlorophenol	2,4,6-Trichlorophenol	Di-n-Butyl Phthalate	Benzyl Alcohol ⁵ Mehyl Chrysene	Total Cresol ^{4, f}	constituent identijants on 6, Human Heal limits. Imits. provided. Laboral provided. Laboral provided isome tus monomethylna drocarbon as Gass per liter gram per kilogram with Teflon-lined hromatography/m hromatography/m	

n e d'Albert de la déchie de la constitución de la	•	Table 2C. Modified Skinner List Metals and PHCs*	fied Skinner 1	ist Metals and	PHCs*		
Parameter	EPA Method SW-846	Description ·	Container	Preservative ^b	Holding Time/Days	Aqueous Reporting Limit (µg/L) ^c	Soil Reporting Limit (mg/kg)
Antimony Arsenic Barium Cadmium Cobalt Lead* Nickel Selenium Silver	7060(aq), 6010 6010 6010 6010 6010 6010 6010 6010	GFAA/ICP ICP-AES ICP-AES ICP-AES ICP-AES ICP-AES ICP-AES		2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	180 180 180 180 180 180 180 180	6.0 2000 2.000 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	31 22 2400 150 39 210 3400 400 1600 390
Vanadium	6010	ICP-AES ICP-AES	Por G Por G	4 4 °C C	180	260 10000	550 550 23000
*Principal hazardous constituent identified in Ciniza Hazardous Waste Facility Permit *Principal hazardous constituent identified to pH <2 with HNO ₃ and must not be refrigerated. Non-aqueous samples are cooled to 4°C, *Based on EPA Region 6, Human Health Medium-Specific Screening Levels (1999) and NM WQCC Regulations (1996). Analytical detection limits are required to be lower than reporting limits. ### ### ### ### ### ### ### ### ### #	dous constituent identified in Ciniza Hazardo les are field acidified to pH <2 with HNO ₃ an Region 6, Human Health Medium-Specific String limits. microgram per liter milligram per kilogram Inductively Coupled Plasma - Atomic Emissi glass	dous constituent identified in Ciniza Hazardous Waste Facility les are field acidified to pH <2 with HNO ₃ and must not be re Region 6, Human Health Medium-Specific Screening Levels. rting limits. microgram per liter milligram per kilogram milligram per kilogram finductively Coupled Plasma - Atomic Emission Spectroscopy glass.	Pacility Permit of be refrigerated. Levels (1999) and coscopy	Non-aqueous samp NM WQCC Regul	les are cooled to 4 ations (1996). Ana	C. lytical detection limi	ts are required to be

Cvanide
Mercury ^a and (
2D. Mer
Table 2

	EPA Method	<u> </u>			Holding	Aqueous	Soil
Parameter	SW-846	Description	Container	Preservative	Time/Days	Limit (µg/L)°	neporting Limit (mg/kg) ^c
_ Mercury* _ Cyanide	7470/7471 335.3/ 9010, 9014	CVAA Colorimetry	Por G Por G	4°Cb	28 14	2.0	23. 1200
*Principal hazardous constituent identified in Ciniza Hazardous Waste Facility Permit. Aqueous samples are field acidified to pH < 2 with HNO3 and must not be refrigerated. Non-aqueous samples are cooled to 4°C. Based on EPA Region 6, Human Health Medium-Specific Screening Levels and NM WQCC Regulations (1996). Analytical detection limits are required to be lower than reporting limits.	tified in Cini to pf:1 < 2 wi alth Medium	za Hazardous Waste Fa th HNO3 and must not t Specific Screening Lev	cility Permit. oe refrigerated. No rels and NM WQ0	on-aqueous samples	are cooled to 4% 96). Analytical de	zection limits are n	squired to be lower
^d Aqueous samples are field adjusted to pH>12 with NaOH and refrigerated. Non-aqueous samples are cooled to 4°C.	to pH >12 wi	th NaOH and refrigerate	ed. Non-aqueous	samples are cooled	to 4°C.		
119/1 = microgram per liter Ing/kg = milligram per kilogram CVAA = cold vapor atomic absorption G = glass P = linear polyethylene, polypropylene, or Teflon	ogram absorption e, polypropyle:	ie, or Teflon					



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

January 08, 2019

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

FAX

RE: Land Treatment Unit OrderNo.: 1812764

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/13/2018 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1812764**

Date Reported: 1/8/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU FB01

Project: Land Treatment Unit
 Collection Date: 12/11/2018 3:45:00 PM

 Lab ID: 1812764-001
 Matrix: AQUEOUS
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8015M/D: DIESEL RANGE	<u> </u>						Analyst: JME	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/14/2018 11:16:56 A	42095
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2018 11:16:56 A	42095
Surr: DNOP	91.9	0	76.7-135		%Rec	1	12/14/2018 11:16:56 A	42095
EPA METHOD 8015D: GASOLINE RANG	E						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/17/2018 10:52:38 A	G56381
Surr: BFB	84.4	0	72.8-125		%Rec	1	12/17/2018 10:52:38 A	G56381
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:23:55 PM	42270
Arsenic	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:23:55 PM	42270
Lead	ND	0.00050	0.0010		mg/L	1	12/27/2018 3:35:45 PM	42270
Selenium	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:23:55 PM	42270
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000072	0.000038	0.00020	J	mg/L	1	12/19/2018 11:59:44 A	42182
EPA 6010B: TOTAL RECOVERABLE ME	TALS						Analyst: rde	
Barium	ND	0.020	0.020		mg/L	1	12/26/2018 1:39:43 PM	42228
Beryllium	ND	0.00044	0.0030		mg/L	1	12/26/2018 1:39:43 PM	42228
Cadmium	ND	0.00099	0.0020		mg/L	1	12/26/2018 1:39:43 PM	42228
Chromium	ND	0.0011	0.0060		mg/L	1	12/28/2018 11:55:34 A	42228
Cobalt	ND	0.00098	0.0060		mg/L	1	12/28/2018 11:55:34 A	42228
Nickel	ND	0.0027	0.010		mg/L	1	12/28/2018 11:55:34 A	42228
Silver	ND	0.0018	0.0050		mg/L	1	12/26/2018 1:39:43 PM	42228
Vanadium	ND	0.0023	0.050		mg/L	1	12/26/2018 1:39:43 PM	42228
Zinc	0.0080	0.0033	0.020	J	mg/L	1	1/3/2019 12:35:16 PM	42228
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.17	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
Toluene	ND	0.17	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
Naphthalene	ND	0.29	2.0		μg/L	1	12/20/2018 12:39:42 P	A56506
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/20/2018 12:39:42 P	A56506
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/20/2018 12:39:42 P	A56506
Acetone	5.3	0.76	10	J	μg/L	1	12/20/2018 12:39:42 P	A56506
Bromobenzene	ND	0.32	1.0		μg/L	1	12/20/2018 12:39:42 P	A56506
D.C 1. O.C.C.				100				

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
- PQL Practical Quanitative Limit
- 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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Date Reported: 1/8/2019

Lab Order 1812764

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: LTU FB01

Project: Land Treatment Unit Collection Date: 12/11/2018 3:45:00 PM

Lab ID: 1812764-001 **Matrix:** AQUEOUS **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Bromodichloromethane	ND	0.28	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Bromoform	ND	0.32	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Bromomethane	ND	0.27	3.0	μg/L	1	12/20/2018 12:39:42 P	A56506
2-Butanone	ND	1.4	10	μg/L	1	12/20/2018 12:39:42 P	A56506
Carbon disulfide	ND	0.39	10	μg/L	1	12/20/2018 12:39:42 P	A56506
Carbon Tetrachloride	ND	0.14	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Chlorobenzene	ND	0.29	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Chloroethane	ND	0.16	2.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Chloroform	ND	0.24	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Chloromethane	ND	0.32	3.0	μg/L	1	12/20/2018 12:39:42 P	A56506
2-Chlorotoluene	ND	0.25	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
4-Chlorotoluene	ND	0.28	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
cis-1,2-DCE	ND	0.38	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
cis-1,3-Dichloropropene	ND	0.30	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,2-Dibromo-3-chloropropane	ND	0.47	2.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Dibromochloromethane	ND	0.24	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Dibromomethane	ND	0.32	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,2-Dichlorobenzene	ND	0.31	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,3-Dichlorobenzene	ND	0.31	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,4-Dichlorobenzene	ND	0.29	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Dichlorodifluoromethane	ND	0.26	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,1-Dichloroethane	ND	0.18	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,1-Dichloroethene	ND	0.12	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,2-Dichloropropane	ND	0.17	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,3-Dichloropropane	ND	0.27	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
2,2-Dichloropropane	ND	0.23	2.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,1-Dichloropropene	ND	0.16	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Hexachlorobutadiene	ND	0.39	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
2-Hexanone	ND	0.91	10	μg/L	1	12/20/2018 12:39:42 P	A56506
Isopropylbenzene	ND	0.22	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
4-Isopropyltoluene	ND	0.24	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
4-Methyl-2-pentanone	ND	0.45	10	μg/L	1	12/20/2018 12:39:42 P	A56506
Methylene Chloride	ND	0.21	3.0	μg/L	1	12/20/2018 12:39:42 P	A56506
n-Butylbenzene	ND	0.25	3.0	μg/L	1	12/20/2018 12:39:42 P	A56506
n-Propylbenzene	ND	0.24	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
sec-Butylbenzene	ND	0.20	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
Styrene	ND	0.25	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/20/2018 12:39:42 P	A56506

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
- PQL Practical Quanitative Limit
- 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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812764

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/8/2019

CLIENT: Marathon Client Sample ID: LTU FB01

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 3:45:00 PM

 Lab ID:
 1812764-001
 Matrix: AQUEOUS
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	:
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/20/2018 12:39:42 F	A56506
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/20/2018 12:39:42 F	A56506
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/20/2018 12:39:42 F	A56506
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/20/2018 12:39:42 F	A56506
1,4-Dioxane	ND	2.3	10	μg/L	1	12/20/2018 12:39:42 F	A56506
Surr: 1,2-Dichloroethane-d4	99.9	0	70-130	%Rec	1	12/20/2018 12:39:42 F	A56506
Surr: 4-Bromofluorobenzene	96.8	0	70-130	%Rec	1	12/20/2018 12:39:42 F	A56506
Surr: Dibromofluoromethane	107	0	70-130	%Rec	1	12/20/2018 12:39:42 F	A56506
Surr: Toluene-d8	103	0	70-130	%Rec	1	12/20/2018 12:39:42 F	A56506

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
- PQL Practical Quanitative Limit
- 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 19

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812764**

Date Reported: 1/8/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

Project: Land Treatment Unit Collection Date:

Lab ID: 1812764-002 **Matrix:** TRIP BLANK **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.17	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Toluene	ND	0.17	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Naphthalene	ND	0.29	2.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Acetone	1.1	0.76	10	J	μg/L	1	12/20/2018 1:09:29 PM	A56506
Bromobenzene	ND	0.32	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Bromoform	ND	0.32	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Bromomethane	ND	0.27	3.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
2-Butanone	ND	1.4	10		μg/L	1	12/20/2018 1:09:29 PM	A56506
Carbon disulfide	ND	0.39	10		μg/L	1	12/20/2018 1:09:29 PM	A56506
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Chloroethane	ND	0.16	2.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Chloroform	ND	0.24	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Chloromethane	ND	0.32	3.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Dibromomethane	ND	0.32	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/20/2018 1:09:29 PM	A56506
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/20/2018 1:09:29 PM	A56506

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
- PQL Practical Quanitative Limit
- 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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812764**

Date Reported: 1/8/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: Trip Blank

Project: Land Treatment Unit Collection Date:

Lab ID: 1812764-002 Matrix: TRIP BLANK Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed B	atch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
1,1-Dichloropropene	ND	0.16	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Hexachlorobutadiene	ND	0.39	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
2-Hexanone	ND	0.91	10	μg/L	1	12/20/2018 1:09:29 PM	A56506
Isopropylbenzene	ND	0.22	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
4-Isopropyltoluene	ND	0.24	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
4-Methyl-2-pentanone	ND	0.45	10	μg/L	1	12/20/2018 1:09:29 PM	A56506
Methylene Chloride	ND	0.21	3.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
n-Butylbenzene	ND	0.25	3.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
n-Propylbenzene	ND	0.24	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
sec-Butylbenzene	ND	0.20	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Styrene	ND	0.25	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
tert-Butylbenzene	ND	0.22	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1,1,2-Tetrachloroethane	ND	0.25	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/20/2018 1:09:29 PM	A56506
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/20/2018 1:09:29 PM	A56506
1,4-Dioxane	ND	2.3	10	μg/L	1	12/20/2018 1:09:29 PM	A56506
Surr: 1,2-Dichloroethane-d4	100	0	70-130	%Rec	1	12/20/2018 1:09:29 PM	A56506
Surr: 4-Bromofluorobenzene	94.3	0	70-130	%Rec	1	12/20/2018 1:09:29 PM	A56506
Surr: Dibromofluoromethane	105	0	70-130	%Rec	1	12/20/2018 1:09:29 PM	A56506
Surr: Toluene-d8	100	0	70-130	%Rec	1	12/20/2018 1:09:29 PM	A56506

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
- PQL Practical Quanitative Limit
- 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
 - Pag

Page 5 of 19

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812764

Date Reported: 1/8/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU EB01

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 3:25:00 PM

 Lab ID:
 1812764-003
 Matrix: AQUEOUS
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed E	atch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	ND	0.63	1.0		mg/L	1	12/14/2018 11:40:50 A	42095
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2018 11:40:50 A	42095
Surr: DNOP	92.5	0	76.7-135		%Rec	1	12/14/2018 11:40:50 A	42095
EPA METHOD 8015D: GASOLINE RANGI	E						Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.024	0.050		mg/L	1	12/17/2018 11:15:24 A	G56381
Surr: BFB	79.3	0	72.8-125		%Rec	1	12/17/2018 11:15:24 A	G56381
EPA METHOD 6020: TOTAL METALS							Analyst: DBK	
Antimony	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:28:16 PM	42270
Arsenic	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:28:16 PM	
Lead	ND	0.00050	0.0010		mg/L	1	12/27/2018 3:40:06 PM	
Selenium	ND	0.00050	0.0010		mg/L	1	12/28/2018 4:28:16 PM	
EPA METHOD 7470: MERCURY							Analyst: pmf	
Mercury	0.000076	0.000038	0.00020	J	mg/L	1	12/19/2018 12:02:01 P	42182
EPA 6010B: TOTAL RECOVERABLE ME	ΓALS						Analyst: rde	
Barium	ND	0.020	0.020		mg/L	1	12/26/2018 1:50:37 PM	42228
Beryllium	ND	0.00044	0.0030		mg/L	1	12/26/2018 1:50:37 PM	42228
Cadmium	ND	0.00099	0.0020		mg/L	1	12/26/2018 1:50:37 PM	42228
Chromium	ND	0.0011	0.0060		mg/L	1	12/28/2018 11:59:53 A	42228
Cobalt	ND	0.00098	0.0060		mg/L	1	12/28/2018 11:59:53 A	42228
Nickel	ND	0.0027	0.010		mg/L	1	12/28/2018 11:59:53 A	42228
Silver	ND	0.0018	0.0050		mg/L	1	12/26/2018 1:50:37 PM	42228
Vanadium	ND	0.0023	0.050		mg/L	1	12/26/2018 1:50:37 PM	42228
Zinc	0.0084	0.0033	0.020	J	mg/L	1	1/3/2019 12:37:25 PM	42228
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.17	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
Toluene	ND	0.17	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
Ethylbenzene	ND	0.22	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
1,2,4-Trimethylbenzene	ND	0.25	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
1,3,5-Trimethylbenzene	ND	0.23	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
1,2-Dichloroethane (EDC)	ND	0.19	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
1,2-Dibromoethane (EDB)	ND	0.23	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
Naphthalene	ND	0.29	2.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
1-Methylnaphthalene	ND	0.34	4.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
2-Methylnaphthalene	ND	0.35	4.0		μg/L	1	12/20/2018 1:38:29 PM	A56506
Acetone	5.5	0.76	10	J	μg/L	1	12/20/2018 1:38:29 PM	A56506
Bromobenzene	ND	0.32	1.0		μg/L	1	12/20/2018 1:38:29 PM	A56506

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

PQL Practical Quanitative Limit

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

Page 6 of 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812764**Date Reported: **1/8/2019**

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: LTU EB01

Project: Land Treatment Unit

Collection Date: 12/11/2018 3:25:00 PM

Lab ID: 1812764-003

CLIENT: Marathon

Matrix: AQUEOUS Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	,
Bromodichloromethane	ND	0.28	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Bromoform	ND	0.32	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Bromomethane	ND	0.27	3.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
2-Butanone	ND	1.4	10		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Carbon disulfide	ND	0.39	10		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Carbon Tetrachloride	ND	0.14	1.0		μg/L	1	12/20/2018 1:38:29 Pf	M A56506
Chlorobenzene	ND	0.29	1.0		μg/L	1	12/20/2018 1:38:29 Pf	M A56506
Chloroethane	ND	0.16	2.0		μg/L	1	12/20/2018 1:38:29 Pf	M A56506
Chloroform	ND	0.24	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Chloromethane	ND	0.32	3.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
2-Chlorotoluene	ND	0.25	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
4-Chlorotoluene	ND	0.28	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
cis-1,2-DCE	ND	0.38	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
cis-1,3-Dichloropropene	ND	0.30	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Dibromochloromethane	ND	0.24	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Dibromomethane	ND	0.32	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,2-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,3-Dichlorobenzene	ND	0.31	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,4-Dichlorobenzene	ND	0.29	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Dichlorodifluoromethane	ND	0.26	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,1-Dichloroethane	ND	0.18	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,1-Dichloroethene	ND	0.12	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,2-Dichloropropane	ND	0.17	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,3-Dichloropropane	ND	0.27	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
2,2-Dichloropropane	ND	0.23	2.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,1-Dichloropropene	ND	0.16	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Hexachlorobutadiene	ND	0.39	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
2-Hexanone	ND	0.91	10		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Isopropylbenzene	ND	0.22	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
4-Isopropyltoluene	ND	0.24	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
4-Methyl-2-pentanone	ND	0.45	10		μg/L	1	12/20/2018 1:38:29 Pf	M A56506
Methylene Chloride	ND	0.21	3.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
n-Butylbenzene	ND	0.25	3.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
n-Propylbenzene	ND	0.24	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
sec-Butylbenzene	ND	0.20	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
Styrene	ND	0.25	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
tert-Butylbenzene	ND	0.22	1.0		μg/L	1	12/20/2018 1:38:29 PI	M A56506
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		μg/L	1	12/20/2018 1:38:29 Pf	M A56506

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
- PQL Practical Quanitative Limit
- 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 7 of 19

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Date Reported: 1/8/2019

Lab Order **1812764**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: LTU EB01

Project: Land Treatment Unit Collection Date: 12/11/2018 3:25:00 PM

Lab ID: 1812764-003 **Matrix:** AQUEOUS **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
1,1,2,2-Tetrachloroethane	ND	0.33	2.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Tetrachloroethene (PCE)	ND	0.15	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
trans-1,2-DCE	ND	0.18	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
trans-1,3-Dichloropropene	ND	0.28	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,2,3-Trichlorobenzene	ND	0.28	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,2,4-Trichlorobenzene	ND	0.27	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,1,1-Trichloroethane	ND	0.16	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,1,2-Trichloroethane	ND	0.23	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Trichloroethene (TCE)	ND	0.26	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Trichlorofluoromethane	ND	0.14	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,2,3-Trichloropropane	ND	0.57	2.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Vinyl chloride	ND	0.12	1.0	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Xylenes, Total	ND	0.64	1.5	μg/L	1	12/20/2018 1:38:29 F	PM A56506
1,4-Dioxane	ND	2.3	10	μg/L	1	12/20/2018 1:38:29 F	PM A56506
Surr: 1,2-Dichloroethane-d4	99.5	0	70-130	%Rec	1	12/20/2018 1:38:29 F	PM A56506
Surr: 4-Bromofluorobenzene	97.1	0	70-130	%Rec	1	12/20/2018 1:38:29 F	PM A56506
Surr: Dibromofluoromethane	107	0	70-130	%Rec	1	12/20/2018 1:38:29 F	PM A56506
Surr: Toluene-d8	99.1	0	70-130	%Rec	1	12/20/2018 1:38:29 F	PM A56506

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
- PQL Practical Quanitative Limit
- 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 8 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address: 4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 Project Name: 1

1812764

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

181217017-001

Sampling Date

12/11/2018

Date/Time Received

12/14/20110:35 AM

Client Sample ID

1812764-001E/LTU FB01

Sampling Time 3:45 PM

Extraction Date

12/18/2018

Matrix Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1-Methylnaphthalene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	и TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	и т GТ	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	M TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/22/2018 1:05:00 AI	и TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/22/2018 1:05:00 At	и TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	и TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:05:00 Af	M TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:05:00 Al	M TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:05:00 Af	vi TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/22/2018 1:05:00 Al	V TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/22/2018 1:05:00 Af	и TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/22/2018 1:05:00 At	и TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/22/2018 1:05:00 Af	M TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/22/2018 1:05:00 Af	и TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.02	ug/L	0.5	12/22/2018 1:05:00 Af	и TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/22/2018 1:05:00 Af	√ TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/22/2018 1:05:00 Af	и TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/22/2018 1:05:00 A	√ TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/22/2018 1:05:00 A	// TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/22/2018 1:05:00 A	√ TGT	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/22/2018 1:05:00 A	и TG T	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

'

181217017

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:**

Batch #:

1812764

Attn:

ANDY FREEMAN

Surrogate Data

nple Number 181217017-001			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	64.0	43-120
2-Fluorobiphenyl	EPA 8270D	87.6	55-127
2-Fluorophenol	EPA 8270D	91.8	41-119
Nitrobenzene-d5	EPA 8270D	91.2	55-120
Phenol-d5	EPA 8270D	91.8	52-115
Terphenyl-d14	EPA 8270D	94.8	22-133

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217017

Project Name:

1812764

Analytical Results Report

Sample Number

181217017-003

Sampling Date

12/11/2018

Date/Time Received

12/14/20110:35 AM

Client Sample ID Matrix 1812764-003E/LTU EB01

Sampling Time 3:25 PM

Extraction Date

12/18/2018

Comments

Water

Parameter	Result	Units	PQL	Analysis Date A	nalyst	Method	Qualifier
1-Methylnaphthalene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Phenoi	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	
Quinoline	ND	ug/L	0.5	12/22/2018 1:32:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:**

1812764

Attn:

ANDY FREEMAN

Surrogate Data

mple Number 181217017-003			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	66.6	43-120
2-Fluorobiphenyl	EPA 8270D	88.0	55-127
2-Fluorophenol	EPA 8270D	92.2	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	91.2	52-115
Terphenyl-d14	EPA 8270D	80.4	22-133

Authorized Signature

Todd Taruscio, Lab Manager

MCL

EPA's Maximum Contaminant Level

ND

Not Detected

PQL

Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.

The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address: 4901 HAWKINS NE SUITE D

Project Name:

1812764

Attn:

ANDY FREEMAN

ALBUQUERQUE, NM 87109

Analytical Results Report Quality Control Data

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	4.84	ug/L	5	96.8	54-137	12/18/2018	12/21/2018
2-Methylnaphthalene	4.78	ug/L	5	95.6	56-128	12/18/2018	12/21/2018
Acenaphthene	4.69	ug/L	5	93.8	40-118	12/18/2018	12/21/2018
Acenaphthylene	4.68	ug/L	5	93.6	52-124	12/18/2018	12/21/2018
Anthracene	4.77	ug/L	5	95.4	44-122	12/18/2018	12/21/2018
Benzo(ghi)perylene	4.22	ug/L	5	84.4	50-136	12/18/2018	12/21/2018
Вепzo[a]anthracene	4.81	ug/L	5	96.2	42-124	12/18/2018	12/21/2018
Benzo[a]pyrene	4.41	ug/L	5	88.2	41-133	12/18/2018	12/21/2018
1-Methylnaphthalene	4.76	ug/L	5	95.2	49-127	12/18/2018	12/21/2018
Benzo[k]fluoranthene	4.85	ug/L	5	97.0	42-143	12/18/2018	12/21/2018
Phenol	4.50	ug/L	5	90.0	45-134	12/18/2018	12/21/2018
Dibenz[a,h]anthracene	4.18	ug/L	5	83.6	52-140	12/18/2018	12/21/2018
Fluoranthene	4.97	ug/L	5	99.4	45-134	12/18/2018	12/21/2018
Fluorene	4.77	ug/L	5	95.4	41-123	12/18/2018	12/21/2018
Indeno[1,2,3-cd]pyrene	4.18	ug/L	5	83.6	51-137	12/18/2018	12/21/2018
Naphthalene	4.62	ug/L	5	92.4	53-120	12/18/2018	12/21/2018
Phenanthrene	4.79	ug/L	5	95.8	60-124	12/18/2018	12/21/2018
Pyrene	4.86	ug/L	5	97.2	65-139	12/18/2018	12/21/2018
bis(2-Ethylhexyl)phthalate	4.16	ug/L	5	83.2	51-149	12/18/2018	12/21/2018
Benzo[b]fluoranthene	4.85	ug/L	5	97.0	40-139	12/18/2018	12/21/2018

Lab Control Sample Duplicate								<u>_</u>
•	LCSD		LCSD			AR		
Parameter	Result	Units	Spike	%Rec	%RPD	%RPD	Prep Date	Analysis Date
Chrysene -	4.46	ug/L	5	89.2	8.2	0-20	12/18/2018	12/21/2018
2-Methylnaphthalené	4.63	ug/L	5	92.6	3.2	0-20	12/18/2018	12/21/2018
Acenaphthene	4.52	ug/L	5	90.4	3.7	0-20	12/18/2018	12/21/2018
Acenaphthylene	4.51	ug/L	5	90.2	3.7	0-20	12/18/2018	12/21/2018
Anthracene	4.54	ug/L	5	90.8	4.9	0-20	12/18/2018	12/21/2018
Benzo(ghi)perylene	4.33	ug/L	5	86.6	2.6	0-20	12/18/2018	12/21/2018
Benzo[a]anthracene	4.69	ug/L	5	93.8	2.5	0-20	12/18/2018	12/21/2018
Benzo[a]pyrene	4.19	ug/L	5	83.8	5.1	0-20	12/18/2018	12/21/2018
1-Methylnaphthalene	4.63	ug/L	5	92.6	2.8	0-20	12/18/2018	12/21/2018
Benzo[k]fluoranthene	4.50	ug/L	5	90.0	7.5	0-20	12/18/2018	12/21/2018
Phenol	4.33	ug/L	5	86.6	3.9	0-25	12/18/2018	12/21/2018

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 Project Name:

1812764

Attn:

ANDY FREEMAN

Analytical Results Report Quality Control Data

b Control Sample Duplicat	e LCSD		LCSD			AR		
Parameter	Result	Units	Spike	%Rec	%RPD	%RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.28	ug/L	5	85.6	2.4	0-20	12/18/2018	12/21/2018
Fluoranthene	4.72	ug/L	5	94.4	5.2	0-20	12/18/2018	12/21/2018
Fluorene	4.57	ug/L	5	91.4	4.3	0-20	12/18/2018	12/21/2018
Indeno[1,2,3-cd]pyrene	4.28	ug/L	5	85.6	2.4	0-20	12/18/2018	12/21/2018
Naphthalene	4.49	ug/L	5	89.8	2.9	0-20	12/18/2018	12/21/2018
Phenanthrene	4.58	ug/L	5	91.6	4.5	0-20	12/18/2018	12/21/2018
Pyrene	4.48	ug/L	5	89.6	8.1	0-20	12/18/2018	12/21/2018
bis(2-Ethylhexyl)phthalate	4.15	ug/L	5	83.0	0.2	0-43	12/18/2018	12/21/2018
Benzo[b]fluoranthene	4.66	ug/L	5	93.2	4.0	0-20	12/18/2018	12/21/2018

Method Blank					
Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2018	12/21/2018
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2018	12/21/2018
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2018	12/21/2018
1-Methylnaphthalene	ND	ug/L	0.01	12/18/2018	12/21/2018
2,4-Dimethylphenol	ND	ug/L	0.5	12/18/2018	12/21/2018
2,4-Dinitrophenol	ND	ug/L	0.5	12/18/2018	12/21/2018
2-Methylnaphthalene	ND	ug/L	0.01	12/18/2018	12/21/2018
2-Methylphenol	ND	ug/L	0.5	12/18/2018	12/21/2018
3+4-Methylphenol	ND	ug/L	0.5	12/18/2018	12/21/2018
4-Nitrophenol	ND	ug/L	0.5	12/18/2018	12/21/2018
Acenaphthene	ND	ug/L	0.01	12/18/2018	12/21/2018
Acenaphthylene	ND	ug/L	0.01	12/18/2018	12/21/2018
Anthracene	ND	ug/L	0.01	12/18/2018	12/21/2018
Benzo(ghi)perylene	ND	ug/L	0.01	12/18/2018	12/21/2018
Benzo[a]anthracene	ND	ug/L	0.01	12/18/2018	12/21/2018
Benzo[a]pyrene	ND	ug/L	0.01	12/18/2018	12/21/2018
Benzo[b]fluoranthene	ND	ug/L	0.01	12/18/2018	12/21/2018
Benzo[k]fluoranthene	ND	ug/L	0.01	12/18/2018	12/21/2018
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/18/2018	12/21/2018
Chrysene	ND	ug/L	0.01	12/18/2018	12/21/2018
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/18/2018	12/21/2018
Diethylphthalate	ND	ug/L	0.5	12/18/2018	12/21/2018
Dimethylphthalate	ND	ug/L	0.5	12/18/2018	12/21/2018

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1812764

Attn:

ANDY FREEMAN

Analytical Results Report Quality Control Data

Result	Units	PQL	Prep Date	Analysis Date
ND	ug/L	0.5	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.5	12/18/2018	12/21/2018
ND	ug/L	0.01	12/18/2018	12/21/2018
ND	ug/L	0.5	12/18/2018	12/21/2018
	ND ND ND ND ND ND ND	ND ug/L ND ug/L ND ug/L ND ug/L ND ug/L ND ug/L ND ug/L ND ug/L	ND ug/L 0.5 ND ug/L 0.01 ND ug/L 0.01 ND ug/L 0.01 ND ug/L 0.01 ND ug/L 0.01 ND ug/L 0.5 ND ug/L 0.01	ND ug/L 0.5 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.01 12/18/2018 ND ug/L 0.5 12/18/2018 ND ug/L 0.5 12/18/2018

AR

Acceptable Range

ND

Not Detected

PQL

Practical Quantitation Limit

RPD

Relative Percentage Difference

Comments:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Result

Batch #:

181217017

Address:

4901 HAWKINS NE SUITE D

Project Name:

1812764

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

181217017-002

Sampling Date Sampling Time

Units

12/11/2018

3:45 PM

Date/Time Received 12/14/2018 10:35 AM

Client Sample ID Matrix

1812764-001F/LTU FB01

Comments

Analyst

Method Qualifier

EPA 335.4

Parameter Cyanide

ND mg/L **PQL** 0.01

12/21/2018 12:00:00 PM

Analysis Date

BKP

Sample Number

181217017-004

Water

Sampling Date

12/11/2018

Date/Time Received 12/14/2018 10:35 AM

Client Sample ID Matrix

1812764-003F/LTU EB01

Sampling Time 3:25 PM

Comments

Parameter Result Units **PQL Analysis Date** Analyst Method Qualifier Cyanide ND mg/L 12/21/2018 12:00:00 PM EPA 335.4

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level ND Not Detected

POL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.

The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217017

Address:

4901 HAWKINS NE SUITE D

Project Name:

1812764

Attn:

ALBUQUERQUE, NM 87109 ANDY FREEMAN

> **Analytical Results Report Quality Control Data**

Lab Control Sample	-		·	·						
Parameter	LCS Result	Unit	s LC:	S Spike	%Rec	: AR	%Rec	Prep	Date	Analysis Date
Cyanide	0.520	mg/l		0.5	104.0	90	-110	12/21	/2018	12/26/2018
Matrix Spike										
Sample Number Parameter		Sample Result	MS	Uni	4-	MS	%Rec	AR	Bran Date	Amelysis Date
181214035-003 Cyanide		ND	Result 0.537	mg.		Spike 0.5	107.4	%Rec 80-120	12/21/201	-
Matrix Spike Duplicate										
•	MSD		MSD		_		AR			
Parameter	Result	Units	Spike		Rec	%RPD	%RPD		p Date	Analysis Date
Cyanide	0.517	mg/L	0.5	10	3.4	3.8	0-20	12/2	21/2018	12/26/2018
Method Blank	-									
Parameter		Re	sult	U	nits		PQL	Pr	ep Date	Analysis Date
Cyanide		NI)	m	ng/L		0.01	12/:	21/2018	12/26/2018

Acceptable Range

Not Detected

PQL

Practical Quantitation Limit Relative Percentage Difference

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42270 SampType: MBLK TestCode: EPA Method 6020: Total Metals

Client ID: PBW Batch ID: 42270 RunNo: 56633

Prep Date: 12/21/2018 Analysis Date: 12/27/2018 SeqNo: 1894698 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Lead ND 0.0010

Sample ID LLLCS-42270 SampType: LCSLL TestCode: EPA Method 6020: Total Metals

Client ID: BatchQC Batch ID: 42270 RunNo: 56633

Prep Date: 12/21/2018 Analysis Date: 12/27/2018 SeqNo: 1894699 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Lead 0.0010 0.0010 0.001000 0 105 70 130

Sample ID LCS-42270 SampType: LCS TestCode: EPA Method 6020: Total Metals

Client ID: LCSW Batch ID: 42270 RunNo: 56633

Prep Date: 12/21/2018 Analysis Date: 12/27/2018 SeqNo: 1894700 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Lead 0.048 0.0010 0.05000 0 95.5 80 120

Sample ID LCS-42270 SampType: LCS TestCode: EPA Method 6020: Total Metals

Client ID: LCSW Batch ID: 42270 RunNo: 56670

Prep Date: 12/21/2018 Analysis Date: 12/28/2018 SeqNo: 1896445 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Antimony 0.053 0.0010 0.05000 0 106 80 120

0.0010 0 98.7 80 120 Arsenic 0.049 0.05000 Selenium 0.048 0.0010 0.05000 0 97.0 80 120

Sample ID MB-42270 SampType: MBLK TestCode: EPA Method 6020: Total Metals

Client ID: PBW Batch ID: 42270 RunNo: 56670

Prep Date: 12/21/2018 Analysis Date: 12/28/2018 SeqNo: 1896476 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Antimony
 ND
 0.0010

 Arsenic
 ND
 0.0010

 Selenium
 ND
 0.0010

Sample ID LLLCS-42270 SampType: LCSLL TestCode: EPA Method 6020: Total Metals

Client ID: BatchQC Batch ID: 42270 RunNo: 56670

Prep Date: 12/21/2018 Analysis Date: 12/28/2018 SeqNo: 1896478 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Antimony 0.0011 0.0010 0.001000 0 105 70 130

Qualifiers:

ND

POL

* Value exceeds Maximum Contaminant Level.
B Analyte detected in the associated Method Blank

D Sample Diluted Due to Matrix E Value above quantitation range

H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits Page 9 of 19

Not Detected at the Reporting Limit P Sample pH Not In Range

Practical Quanitative Limit RL Reporting Detection Limit

% Recovery outside of range due to dilution or matrix W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

0.0011

0.0010

WO#: 1812764

08-Jan-19

Client: Marathon

Selenium

Project: Land Treatment Unit

Sample ID LLLCS-42270 SampType: LCSLL TestCode: EPA Method 6020: Total Metals Client ID: **BatchQC** Batch ID: 42270 RunNo: 56670

SeqNo: 1896478 Prep Date: 12/21/2018 Analysis Date: 12/28/2018 Units: mg/L

0.001000

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.00096 Arsenic 0.0010 0.001000 0 95.8 70 130

0

110

70

130

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Page 10 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID LCS-42095 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range

Client ID: LCSW Batch ID: 42095 RunNo: 56344

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1883555 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 4.3 1.0 5.000 0 85.9 70 130

Diesel Range Organics (DRO) 4.3 1.0 5.000 0 85.9 70 130 Surr: DNOP 0.42 0.5000 84.3 76.7 135

Sample ID MB-42095 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range

Client ID: PBW Batch ID: 42095 RunNo: 56344

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1883556 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Diesel Range Organics (DRO) ND 1.0

Motor Oil Range Organics (MRO) ND 5.0

Surr: DNOP 0.84 1.000 83.8 76.7 135

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 11 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812764

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

PBW Client ID: Batch ID: G56381 RunNo: 56381

Prep Date: Analysis Date: 12/17/2018 SeqNo: 1885544 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) ND 0.050

Surr: BFB 20.00 87.5 72.8 18 125

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSW Batch ID: G56381 RunNo: 56381

Prep Date: Analysis Date: 12/17/2018 SeqNo: 1885545 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) 0.49 0.050 0.5000 98.8 77.7 130 107 72.8 Surr: BFB 21 20.00 125

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits

Page 12 of 19

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID rb	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: A5	6506	F	RunNo: 5	6506				
Prep Date:	Analysis D	ate: 12	2/20/2018	5	SeqNo: 1	889881	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	1.5	10								J
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
Z,Z Dioinoropropulio	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
- PQL Practical Quanitative Limit
- 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 13 of 19

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID rb	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: A5	6506	R	RunNo: 5	6506				
Prep Date:	Analysis D	ate: 12	2/20/2018	S	SeqNo: 1	889881	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0	0	0	701120		g	70.1.2		
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.2	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.5	70	130			

Sample ID 100ng Ics	SampT	ype: LC	s	Tes	Code: El	ATILES				
Client ID: LCSW	Batch	1D: A5	6506	R	tunNo: 5	6506				
Prep Date:	Analysis D	ate: 12	2/20/2018	S	eqNo: 1	889882	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.4	70	130			
Toluene	19	1.0	20.00	0	95.7	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 14 of 19

Hall Environmental Analysis Laboratory, Inc.

SampType: MBLK

WO#: **1812764**

08-Jan-19

Client: Marathon

Sample ID rb1

Project: Land Treatment Unit

Sample ID 100ng lcs	SampT	ype: LC	S	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch	1D: A5	6506	RunNo: 56506								
Prep Date:	Analysis D	ate: 12	2/20/2018	9	SeqNo: 1	889882	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130					
Trichloroethene (TCE)	18	1.0	20.00	0	92.3	70	130					
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.3	70	130					
Surr: 4-Bromofluorobenzene	9.8		10.00		97.5	70	130					
Surr: Dibromofluoromethane	10		10.00		102	70	130					
Surr: Toluene-d8	9.7		10.00		97.5	70	130					

TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW	Batch	ID: A5	6506	F	RunNo: 5	6506				
Prep Date:	Analysis D	ate: 1	2/20/2018	S	SeqNo: 1	889944	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.42	4.0								J
2-Methylnaphthalene	0.43	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	1.5	10								J
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 15 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID rb1	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: A5	6506	F	RunNo: 5	6506				
Prep Date:	Analysis D	ate: 12	2/20/2018	S	SeqNo: 1	889944	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10	1.0	10.00		103	70	130			

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 16 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812764

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID rb1 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Batch ID: **A56506** Client ID: PBW RunNo: 56506 SeqNo: 1889944 Prep Date: Analysis Date: 12/20/2018 Units: µg/L Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Surr: 4-Bromofluorobenzene 9.8 10.00 98.2 70 130 Surr: Dibromofluoromethane 10 10.00 102 70 130 97.1 Surr: Toluene-d8 9.7 10.00 70 130

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 17 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42182 SampType: MBLK TestCode: EPA Method 7470: Mercury

Client ID: PBW Batch ID: 42182 RunNo: 56465

Prep Date: 12/18/2018 Analysis Date: 12/19/2018 SeqNo: 1888152 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.000071 0.00020 J

Sample ID LCS-42182 SampType: LCS TestCode: EPA Method 7470: Mercury

Client ID: LCSW Batch ID: 42182 RunNo: 56465

Prep Date: 12/18/2018 Analysis Date: 12/19/2018 SeqNo: 1888153 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Mercury 0.0049 0.00020 0.005000 0 97.3 80 120

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

PQL Practical Quanitative Limit

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 18 of 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812764**

08-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42228 SampType: MBLK TestCode: EPA 6010B: Total Recoverable Metals Client ID: PBW Batch ID: 42228 RunNo: 56631 Prep Date: 12/20/2018 Analysis Date: 12/26/2018 SeqNo: 1894530 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Barium ND 0.020 ND 0.0030 Beryllium Cadmium ND 0.0020 Chromium ND 0.0060 Cobalt ND 0.0060 Nickel ND 0.010 Silver ND 0.0050 ND 0.050 Vanadium Zinc 0.0064 0.020

Sample ID LCS-42228	Samp	Type: LC	s	Tes	als					
Client ID: LCSW	Bate	ch ID: 42	228	F	RunNo: 5	6631				
Prep Date: 12/20/2018	Analysis	Date: 12	2/26/2018	S	SeqNo: 1	894531	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	101	80	120			
Beryllium	0.53	0.0030	0.5000	0	107	80	120			
Cadmium	0.51	0.0020	0.5000	0	102	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Cobalt	0.49	0.0060	0.5000	0	99.0	80	120			
Nickel	0.49	0.010	0.5000	0	98.7	80	120			
Silver	0.10	0.0050	0.1000	0	102	80	120			
Vanadium	0.51	0.050	0.5000	0	103	80	120			
Zinc	0.50	0.020	0.5000	0	101	80	120			

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

PQL Practical Quanitative Limit

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 19 of 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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

Client Name:	MARATHON GALLUP	Work Order Numb	er: 1812	764		RcptNo	: 1	
Received By:	Victoria Zellar	12/13/2018 8:57:00	AM		Victoria 3	ellar		
Completed By:	Erin Melendrez	12/13/2018 10:57:3	5 AM		1 winia 3		·	
Reviewed By:	LB	12/3/19			· ~ (
1 B.	JAB 12/13/1	•						
Chain of Cus		2						
	ustody complete?		Yes	V	No 🗌	Not Present		
2. How was the	sample delivered?		Couri	<u>er</u>				
Log In								
	npt made to cool the sample	s?	Yes	V	No 🗌	NA 🗌		
4. Were all samp	ples received at a temperatu	re of >0° C to 6.0°C	Yes	✓	No ∐	NA 🗆		
5. Sample(s) in	proper container(s)?		Yes	✓	No 🗌			
				_				
	nple volume for indicated tes		Yes		No ∐			
_	(except VOA and ONG) prop	erly preserved?		✓	No ∐			
o, was preserva	tive added to bottles?		Yes		No 🗹	NA 📙		
9. VOA vials hav	e zero headspace?		Yes	✓	No 🗆	No VOA Vials ☐		
10. Were any san	mple containers received bro	ken?	Yes		No 🗹	# of processed]
44.5			r			# of preserved bottles checked	7.)	
	ork match bottle labels? ancies on chain of custody)		Yes	Y .	No ∐	for pH:	r > (2 unless noted)	
	correctly identified on Chain	of Custody?	Yes	V	No 🗌	Adjusted?	No	
13. Is it clear what	t analyses were requested?		Yes	✓	No 🗌		TA0 - 10	1
	ng times able to be met? ustomer for authorization.)		Yes	✓	No 🗌	Checked by:	UAB 12/13	i/(
	ling (if applicable)							
	rtified of all discrepancies wi	th this order?	Voo		No 🗆	NA 🗸		
	SALES AND PROPERTY OF THE PERSON NAMED IN COLUMN TO THE PERSON NAM		Yes		140			
By Who	Notified:	Date:				F34. 5.		
Regardi		Via:	eMai	1	hone [Fax	☐ In Person		
	nstructions:		***************************************					
16. Additional rer	marks:				e este e su su su		_	
17. Cooler Infor	mation							
Cooler No	The second second	Seal Intact Seal No	Seal Da	te I	Signed By	4		
1		res .		TOTAL VICTOR .				
			-					

<u>წ</u>

;	HALL ENVIKONMENTAL ANALYSTS LABORATORY							(N 10 Y	CYANIDE (×			
	Z U 4	<u></u>	9			<u> </u>				MERCURY				×				
	- A		4901 Hawkins NE - Albuquerque, NM 87109	107						METALS MC		×		<u>×</u>				
<u> </u>		www.hallenvironmental.com	Σ	Fax 505-345-4107	est					8260B MOD. 9	×	_				×		
Ě	¥ _		rane	. 605	Analysis Request					8081 Pesticio								
	> <u>Y</u>		ndne	ax.	sis R					Anions (F,CI,I								
Ū	בן ב	lenvi	AB	ш	naly				sls	RCRA 8 Met								01/6
-	1 ₹	w.ha	빌	975	A		(S	WIS	07 <u>2</u> 8 1	o 01£8) HAG								
«	ANALYSTS	M	kins	45-3						EDB (Method								olicitzi 711
_		_	Нам	505-3						vorteM) H9T								
			901	Tel. 505-345-3975						D) &108 H9T	×		×				Remarks:	S.
		323	4	•						38TM+X3T8 38TM+X3T8							ems	8.57 18.57
		ij					(120	8/3										
		atment Ur				Aoore		0)	o No 160	HEAL NO. 18127(0L	190-		·			<u> </u>	Date	(2) (2) (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
Time:	□ Rush	Land Tre				ject Manager: Brian Moore		11/10	Wyes /	Preservative Type	HCI	Neat	Neat	HNO ₃	NaOH	HCL	00.00	COMMON
Turn-Around Time:	X Standard	Project Name: Land Treatment Unit		Project #:		Project Manag		Sampler: 7	On Ice: VYes	Container Type and #	40ml VOA-5	1 Liter Amber - 1	250 ml Amber-1	250 ml Plastic-1	500 ml Plastic-1	40ml VOA-3	Received by:	Received by:
Chain-of-Custody Record	oleum	y	92 Giant Crossing Road	Gallup, NM 87301	-3745	BMoore1@Marathonpetroleum.com	X Level 4 (Full Validation)			Sample Request ID	LTU FB01	LTU FB01	LTU FB01	LTU FB01	LTU FB01	TRIP BLANK	by: M	by:
of-Cu	Marathon Petroleum	Gallup Refinery		Gallup	505-726-3745	BMoore1(EXCEL	Matrix	H ₂ 0					-	Relinquished by:	Relifiquished by
hain	Marati	Gallup	Mailing Address:		#:	email or Fax#:	QA/QC Package: □ Standard	Ö	X EDD (Type)_	Time	1548	ShS1	3451	5/15/	5451	ł	Time:	Time:
,	Client:		Mailing		Phone #:	email o	QA/QC Packa	□ Other	X EDC	Date	81-11-21						Date:	Date:
											12						7	ī

Ь.

	ANALYSTS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109		Analysis		(O) (O) (*O) (*O) (*O) (*O) (*O)	FIE B FI S DC ^(*) (SW W/WE Se o	INN	2KINIP 2KINIP 3KINIP 103°10 10	EX+MTBE Bubbles (C) BY RODE BY ROTE CORNOD BY ROSTOR CORNOD FEX-MIDE FOUR F	ME ME ME ME ME ME ME ME ME ME	×	×	×	×			Remarks: Optival UVZ	8:57 8:57
Turn-Around Time:	X Standard Rush	Project Name: Land Treatment Unit		Project #:		Project Manager: Brian Moore			pler: 7/2/1/10	On Ice: 岁Yes □ No Sample Temperature 允比℃	itive HEAL No.	40ml VOA-5 HCI007	1 Liter Neat Amber - 1	250 ml Neat Amber-1	250 ml HNO ₃ Plastic-1	500 ml NaOH Plastic-1			Millinia Million 1913/18857	y: Date Time
Chain-of-Custody Record	Petroleum		92 Giant Crossing Road	Gallup, NM 87301	505-726-3745	BMoore1@Marathonpetroleum.com		X Level 4 (Full Validation)		EXCEL	Sample Request ID	LTU EB01	LTU EB01	LTU EB01	LTU EB01	LTU EB01		7	Little .	Rejyfquished by:
. Chain-of-	Client: Marathon Petroleum	Gallup Refinery	Mailing Address: 92	Ga	Phone #: 505 -	email or Fax#: BMoo	QA/QC Package:	□ Standard	□ Other	X EDD (Type) <u>EXC</u>	Date Time Matrix	12-11-18 1525 H20	ŚzŚ	5251	1525				Time:	Date: Time: Relind

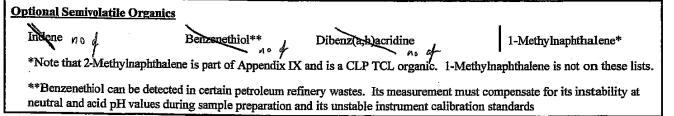
ATTACHMENT 1

Region 5 Waste Management Branch "Skinner List" Constituents of Concern for Wastes from Petroleum Processes												
Inorganics												
Antimony	Cadmium	Lead	Silver									
Arsenic	Chromium	Mercury	Vanadium									
Barium	Cobalt	Nickel	Zinc									
Beryllium Cyanide Selenium												

Volatile Organics			
Benzene	1,2-Dichloroethane	Ethylene dibromide (EDB)	1,1,1-Trichloroethane
Carbon disulfide	1,1-Dichloroethane	Methyl ethyl ketone (MEK)	Trichloroethene
Chlorobenzene	1,4-Dioxane	Styrene	Tetrachloroethylene
Chloroform	Ethylbenzene	Toluene	Xylenes (total)

Semivolatile Organics			
Acenaphthene	o-Cresol	Diethyl phthalate	Naphthalene
Anthracene	m-Cresol	2,4 Dimethylphenol	4-Nitrophenol
Benzo(a)anthracene	p-Cresol	Dimethyl phthalate	Phenanthrene
Benzo(b)fluroranthene	Dibenz(a,h)anthracene	2,4 Dinitrophenol	Phenol
Benzo(k)fluoranthene	Di-n-butyl phthalate	Fluoranthene	Pyrene
Benzo(a)pyrene	1,2-Dichlorobenzene*	Fluorene	Pyridine
Bis(2-ethylhexyl) phthalate	1,3-Dichlorobenzene*	Indeno(1,2,3-cd)pyrene	Quinoline
Chrysene	1,4-Dichlorobenzene*	Methyl tertiary butyl ether (MTBE)	*- can be tested as a volatile

Low Concentration Polynuclear Aromatic Hydrocarbons (Optional)											
Benzo(a)anthracene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene								
Benzo(b)fluoranthene	Benzo(a)pyrene	Chrysene*									
* added to this group to assist the chromatographic resolution of chrysene from Dibenz(a,h)anthracene in sample extracts											





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

January 02, 2019

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

FAX

RE: Land Treatment Unit OrderNo.: 1812773

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 13 sample(s) on 12/13/2018 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 12:45:00 PM

 Lab ID:
 1812773-001
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	ND	1.9	9.6		mg/Kg	1	12/17/2018 4:16:06 PM	Л 42114
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	12/17/2018 4:16:06 PM	Л 42114
Surr: DNOP	102	0	50.6-138		%Rec	1	12/17/2018 4:16:06 PM	Л 42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	5.0		mg/Kg	1	12/14/2018 9:27:40 PM	И 42099
Surr: BFB	101	0	73.8-119		%Rec	1	12/14/2018 9:27:40 PM	Л 42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0070	0.035		mg/Kg	1	12/17/2018 5:51:08 PM	Л 42146
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:58:06 PM	Л 42119
Arsenic	ND	6.9	12		mg/Kg	5	12/20/2018 2:58:06 PM	<i>I</i> 42119
Barium	240	0.11	0.48		mg/Kg	5	12/20/2018 2:58:06 PM	Л 42119
Beryllium	1.6	0.044	0.72		mg/Kg	5	12/20/2018 2:58:06 PM	И 42119
Cadmium	ND	0.12	0.48		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Chromium	20	0.38	1.4		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Cobalt	7.1	0.51	1.4		mg/Kg	5	12/22/2018 3:49:16 PM	A 42119
Lead	1.3	1.2	1.2		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Nickel	18	0.72	2.4		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Selenium	ND	6.1	12		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Silver	ND	0.15	1.2		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Vanadium	34	0.32	12		mg/Kg	5	12/20/2018 2:58:06 PM	A 42119
Zinc	26	1.9	12		mg/Kg	5	12/22/2018 3:49:16 PM	Л 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0041	0.025		mg/Kg	1	12/17/2018 2:01:05 PM	И 42099
Toluene	ND	0.0048	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
Ethylbenzene	ND	0.0029	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
1,2,4-Trimethylbenzene	ND	0.0046	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
1,3,5-Trimethylbenzene	ND	0.0048	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
1,2-Dichloroethane (EDC)	ND	0.0051	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
1,2-Dibromoethane (EDB)	ND	0.0046	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
Naphthalene	ND	0.010	0.10		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
1-Methylnaphthalene	ND	0.029	0.20		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
2-Methylnaphthalene	ND	0.022	0.20		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099
Acetone	ND	0.041	0.75		mg/Kg	1	12/17/2018 2:01:05 PM	И 42099
Bromobenzene	ND	0.0048	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	И 42099
Bromodichloromethane	ND	0.0046	0.050		mg/Kg	1	12/17/2018 2:01:05 PM	A 42099

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

PQL Practical Quanitative Limit

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 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 12:45:00 PM

Lab ID: 1812773-001 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	 F
Bromoform	ND	0.0045	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
2-Butanone	ND	0.058	0.50	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Carbon disulfide	ND	0.016	0.50	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Carbon tetrachloride	ND	0.0047	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Chlorobenzene	ND	0.0064	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Chloroethane	ND	0.0074	0.10	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Chloroform	ND	0.0040	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Chloromethane	ND	0.0048	0.15	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
2-Chlorotoluene	ND	0.0043	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
4-Chlorotoluene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
cis-1,2-DCE	ND	0.0068	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
cis-1,3-Dichloropropene	ND	0.0042	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,2-Dibromo-3-chloropropane	ND	0.0051	0.10	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Dibromochloromethane	ND	0.0035	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Dibromomethane	ND	0.0054	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,2-Dichlorobenzene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,3-Dichlorobenzene	ND	0.0043	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,4-Dichlorobenzene	ND	0.0042	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Dichlorodifluoromethane	ND	0.012	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,1-Dichloroethane	ND	0.0032	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,1-Dichloroethene	ND	0.020	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,2-Dichloropropane	ND	0.0036	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,3-Dichloropropane	ND	0.0054	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
2,2-Dichloropropane	ND	0.016	0.10	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,1-Dichloropropene	ND	0.0045	0.10	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Hexachlorobutadiene	ND	0.0051	0.10	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
2-Hexanone	ND	0.0083	0.50	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Isopropylbenzene	ND	0.0036	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
4-Isopropyltoluene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
4-Methyl-2-pentanone	ND	0.0094	0.50	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Methylene chloride	ND	0.0088	0.15	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
n-Butylbenzene	ND	0.0047	0.15	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
n-Propylbenzene	ND	0.0040	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
sec-Butylbenzene	ND	0.0056	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
Styrene	ND	0.0039	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
tert-Butylbenzene	ND	0.0047	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,1,1,2-Tetrachloroethane	ND	0.0034	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099
1,1,2,2-Tetrachloroethane	ND	0.0051	0.050	mg/Kg	1	12/17/2018 2:01:05 F	PM 42099

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
- PQL Practical Quanitative Limit
- 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 50

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 12:45:00 PM

Lab ID: 1812773-001 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0040	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
trans-1,2-DCE	ND	0.0046	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0053	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0044	0.10	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0050	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,1,1-Trichloroethane	ND	0.0045	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,1,2-Trichloroethane	ND	0.0035	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
Trichloroethene (TCE)	ND	0.0058	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
Trichlorofluoromethane	ND	0.017	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,2,3-Trichloropropane	ND	0.0081	0.10	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
Vinyl chloride	ND	0.0033	0.050	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
Xylenes, Total	ND	0.013	0.10	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 2:01:05 PM	1 42099
Surr: Dibromofluoromethane	106		70-130	%Rec	1	12/17/2018 2:01:05 PM	1 42099
Surr: 1,2-Dichloroethane-d4	103		70-130	%Rec	1	12/17/2018 2:01:05 PM	1 42099
Surr: Toluene-d8	99.6		70-130	%Rec	1	12/17/2018 2:01:05 PM	1 42099
Surr: 4-Bromofluorobenzene	92.6		70-130	%Rec	1	12/17/2018 2:01:05 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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 50

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 1:00:00 PM

 Lab ID:
 1812773-002
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

245 12. 1012773 002	1,14411211 5	OIL	110	cerved Bute.	12/13/					
Analyses	Result	MDL	PQL	Qual Uni	its D	F	Date Analyzed H	Batch ID		
EPA METHOD 8015M/D: DIESEL RANGE O	ORGANICS						Analyst: Irm			
Diesel Range Organics (DRO)	ND	2.0	9.9	mg/	/Kg 1		12/17/2018 5:22:12 PM	42114		
Motor Oil Range Organics (MRO)	ND	50	50	mg/	/Kg 1		12/17/2018 5:22:12 PM	42114		
Surr: DNOP	96.5	0	50.6-138	%R	ec 1		12/17/2018 5:22:12 PM	l 42114		
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB			
Gasoline Range Organics (GRO)	ND	1.4	4.8	mg/	/Kg 1		12/14/2018 9:51:17 PM	1 42099		
Surr: BFB	96.2	0	73.8-119	%R	-		12/14/2018 9:51:17 PM			
EPA METHOD 7471: MERCURY							Analyst: pmf			
Mercury	ND	0.0070	0.035	mg/	/Kg 1		12/17/2018 6:06:28 PM	l 42146		
EPA METHOD 6010B: SOIL METALS							Analyst: rde			
Antimony	ND	1.8	12	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
Arsenic	ND	6.9	12	mg/	/Kg 5		12/20/2018 2:21:09 PM	42119		
Barium	230	0.11	0.48	mg/	-		12/20/2018 2:21:09 PM	42119		
Beryllium	1.3	0.044	0.73	mg/	-		12/20/2018 2:21:09 PM	l 42119		
Cadmium	ND	0.12	0.48	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
Chromium	18	0.39	1.5	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
Cobalt	8.1	0.51	1.5	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
Lead	1.9	1.2	1.2	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
Nickel	18	0.72	2.4	mg/	/Kg 5		12/20/2018 2:21:09 PM	42119		
Selenium	ND	6.1	12	mg/	/Kg 5		12/20/2018 2:21:09 PM	42119		
Silver	ND	0.16	1.2	mg/	/Kg 5		12/20/2018 2:21:09 PM	42119		
Vanadium	32	0.32	12	mg/	/Kg 5		12/20/2018 2:21:09 PM	42119		
Zinc	31	1.9	12	mg/	/Kg 5		12/20/2018 2:21:09 PM	l 42119		
EPA METHOD 8260B: VOLATILES							Analyst: DJF			
Benzene	ND	0.0039	0.024	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
Toluene	ND	0.0046	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
Ethylbenzene	ND	0.0028	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
1,2,4-Trimethylbenzene	ND	0.0044	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
1,3,5-Trimethylbenzene	ND	0.0047	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
1,2-Dichloroethane (EDC)	ND	0.0049	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
1,2-Dibromoethane (EDB)	ND	0.0044	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
Naphthalene	ND	0.0096	0.096	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
1-Methylnaphthalene	ND	0.028	0.19	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		
2-Methylnaphthalene	ND	0.021	0.19	mg/	/Kg 1		12/17/2018 2:30:47 PM	l 42099		
Acetone	ND	0.040	0.72	mg/	/Kg 1		12/17/2018 2:30:47 PM	l 42099		
Bromobenzene	ND	0.0046	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	l 42099		
Bromodichloromethane	ND	0.0044	0.048	mg/	/Kg 1		12/17/2018 2:30:47 PM	42099		

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

PQL Practical Quanitative Limit

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 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 1:00:00 PM

Lab ID: 1812773-002 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Bromomethane	ND	0.012	0.14	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
2-Butanone	ND	0.056	0.48	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Carbon tetrachloride	ND	0.0046	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Chlorobenzene	ND	0.0062	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Chloroethane	ND	0.0071	0.096	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Chloroform	ND	0.0039	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
cis-1,2-DCE	ND	0.0066	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
cis-1,3-Dichloropropene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.096	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Dibromomethane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,3-Dichlorobenzene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
2,2-Dichloropropane	ND	0.016	0.096	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,1-Dichloropropene	ND	0.0044	0.096	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Hexachlorobutadiene	ND	0.0049	0.096	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
2-Hexanone	ND	0.0080	0.48	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Isopropylbenzene	ND	0.0035	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
4-Isopropyltoluene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
4-Methyl-2-pentanone	ND	0.0091	0.48	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Methylene chloride	ND	0.0085	0.14	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
n-Butylbenzene	ND	0.0045	0.14	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
Styrene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.048	mg/Kg	1	12/17/2018 2:30:47 I	PM 42099

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
- PQL Practical Quanitative Limit
- 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 5 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L1 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 1:00:00 PM

Lab ID: 1812773-002 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
trans-1,2-DCE	ND	0.0044	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0051	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.096	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
Trichloroethene (TCE)	ND	0.0056	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,2,3-Trichloropropane	ND	0.0078	0.096	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
Xylenes, Total	ND	0.012	0.096	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 2:30:47 PM	1 42099
Surr: Dibromofluoromethane	103		70-130	%Rec	1	12/17/2018 2:30:47 PM	1 42099
Surr: 1,2-Dichloroethane-d4	104		70-130	%Rec	1	12/17/2018 2:30:47 PM	1 42099
Surr: Toluene-d8	99.4		70-130	%Rec	1	12/17/2018 2:30:47 PM	1 42099
Surr: 4-Bromofluorobenzene	93.3		70-130	%Rec	1	12/17/2018 2:30:47 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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 50

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 12:00:00 PM

 Lab ID:
 1812773-003
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: Irn	1
Diesel Range Organics (DRO)	ND	2.0	10		mg/Kg	1	12/17/2018 5:44:15 F	PM 42114
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	12/17/2018 5:44:15 F	PM 42114
Surr: DNOP	96.8	0	50.6-138		%Rec	1	12/17/2018 5:44:15 F	PM 42114
EPA METHOD 8015D: GASOLINE RANG	E						Analyst: NS	В
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/14/2018 10:14:50	P 42099
Surr: BFB	95.9	0	73.8-119		%Rec	1	12/14/2018 10:14:50	P 42099
EPA METHOD 7471: MERCURY							Analyst: pm	nf
Mercury	0.0079	0.0066	0.033	J	mg/Kg	1	12/17/2018 6:09:36 F	PM 42146
EPA METHOD 6010B: SOIL METALS							Analyst: rde)
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Arsenic	ND	7.1	12		mg/Kg	5	12/20/2018 2:30:39 F	
Barium	310	0.12	0.50		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Beryllium	1.7	0.046	0.75		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Cadmium	ND	0.12	0.50		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Chromium	17	0.40	1.5		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Cobalt	6.9	0.53	1.5		mg/Kg	5	12/22/2018 4:32:13 F	PM 42119
Lead	3.0	1.2	1.2		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Nickel	16	0.75	2.5		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Selenium	ND	6.3	12		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Vanadium	28	0.33	12		mg/Kg	5	12/20/2018 2:30:39 F	PM 42119
Zinc	24	2.0	12		mg/Kg	5	12/22/2018 4:32:13 F	PM 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJ	F
Benzene	ND	0.0039	0.024		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Toluene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Ethylbenzene	ND	0.0028	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Naphthalene	ND	0.0096	0.096		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
1-Methylnaphthalene	ND	0.028	0.19		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Acetone	ND	0.040	0.72		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Bromobenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099
Bromodichloromethane	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:00:34 F	PM 42099

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

PQL Practical Quanitative Limit

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 7 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 12:00:00 PM

 Lab ID:
 1812773-003
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Result **MDL PQL Oual Units** DF Analyses **Date Analyzed Batch ID EPA METHOD 8260B: VOLATILES** Analyst: DJF 12/17/2018 3:00:34 PM 42099 Bromoform ND 0.0043 0.048 mg/Kg 1 Bromomethane ND 0.012 0.14 mg/Kg 1 12/17/2018 3:00:34 PM ND 0.056 0.48 2-Butanone mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND Carbon disulfide 0.016 0.48 mg/Kg 1 12/17/2018 3:00:34 PM ND Carbon tetrachloride 0.0046 0.048 mg/Kg 42099 1 12/17/2018 3:00:34 PM Chlorobenzene ND 0.0062 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 Chloroethane ND 0.0071 0.096 mg/Kg 1 12/17/2018 3:00:34 PM 42099 Chloroform ND 0.0039 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 Chloromethane ND 0.0046 0.14 mg/Kg 1 12/17/2018 3:00:34 PM 42099 2-Chlorotoluene ND 0.0042 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 4-Chlorotoluene ND 0.0039 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 cis-1,2-DCE ND 0.0066 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 0.0041 0.048 cis-1,3-Dichloropropene mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 12/17/2018 3:00:34 PM 1,2-Dibromo-3-chloropropane 0.0049 0.096 mg/Kg 1 ND Dibromochloromethane 0.0034 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND Dibromomethane 0.0052 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 1,2-Dichlorobenzene ND 0.0039 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 1,3-Dichlorobenzene 0.0042 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 1.4-Dichlorobenzene ND 0.0040 0.048 12/17/2018 3:00:34 PM 42099 mg/Kg 1 Dichlorodifluoromethane ND 0.011 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 0.0031 1.1-Dichloroethane 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 1,1-Dichloroethene ND 0.019 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 0.0035 0.048 12/17/2018 3:00:34 PM 42099 1,2-Dichloropropane mg/Kg 1 ND 0.0052 0.048 12/17/2018 3:00:34 PM 42099 1,3-Dichloropropane mg/Kg 1 ND 2,2-Dichloropropane 0.016 0.096 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 1,1-Dichloropropene 0.0044 0.096 mg/Kg 1 12/17/2018 3:00:34 PM Hexachlorobutadiene ND 0.0049 0.096 12/17/2018 3:00:34 PM 42099 mg/Kg 1 2-Hexanone ND 0.0080 0.48 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND Isopropylbenzene 0.0035 0.048 mg/Kg 1 12/17/2018 3:00:34 PM 42099 ND 0.0040 0.048 mg/Kg 12/17/2018 3:00:34 PM 42099 4-Isopropyltoluene 1

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

0.0091

0.0085

0.0045

0.0038

0.0054

0.0038

0.0045

0.0033

0.0049

0.48

0.14

0.14

0.048

0.048

0.048

0.048

0.048

0.048

ND

ND

ND

ND

ND

ND

ND

ND

ND

Qualifiers:

Styrene

4-Methyl-2-pentanone

Methylene chloride

n-Butylbenzene

n-Propylbenzene

sec-Butylbenzene

tert-Butvlbenzene

1,1,1,2-Tetrachloroethane

1,1,2,2-Tetrachloroethane

- * 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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

1

1

1

1

1

1

1

1

1

J Analyte detected below quantitation limits

Page 8 of 50

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099 12/17/2018 3:00:34 PM 42099

12/17/2018 3:00:34 PM 42099

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 12:00:00 PM

Lab ID: 1812773-003 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/17/2018 3:00:34 PN	1 42099
trans-1,2-DCE	ND	0.0044	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0051	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.096	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
Trichloroethene (TCE)	ND	0.0056	0.048	mg/Kg	1	12/17/2018 3:00:34 PN	1 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,2,3-Trichloropropane	ND	0.0078	0.096	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
Xylenes, Total	ND	0.012	0.096	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 3:00:34 PM	1 42099
Surr: Dibromofluoromethane	104		70-130	%Rec	1	12/17/2018 3:00:34 PM	1 42099
Surr: 1,2-Dichloroethane-d4	101		70-130	%Rec	1	12/17/2018 3:00:34 PM	1 42099
Surr: Toluene-d8	102		70-130	%Rec	1	12/17/2018 3:00:34 PN	1 42099
Surr: 4-Bromofluorobenzene	97.7		70-130	%Rec	1	12/17/2018 3:00:34 PN	1 42099

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
- PQL Practical Quanitative Limit
- 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 9 of 50

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 12:10:00 PM

 Lab ID:
 1812773-004
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS					Analyst: Irm	
Diesel Range Organics (DRO)	ND	1.9	9.6	mg/Kg	1	12/17/2018 6:06:23 PI	M 42114
Motor Oil Range Organics (MRO)	ND	48	48	mg/Kg	1	12/17/2018 6:06:23 PI	M 42114
Surr: DNOP	98.2	0	50.6-138	%Rec	1	12/17/2018 6:06:23 PI	M 42114
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.8	mg/Kg	1	12/14/2018 10:38:19 F	42099
Surr: BFB	97.6	0	73.8-119	%Rec	1	12/14/2018 10:38:19 F	42099
EPA METHOD 7471: MERCURY						Analyst: pmf	į.
Mercury	ND	0.0070	0.035	mg/Kg	1	12/17/2018 6:18:24 PI	M 42146
EPA METHOD 6010B: SOIL METALS						Analyst: rde	
Antimony	ND	1.8	12	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Arsenic	ND	6.9	12	mg/Kg	5	12/20/2018 2:32:27 PI	
Barium	340	0.11	0.48	mg/Kg	5	12/20/2018 2:32:27 PI	
Beryllium	1.7	0.044	0.72	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Cadmium	ND	0.12	0.48	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Chromium	19	0.38	1.4	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Cobalt	7.4	0.51	1.4	mg/Kg	5	12/22/2018 4:33:53 PI	M 42119
Lead	2.9	1.2	1.2	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Nickel	18	0.72	2.4	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Selenium	ND	6.1	12	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Silver	ND	0.15	1.2	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Vanadium	33	0.32	12	mg/Kg	5	12/20/2018 2:32:27 PI	M 42119
Zinc	27	1.9	12	mg/Kg	5	12/22/2018 4:33:53 PI	M 42119
EPA METHOD 8260B: VOLATILES						Analyst: DJF	•
Benzene	ND	0.0039	0.024	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Toluene	ND	0.0046	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Ethylbenzene	ND	0.0028	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Naphthalene	ND	0.0096	0.096	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
1-Methylnaphthalene	ND	0.028	0.19	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
2-Methylnaphthalene	ND	0.021	0.19	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Acetone	ND	0.040	0.72	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Bromobenzene	ND	0.0046	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099
Bromodichloromethane	ND	0.0044	0.048	mg/Kg	1	12/17/2018 3:29:30 PI	M 42099

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

PQL Practical Quanitative Limit

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 10 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 12:10:00 PM

Lab ID: 1812773-004 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	M 42099
Bromomethane	ND	0.012	0.14	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
2-Butanone	ND	0.056	0.48	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Carbon tetrachloride	ND	0.0046	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Chlorobenzene	ND	0.0062	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Chloroethane	ND	0.0071	0.096	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Chloroform	ND	0.0039	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/17/2018 3:29:30 PM	
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
cis-1,2-DCE	ND	0.0066	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
cis-1,3-Dichloropropene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.096	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Dibromomethane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
1,3-Dichlorobenzene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
2,2-Dichloropropane	ND	0.016	0.096	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
1,1-Dichloropropene	ND	0.0044	0.096	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
Hexachlorobutadiene	ND	0.0049	0.096	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
2-Hexanone	ND	0.0080	0.48	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
Isopropylbenzene	ND	0.0035	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
4-Isopropyltoluene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	И 42099
4-Methyl-2-pentanone	ND	0.0091	0.48	mg/Kg	1	12/17/2018 3:29:30 PM	
Methylene chloride	ND	0.0085	0.14	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
n-Butylbenzene	ND	0.0045	0.14	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	Л 42099
Styrene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	
1,1,1,2-Tetrachloroethane	ND	0.0033	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	
1,1,2,2-Tetrachloroethane	ND	0.0049	0.048	mg/Kg	1	12/17/2018 3:29:30 PM	

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
- PQL Practical Quanitative Limit
- 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 11 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1812773

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C1L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 12:10:00 PM

 Lab ID:
 1812773-004
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/K	j 1	12/17/2018 3:29:30 F	M 42099
trans-1,2-DCE	ND	0.0044	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
trans-1,3-Dichloropropene	ND	0.0051	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.096	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
Trichloroethene (TCE)	ND	0.0056	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,2,3-Trichloropropane	ND	0.0078	0.096	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
Vinyl chloride	ND	0.0031	0.048	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
Xylenes, Total	ND	0.012	0.096	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
1,4-Dioxane	ND	0	0	mg/K	g 1	12/17/2018 3:29:30 F	M 42099
Surr: Dibromofluoromethane	105		70-130	%Red	: 1	12/17/2018 3:29:30 F	M 42099
Surr: 1,2-Dichloroethane-d4	98.2		70-130	%Red	: 1	12/17/2018 3:29:30 F	M 42099
Surr: Toluene-d8	104		70-130	%Red	: 1	12/17/2018 3:29:30 F	M 42099
Surr: 4-Bromofluorobenzene	96.6		70-130	%Red	: 1	12/17/2018 3:29:30 F	M 42099

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

PQL Practical Quanitative Limit

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 12 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Collection Date: 12/11/2018

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

Project: Land Treatment Unit

CLIENT: Marathon Client Sample ID: LTU ZOI DUP

Lab ID: 1812773-005 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	ND	2.0	9.8		mg/Kg	1	12/17/2018 6:28:19 PM	A 42114
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	12/17/2018 6:28:19 PM	A 42114
Surr: DNOP	97.1	0	50.6-138		%Rec	1	12/17/2018 6:28:19 PM	A 42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/14/2018 11:01:48 F	42099
Surr: BFB	99.1	0	73.8-119		%Rec	1	12/14/2018 11:01:48 F	42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0068	0.034		mg/Kg	1	12/17/2018 6:21:40 PM	A 42146
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:34:19 PM	/ 42119
Arsenic	ND	6.9	12		mg/Kg	5	12/20/2018 2:34:19 PM	A 42119
Barium	270	0.11	0.48		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Beryllium	1.7	0.044	0.72		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Cadmium	ND	0.12	0.48		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Chromium	20	0.38	1.4		mg/Kg	5	12/20/2018 2:34:19 PM	A 42119
Cobalt	7.4	0.51	1.4		mg/Kg	5	12/22/2018 4:35:26 PM	A 42119
Lead	1.7	1.2	1.2		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Nickel	19	0.72	2.4		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Selenium	ND	6.1	12		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Silver	ND	0.15	1.2		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Vanadium	33	0.32	12		mg/Kg	5	12/20/2018 2:34:19 PM	<i>l</i> 42119
Zinc	28	1.9	12		mg/Kg	5	12/22/2018 4:35:26 PM	<i>l</i> 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0040	0.024		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Toluene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Ethylbenzene	ND	0.0028	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Naphthalene	ND	0.0097	0.097		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
1-Methylnaphthalene	ND	0.028	0.19		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Acetone	ND	0.040	0.73		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Bromobenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	A 42099
Bromodichloromethane	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:58:36 PM	<i>I</i> 42099

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

PQL Practical Quanitative Limit

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 13 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU ZOI DUP

Project: Land Treatment Unit Collection Date: 12/11/2018

Lab ID: 1812773-005 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJI	=
Bromoform	ND	0.0044	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
2-Butanone	ND	0.056	0.48	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Carbon tetrachloride	ND	0.0046	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Chlorobenzene	ND	0.0062	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Chloroethane	ND	0.0071	0.097	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Chloroform	ND	0.0039	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Chloromethane	ND	0.0046	0.15	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
4-Chlorotoluene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
cis-1,2-DCE	ND	0.0066	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
cis-1,3-Dichloropropene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.097	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Dibromomethane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,2-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,3-Dichlorobenzene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
2,2-Dichloropropane	ND	0.016	0.097	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,1-Dichloropropene	ND	0.0044	0.097	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Hexachlorobutadiene	ND	0.0049	0.097	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
2-Hexanone	ND	0.0080	0.48	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Isopropylbenzene	ND	0.0035	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
4-Isopropyltoluene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
4-Methyl-2-pentanone	ND	0.0091	0.48	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Methylene chloride	ND	0.0085	0.15	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
n-Butylbenzene	ND	0.0045	0.15	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
n-Propylbenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
Styrene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
tert-Butylbenzene	ND	0.0046	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.048	mg/Kg	1	12/17/2018 3:58:36 P	M 42099

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
- PQL Practical Quanitative Limit
- 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 14 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU ZOI DUP

Project: Land Treatment Unit Collection Date: 12/11/2018

Lab ID: 1812773-005 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: D J	F
Tetrachloroethene (PCE)	ND	0.0039	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
trans-1,2-DCE	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
trans-1,3-Dichloropropene	ND	0.0051	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.097		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,1,1-Trichloroethane	ND	0.0044	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,1,2-Trichloroethane	ND	0.0034	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
Trichloroethene (TCE)	ND	0.0056	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
Trichlorofluoromethane	ND	0.016	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,2,3-Trichloropropane	ND	0.0078	0.097		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
Vinyl chloride	ND	0.0032	0.048		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
Xylenes, Total	ND	0.012	0.097		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
1,4-Dioxane	ND	0	0		mg/Kg	1	12/17/2018 3:58:36 I	PM 42099
Surr: Dibromofluoromethane	106		70-130		%Rec	1	12/17/2018 3:58:36 I	PM 42099
Surr: 1,2-Dichloroethane-d4	98.9		70-130		%Rec	1	12/17/2018 3:58:36 I	PM 42099
Surr: Toluene-d8	102		70-130		%Rec	1	12/17/2018 3:58:36 I	PM 42099
Surr: 4-Bromofluorobenzene	97.5		70-130		%Rec	1	12/17/2018 3:58:36 I	PM 42099

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
- PQL Practical Quanitative Limit
- 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 15 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 2:20:00 PM

 Lab ID:
 1812773-006
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed H	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	51	2.0	9.9		mg/Kg	1	12/17/2018 12:29:55 P	42114
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	12/17/2018 12:29:55 P	42114
Surr: DNOP	67.3	0	50.6-138		%Rec	1	12/17/2018 12:29:55 P	42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.9		mg/Kg	1	12/14/2018 11:25:07 P	42099
Surr: BFB	98.7	0	73.8-119		%Rec	1	12/14/2018 11:25:07 P	42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	0.026	0.0066	0.033	J	mg/Kg	1	12/18/2018 10:47:00 A	42146
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Arsenic	ND	7.0	12		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Barium	410	0.11	0.49		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Beryllium	1.5	0.045	0.74		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Cadmium	ND	0.12	0.49		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Chromium	21	0.39	1.5		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Cobalt	6.3	0.52	1.5		mg/Kg	5	12/22/2018 4:37:04 PM	42119
Lead	6.6	1.2	1.2		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Nickel	17	0.73	2.5		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Selenium	ND	6.2	12		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Vanadium	27	0.33	12		mg/Kg	5	12/20/2018 2:36:14 PM	42119
Zinc	45	1.9	12		mg/Kg	5	12/22/2018 4:37:04 PM	42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0040	0.025		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Toluene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Ethylbenzene	ND	0.0029	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
1,2,4-Trimethylbenzene	ND	0.0045	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
1,3,5-Trimethylbenzene	ND	0.0048	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
1,2-Dibromoethane (EDB)	ND	0.0045	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Naphthalene	ND	0.0098	0.098		mg/Kg	1	12/17/2018 4:27:32 PM	42099
1-Methylnaphthalene	ND	0.028	0.20		mg/Kg	1	12/17/2018 4:27:32 PM	42099
2-Methylnaphthalene	ND	0.021	0.20		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Acetone	ND	0.041	0.74		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Bromobenzene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099
Bromodichloromethane	ND	0.0045	0.049		mg/Kg	1	12/17/2018 4:27:32 PM	42099

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

PQL Practical Quanitative Limit

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 16 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 2:20:00 PM

 Lab ID:
 1812773-006
 Matrix:
 SOIL
 Received Date:
 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ l	 F
Bromoform	ND	0.0044	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Bromomethane	ND	0.012	0.15		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
2-Butanone	ND	0.057	0.49		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Carbon disulfide	ND	0.016	0.49		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Carbon tetrachloride	ND	0.0047	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Chlorobenzene	ND	0.0063	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Chloroethane	ND	0.0072	0.098		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Chloroform	ND	0.0040	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Chloromethane	ND	0.0047	0.15		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
2-Chlorotoluene	ND	0.0043	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
4-Chlorotoluene	ND	0.0040	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
cis-1,2-DCE	ND	0.0067	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.098		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Dibromochloromethane	ND	0.0035	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Dibromomethane	ND	0.0053	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,2-Dichlorobenzene	ND	0.0040	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,4-Dichlorobenzene	ND	0.0041	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Dichlorodifluoromethane	ND	0.011	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,1-Dichloroethane	ND	0.0031	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,1-Dichloroethene	ND	0.020	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,2-Dichloropropane	ND	0.0036	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,3-Dichloropropane	ND	0.0053	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
2,2-Dichloropropane	ND	0.016	0.098		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,1-Dichloropropene	ND	0.0045	0.098		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Hexachlorobutadiene	ND	0.0050	0.098		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
2-Hexanone	ND	0.0082	0.49		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Isopropylbenzene	ND	0.0035	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
4-Isopropyltoluene	ND	0.0041	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
4-Methyl-2-pentanone	ND	0.0093	0.49		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Methylene chloride	ND	0.0087	0.15		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
n-Butylbenzene	ND	0.0046	0.15		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
n-Propylbenzene	ND	0.0039	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
sec-Butylbenzene	ND	0.0055	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
Styrene	ND	0.0039	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
tert-Butylbenzene	ND	0.0046	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099
1,1,2,2-Tetrachloroethane	ND	0.0050	0.049		mg/Kg	1	12/17/2018 4:27:32 P	M 42099

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
- PQL Practical Quanitative Limit
- 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 17 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 2:20:00 PM

Lab ID: 1812773-006 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0039	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
trans-1,2-DCE	ND	0.0045	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0052	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0043	0.098	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0050	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,1,1-Trichloroethane	ND	0.0044	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,1,2-Trichloroethane	ND	0.0035	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
Trichloroethene (TCE)	ND	0.0057	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
Trichlorofluoromethane	ND	0.017	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,2,3-Trichloropropane	ND	0.0080	0.098	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
Vinyl chloride	ND	0.0032	0.049	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
Xylenes, Total	ND	0.012	0.098	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 4:27:32 PM	1 42099
Surr: Dibromofluoromethane	106		70-130	%Rec	1	12/17/2018 4:27:32 PM	1 42099
Surr: 1,2-Dichloroethane-d4	99.2		70-130	%Rec	1	12/17/2018 4:27:32 PM	1 42099
Surr: Toluene-d8	100		70-130	%Rec	1	12/17/2018 4:27:32 PM	1 42099
Surr: 4-Bromofluorobenzene	97.8		70-130	%Rec	1	12/17/2018 4:27:32 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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 18 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 2:35:00 PM

 Lab ID:
 1812773-007
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	55	2.0	9.9		mg/Kg	1	12/17/2018 12:52:01 P	42114
Motor Oil Range Organics (MRO)	78	50	50		mg/Kg	1	12/17/2018 12:52:01 P	42114
Surr: DNOP	105	0	50.6-138		%Rec	1	12/17/2018 12:52:01 P	42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	1
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/14/2018 11:48:34 P	42099
Surr: BFB	93.3	0	73.8-119		%Rec	1	12/14/2018 11:48:34 P	42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	0.30	0.0069	0.034		mg/Kg	1	12/18/2018 10:49:00 A	42146
EPA METHOD 6010B: SOIL METALS							Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Arsenic	ND	7.0	12		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Barium	280	0.11	0.49		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Beryllium	1.7	0.045	0.74		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Cadmium	ND	0.12	0.49		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Chromium	24	0.39	1.5		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Cobalt	6.9	0.52	1.5		mg/Kg	5	12/22/2018 4:38:44 PM	1 42119
Lead	4.8	1.2	1.2		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Nickel	18	0.74	2.5		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Selenium	ND	6.2	12		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Vanadium	28	0.33	12		mg/Kg	5	12/20/2018 2:37:54 PM	1 42119
Zinc	45	2.0	12		mg/Kg	5	12/22/2018 4:38:44 PM	1 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0039	0.024		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Toluene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Ethylbenzene	ND	0.0028	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,3,5-Trimethylbenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Naphthalene	ND	0.0096	0.095		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1-Methylnaphthalene	ND	0.027	0.19		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Acetone	ND	0.040	0.72		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Bromobenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Bromodichloromethane	ND	0.0044	0.048		mg/Kg	1	12/17/2018 4:56:49 PM	1 42099

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

PQL Practical Quanitative Limit

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 19 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 2:35:00 PM

Lab ID: 1812773-007 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Bromomethane	ND	0.012	0.14	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
2-Butanone	ND	0.055	0.48	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Carbon tetrachloride	ND	0.0045	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Chlorobenzene	ND	0.0061	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Chloroethane	ND	0.0070	0.095	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Chloroform	ND	0.0038	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
cis-1,2-DCE	ND	0.0065	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
cis-1,3-Dichloropropene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.095	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Dibromomethane	ND	0.0051	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,3-Dichlorobenzene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
2,2-Dichloropropane	ND	0.016	0.095	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,1-Dichloropropene	ND	0.0043	0.095	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Hexachlorobutadiene	ND	0.0049	0.095	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
2-Hexanone	ND	0.0079	0.48	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Isopropylbenzene	ND	0.0034	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
4-Isopropyltoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
4-Methyl-2-pentanone	ND	0.0090	0.48	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Methylene chloride	ND	0.0084	0.14	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
n-Butylbenzene	ND	0.0044	0.14	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
Styrene	ND	0.0037	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099
1,1,2,2-Tetrachloroethane	ND	0.0048	0.048	mg/Kg	1	12/17/2018 4:56:49 F	PM 42099

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
- PQL Practical Quanitative Limit
- 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 20 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L1 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 2:35:00 PM

Lab ID: 1812773-007 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
trans-1,2-DCE	ND	0.0044	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0050	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.095	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0048	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Trichloroethene (TCE)	ND	0.0055	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,2,3-Trichloropropane	ND	0.0077	0.095	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Xylenes, Total	ND	0.012	0.095	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 4:56:49 PM	1 42099
Surr: Dibromofluoromethane	107		70-130	%Rec	1	12/17/2018 4:56:49 PM	1 42099
Surr: 1,2-Dichloroethane-d4	96.0		70-130	%Rec	1	12/17/2018 4:56:49 PM	1 42099
Surr: Toluene-d8	104		70-130	%Rec	1	12/17/2018 4:56:49 PM	1 42099
Surr: 4-Bromofluorobenzene	98.0		70-130	%Rec	1	12/17/2018 4:56:49 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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 21 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 3:00:00 PM

 Lab ID:
 1812773-008
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	5300	20	98		mg/Kg	10	12/17/2018 1:14:01 PM	l 42114
Motor Oil Range Organics (MRO)	5500	490	490		mg/Kg	10	12/17/2018 1:14:01 PM	l 42114
Surr: DNOP	0	0	50.6-138	S	%Rec	10	12/17/2018 1:14:01 PM	42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/15/2018 12:12:05 A	42099
Surr: BFB	93.6	0	73.8-119		%Rec	1	12/15/2018 12:12:05 A	42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	4.9	0.13	0.64		mg/Kg	20	12/18/2018 10:51:00 A	42146
EPA METHOD 6010B: SOIL METALS		00	0.0 .		9/9		Analyst: rde	
	ND	1.8	12		ma/Ka	5	12/20/2018 2:39:41 PM	1 /2110
Antimony Arsenic	16	7.1	12		mg/Kg mg/Kg	5 5	12/20/2018 2:39:41 PM	-
Barium	350	0.12	0.50		mg/Kg	5	12/20/2018 2:39:41 PM	
Beryllium	1.4	0.046	0.75		mg/Kg	5	12/20/2018 2:39:41 PM	
Cadmium	ND	0.12	0.50		mg/Kg	5	12/20/2018 2:39:41 PM	
Chromium	92	0.40	1.5		mg/Kg	5	12/20/2018 2:39:41 PM	
Cobalt	8.0	0.53	1.5		mg/Kg	5	12/22/2018 4:40:23 PM	
Lead	44	1.2	1.2		mg/Kg	5	12/20/2018 2:39:41 PM	42119
Nickel	40	0.74	2.5		mg/Kg	5	12/20/2018 2:39:41 PM	l 42119
Selenium	ND	6.3	12		mg/Kg	5	12/20/2018 2:39:41 PM	l 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:39:41 PM	42119
Vanadium	36	0.33	12		mg/Kg	5	12/20/2018 2:39:41 PM	l 42119
Zinc	390	2.0	12		mg/Kg	5	12/22/2018 4:40:23 PM	42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0039	0.024		mg/Kg	1	12/17/2018 5:26:06 PM	42099
Toluene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
Ethylbenzene	ND	0.0028	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
1,3,5-Trimethylbenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
1,2-Dibromoethane (EDB)	ND	0.0043	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	42099
Naphthalene	ND	0.0095	0.095		mg/Kg	1	12/17/2018 5:26:06 PM	42099
1-Methylnaphthalene	ND	0.027	0.19		mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 5:26:06 PM	
Acetone	ND	0.040	0.71		mg/Kg	1	12/17/2018 5:26:06 PM	
Bromobenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	
Bromodichloromethane	ND	0.0043	0.048		mg/Kg	1	12/17/2018 5:26:06 PM	l 42099

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

PQL Practical Quanitative Limit

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 22 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 3:00:00 PM

Lab ID: 1812773-008 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ l	F
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Bromomethane	ND	0.011	0.14	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
2-Butanone	ND	0.055	0.48	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Carbon tetrachloride	ND	0.0045	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Chlorobenzene	ND	0.0061	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Chloroethane	ND	0.0070	0.095	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Chloroform	ND	0.0038	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
2-Chlorotoluene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
cis-1,2-DCE	ND	0.0065	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
cis-1,3-Dichloropropene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.095	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Dibromomethane	ND	0.0051	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,3-Dichlorobenzene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,1-Dichloroethane	ND	0.0030	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
2,2-Dichloropropane	ND	0.016	0.095	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,1-Dichloropropene	ND	0.0043	0.095	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Hexachlorobutadiene	ND	0.0048	0.095	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
2-Hexanone	ND	0.0079	0.48	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Isopropylbenzene	ND	0.0034	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
4-Isopropyltoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
4-Methyl-2-pentanone	ND	0.0090	0.48	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Methylene chloride	ND	0.0084	0.14	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
n-Butylbenzene	ND	0.0044	0.14	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
Styrene	ND	0.0037	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099
1,1,2,2-Tetrachloroethane	ND	0.0048	0.048	mg/Kg	1	12/17/2018 5:26:06 P	M 42099

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
- PQL Practical Quanitative Limit
- 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 23 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 ZOI

Project: Land Treatment Unit Collection Date: 12/11/2018 3:00:00 PM

Lab ID: 1812773-008 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0038	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
trans-1,2-DCE	ND	0.0044	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0050	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.095	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0048	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,1,1-Trichloroethane	ND	0.0043	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,1,2-Trichloroethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
Trichloroethene (TCE)	ND	0.0055	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
Trichlorofluoromethane	ND	0.016	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,2,3-Trichloropropane	ND	0.0077	0.095	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
Vinyl chloride	ND	0.0031	0.048	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
Xylenes, Total	ND	0.012	0.095	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 5:26:06 PM	1 42099
Surr: Dibromofluoromethane	105		70-130	%Rec	1	12/17/2018 5:26:06 PM	1 42099
Surr: 1,2-Dichloroethane-d4	101		70-130	%Rec	1	12/17/2018 5:26:06 PM	1 42099
Surr: Toluene-d8	106		70-130	%Rec	1	12/17/2018 5:26:06 PM	1 42099
Surr: 4-Bromofluorobenzene	98.3		70-130	%Rec	1	12/17/2018 5:26:06 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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 24 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 3:10:00 PM

 Lab ID:
 1812773-009
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Result **MDL PQL Oual Units** Analyses DF **Date Analyzed Batch ID EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: Irm Diesel Range Organics (DRO) 1100 19 97 mg/Kg 10 12/17/2018 2:20:09 PM 42114 850 490 Motor Oil Range Organics (MRO) 490 mg/Kg 12/17/2018 2:20:09 PM 42114 10 Surr: DNOP 0 0 50.6-138 S %Rec 10 12/17/2018 2:20:09 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 1.3 4.6 mg/Kg 1 12/15/2018 12:35:31 A 42099 Surr: BFB 94.9 0 73.8-119 %Rec 12/15/2018 12:35:31 A 42099 1 **EPA METHOD 7471: MERCURY** Analyst: pmf 12/18/2018 10:53:01 A 0.033 0.0064 0.032 42146 Mercury mg/Kg 1 **EPA METHOD 6010B: SOIL METALS** Analyst: rde 12/20/2018 2:41:22 PM 42119 Antimony ND 1.8 12 mg/Kg 5 Arsenic 7.7 7.0 12 J mg/Kg 5 12/20/2018 2:41:22 PM 42119 **Barium** 320 0.11 0.49 mg/Kg 5 12/20/2018 2:41:22 PM 42119 0.045 0.74 12/20/2018 2:41:22 PM 42119 Beryllium 1.6 mg/Kg 5 Cadmium ND 0.12 0.49 mg/Kg 5 12/20/2018 2:41:22 PM 42119 Chromium 55 0.39 1.5 mg/Kg 5 12/20/2018 2:41:22 PM 42119 Cobalt 19 0.52 1.5 mg/Kg 5 12/22/2018 4:42:01 PM 42119 19 1.2 5 Lead 1.2 mg/Kg 12/20/2018 2:41:22 PM 42119 0.73 2.5 Nickel 23 mg/Kg 5 12/20/2018 2:41:22 PM 42119 6.2 Selenium ND 12 mg/Kg 5 12/20/2018 2:41:22 PM 42119 Silver ND 0.16 1.2 mg/Kg 5 12/20/2018 2:41:22 PM 42119 Vanadium 33 0.33 12 mg/Kg 5 12/20/2018 2:41:22 PM 42119 Zinc 150 1.9 12 5 12/22/2018 4:42:01 PM 42119 mg/Kg **EPA METHOD 8260B: VOLATILES** Analyst: DJF 12/17/2018 5:55:07 PM 42099 Benzene ND 0.0037 0.023 mg/Kg 1 Toluene ND 0.0044 0.046 mg/Kg 1 12/17/2018 5:55:07 PM 42099 ND Ethylbenzene 0.0027 0.046 mg/Kg 1 12/17/2018 5:55:07 PM 42099 Methyl tert-butyl ether (MTBE) ND 0.011 0.046 mg/Kg 12/17/2018 5:55:07 PM 42099 1 1,2,4-Trimethylbenzene ND 0.0042 0.046 mg/Kg 12/17/2018 5:55:07 PM 42099 1 1,3,5-Trimethylbenzene ND 0.0044 0.046 mg/Kg 12/17/2018 5:55:07 PM 42099 1 1,2-Dichloroethane (EDC) ND 0.0047 0.046 mg/Kg 12/17/2018 5:55:07 PM 42099 1 1,2-Dibromoethane (EDB) ND 0.0042 0.046 12/17/2018 5:55:07 PM 42099 mg/Kg 1 ND 0.0092 0.092 Naphthalene mg/Kg 1 12/17/2018 5:55:07 PM 42099 1-Methylnaphthalene ND 0.026 0.18 mg/Kg 1 12/17/2018 5:55:07 PM 42099 2-Methylnaphthalene ND 0.020 0.18 mg/Kg 1 12/17/2018 5:55:07 PM 42099 12/17/2018 5:55:07 PM 42099 Acetone ND 0.038 0.69 mg/Kg 1 Bromobenzene ND 0.0044 0.046 mg/Kg 1 12/17/2018 5:55:07 PM 42099 ND 0.0042 Bromodichloromethane 0.046 mg/Kg 1 12/17/2018 5:55:07 PM 42099

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

Oualifiers: * 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

PQL Practical Quanitative Limit

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 25 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 3:10:00 PM

Lab ID: 1812773-009 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	F
Bromoform	ND	0.0041	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Bromomethane	ND	0.011	0.14	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
2-Butanone	ND	0.053	0.46	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Carbon disulfide	ND	0.015	0.46	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Carbon tetrachloride	ND	0.0043	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Chlorobenzene	ND	0.0059	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Chloroethane	ND	0.0067	0.092	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Chloroform	ND	0.0037	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Chloromethane	ND	0.0044	0.14	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
2-Chlorotoluene	ND	0.0040	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
4-Chlorotoluene	ND	0.0038	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
cis-1,2-DCE	ND	0.0063	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
cis-1,3-Dichloropropene	ND	0.0039	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,2-Dibromo-3-chloropropane	ND	0.0047	0.092	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Dibromochloromethane	ND	0.0033	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Dibromomethane	ND	0.0049	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,2-Dichlorobenzene	ND	0.0038	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,3-Dichlorobenzene	ND	0.0040	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,4-Dichlorobenzene	ND	0.0038	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Dichlorodifluoromethane	ND	0.011	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,1-Dichloroethane	ND	0.0029	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,1-Dichloroethene	ND	0.018	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,2-Dichloropropane	ND	0.0033	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,3-Dichloropropane	ND	0.0050	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
2,2-Dichloropropane	ND	0.015	0.092	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,1-Dichloropropene	ND	0.0042	0.092	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Hexachlorobutadiene	ND	0.0047	0.092	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
2-Hexanone	ND	0.0076	0.46	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Isopropylbenzene	ND	0.0033	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
4-Isopropyltoluene	ND	0.0038	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
4-Methyl-2-pentanone	ND	0.0087	0.46	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Methylene chloride	ND	0.0081	0.14	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
n-Butylbenzene	ND	0.0043	0.14	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
n-Propylbenzene	ND	0.0037	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
sec-Butylbenzene	ND	0.0052	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
Styrene	ND	0.0036	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
tert-Butylbenzene	ND	0.0043	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,1,1,2-Tetrachloroethane	ND	0.0031	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099
1,1,2,2-Tetrachloroethane	ND	0.0046	0.046	mg/Kg	1	12/17/2018 5:55:07 F	PM 42099

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
- PQL Practical Quanitative Limit
- 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 26 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C2L2 TZ

Project: Land Treatment Unit Collection Date: 12/11/2018 3:10:00 PM

Lab ID: 1812773-009 **Matrix:** SOIL **Received Date:** 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed l	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Tetrachloroethene (PCE)	ND	0.0037	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
trans-1,2-DCE	ND	0.0042	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
trans-1,3-Dichloropropene	ND	0.0048	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
1,2,3-Trichlorobenzene	ND	0.0040	0.092	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
1,2,4-Trichlorobenzene	ND	0.0046	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
1,1,1-Trichloroethane	ND	0.0041	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
1,1,2-Trichloroethane	ND	0.0032	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
Trichloroethene (TCE)	ND	0.0053	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
Trichlorofluoromethane	ND	0.016	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
1,2,3-Trichloropropane	ND	0.0074	0.092	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
Vinyl chloride	ND	0.0030	0.046	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
Xylenes, Total	ND	0.012	0.092	mg/Kg	1	12/17/2018 5:55:07 PM	42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 5:55:07 PM	1 42099
Surr: Dibromofluoromethane	107		70-130	%Rec	1	12/17/2018 5:55:07 PM	1 42099
Surr: 1,2-Dichloroethane-d4	99.3		70-130	%Rec	1	12/17/2018 5:55:07 PM	1 42099
Surr: Toluene-d8	106		70-130	%Rec	1	12/17/2018 5:55:07 PM	1 42099
Surr: 4-Bromofluorobenzene	98.0		70-130	%Rec	1	12/17/2018 5:55:07 PM	1 42099

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

PQL Practical Quantitative Limit

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 27 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:15:00 AM

 Lab ID:
 1812773-010
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: TOM	
Diesel Range Organics (DRO)	61	2.0	9.9		mg/Kg	1	12/18/2018 10:15:29 P	42114
Motor Oil Range Organics (MRO)	84	50	50		mg/Kg	1	12/18/2018 10:15:29 P	42114
Surr: DNOP	106	0	50.6-138		%Rec	1	12/18/2018 10:15:29 P	42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	1.4	5.0		mg/Kg	1	12/15/2018 12:58:58 A	42099
Surr: BFB	97.7	0	73.8-119		%Rec	1	12/15/2018 12:58:58 A	42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	1.4	0.033	0.16		mg/Kg	5	12/18/2018 10:55:03 A	42146
EPA METHOD 6010B: SOIL METALS					0 0		Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Arsenic	ND	6.8	12		mg/Kg	5	12/20/2018 2:43:07 PM	_
Barium	360	0.11	0.48		mg/Kg	5	12/20/2018 2:43:07 PM	-
Beryllium	1.7	0.044	0.72		mg/Kg	5	12/20/2018 2:43:07 PM	
Cadmium	ND	0.12	0.48		mg/Kg	5	12/20/2018 2:43:07 PM	
Chromium	95	0.38	1.4		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Cobalt	7.7	0.51	1.4		mg/Kg	5	12/22/2018 4:50:20 PM	42119
Lead	15	1.2	1.2		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Nickel	22	0.72	2.4		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Selenium	ND	6.0	12		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Silver	ND	0.15	1.2		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Vanadium	35	0.32	12		mg/Kg	5	12/20/2018 2:43:07 PM	42119
Zinc	230	1.9	12		mg/Kg	5	12/22/2018 4:50:20 PM	42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0041	0.025		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Toluene	ND	0.0047	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Ethylbenzene	ND	0.0029	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
1,2,4-Trimethylbenzene	ND	0.0045	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
1,3,5-Trimethylbenzene	ND	0.0048	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
1,2-Dichloroethane (EDC)	ND	0.0051	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
1,2-Dibromoethane (EDB)	ND	0.0045	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Naphthalene	ND	0.0099	0.099		mg/Kg	1	12/17/2018 6:24:25 PM	42099
1-Methylnaphthalene	ND	0.028	0.20		mg/Kg	1	12/17/2018 6:24:25 PM	42099
2-Methylnaphthalene	ND	0.022	0.20		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Acetone	ND	0.041	0.74		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Bromobenzene	ND	0.0048	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099
Bromodichloromethane	ND	0.0045	0.050		mg/Kg	1	12/17/2018 6:24:25 PM	42099

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

Value exceeds Maximum Containmant Leve	Oualifiers:	*	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
- PQL Practical Quanitative Limit
- 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 28 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:15:00 AM

 Lab ID:
 1812773-010
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	·
Bromoform	ND	0.0045	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
2-Butanone	ND	0.057	0.50	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Carbon disulfide	ND	0.016	0.50	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Carbon tetrachloride	ND	0.0047	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Chlorobenzene	ND	0.0063	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Chloroethane	ND	0.0073	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Chloroform	ND	0.0040	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Chloromethane	ND	0.0047	0.15	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
2-Chlorotoluene	ND	0.0043	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
4-Chlorotoluene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
cis-1,2-DCE	ND	0.0068	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
cis-1,3-Dichloropropene	ND	0.0042	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0051	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Dibromochloromethane	ND	0.0035	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Dibromomethane	ND	0.0053	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2-Dichlorobenzene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,3-Dichlorobenzene	ND	0.0043	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,4-Dichlorobenzene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Dichlorodifluoromethane	ND	0.012	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1-Dichloroethane	ND	0.0032	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1-Dichloroethene	ND	0.020	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2-Dichloropropane	ND	0.0036	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,3-Dichloropropane	ND	0.0054	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
2,2-Dichloropropane	ND	0.016	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1-Dichloropropene	ND	0.0045	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Hexachlorobutadiene	ND	0.0050	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
2-Hexanone	ND	0.0082	0.50	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Isopropylbenzene	ND	0.0036	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
4-Isopropyltoluene	ND	0.0041	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
4-Methyl-2-pentanone	ND	0.0094	0.50	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Methylene chloride	ND	0.0088	0.15	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
n-Butylbenzene	ND	0.0046	0.15	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
n-Propylbenzene	ND	0.0040	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
sec-Butylbenzene	ND	0.0056	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Styrene	ND	0.0039	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
tert-Butylbenzene	ND	0.0047	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1,2,2-Tetrachloroethane	ND	0.0050	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099

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
- PQL Practical Quanitative Limit
- 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 29 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:15:00 AM

 Lab ID:
 1812773-010
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJI	=
Tetrachloroethene (PCE)	ND	0.0040	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
trans-1,2-DCE	ND	0.0045	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
trans-1,3-Dichloropropene	ND	0.0052	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2,3-Trichlorobenzene	ND	0.0044	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2,4-Trichlorobenzene	ND	0.0050	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1,1-Trichloroethane	ND	0.0045	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,1,2-Trichloroethane	ND	0.0035	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Trichloroethene (TCE)	ND	0.0057	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Trichlorofluoromethane	ND	0.017	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,2,3-Trichloropropane	ND	0.0080	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Vinyl chloride	ND	0.0032	0.050	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Xylenes, Total	ND	0.012	0.099	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 6:24:25 P	M 42099
Surr: Dibromofluoromethane	106		70-130	%Rec	1	12/17/2018 6:24:25 P	M 42099
Surr: 1,2-Dichloroethane-d4	104		70-130	%Rec	1	12/17/2018 6:24:25 P	M 42099
Surr: Toluene-d8	107		70-130	%Rec	1	12/17/2018 6:24:25 P	M 42099
Surr: 4-Bromofluorobenzene	97.4		70-130	%Rec	1	12/17/2018 6:24:25 P	M 42099

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
- PQL Practical Quanitative Limit
- 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 30 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:30:00 AM

 Lab ID:
 1812773-011
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	ND	1.9	9.5		mg/Kg	1	12/17/2018 7:12:07 PM	VI 42114
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	12/17/2018 7:12:07 PM	VI 42114
Surr: DNOP	106	0	50.6-138		%Rec	1	12/17/2018 7:12:07 PM	M 42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.9		mg/Kg	1	12/15/2018 1:22:23 AM	M 42099
Surr: BFB	96.2	0	73.8-119		%Rec	1	12/15/2018 1:22:23 AM	M 42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	0.0085	0.0069	0.034	J	mg/Kg	1	12/18/2018 10:57:04 A	
EPA METHOD 6010B: SOIL METALS					0 0		Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Arsenic	ND	7.1	12		mg/Kg	5	12/20/2018 2:44:59 PM	_
Barium	280	0.12	0.50		mg/Kg	5	12/20/2018 2:44:59 PM	_
Beryllium	1.8	0.046	0.75		mg/Kg	5	12/20/2018 2:44:59 PM	
Cadmium	ND	0.12	0.50		mg/Kg	5	12/20/2018 2:44:59 PM	
Chromium	19	0.40	1.5		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Cobalt	7.0	0.53	1.5		mg/Kg	5	12/22/2018 4:52:00 PM	M 42119
Lead	ND	1.2	1.2		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Nickel	17	0.75	2.5		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Selenium	ND	6.3	12		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Vanadium	31	0.33	12		mg/Kg	5	12/20/2018 2:44:59 PM	M 42119
Zinc	26	2.0	12		mg/Kg	5	12/22/2018 4:52:00 PM	M 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	:
Benzene	ND	0.0040	0.024		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Toluene	ND	0.0046	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Ethylbenzene	ND	0.0028	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Naphthalene	ND	0.0097	0.097		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
1-Methylnaphthalene	ND	0.028	0.19		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Acetone	ND	0.040	0.73		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Bromobenzene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099
Bromodichloromethane	ND	0.0044	0.049		mg/Kg	1	12/17/2018 6:53:38 PM	M 42099

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

PQL Practical Quanitative Limit

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 31 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:30:00 AM

 Lab ID:
 1812773-011
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed 1	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Bromoform	ND	0.0044	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
2-Butanone	ND	0.056	0.49	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Carbon disulfide	ND	0.016	0.49	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Carbon tetrachloride	ND	0.0046	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Chlorobenzene	ND	0.0062	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Chloroethane	ND	0.0072	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Chloroform	ND	0.0039	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Chloromethane	ND	0.0046	0.15	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
2-Chlorotoluene	ND	0.0042	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
4-Chlorotoluene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
cis-1,2-DCE	ND	0.0066	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Dibromochloromethane	ND	0.0034	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Dibromomethane	ND	0.0052	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,2-Dichlorobenzene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,3-Dichlorobenzene	ND	0.0042	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,4-Dichlorobenzene	ND	0.0041	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Dichlorodifluoromethane	ND	0.011	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,1-Dichloroethane	ND	0.0031	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,1-Dichloroethene	ND	0.019	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,2-Dichloropropane	ND	0.0035	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,3-Dichloropropane	ND	0.0053	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
2,2-Dichloropropane	ND	0.016	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,1-Dichloropropene	ND	0.0044	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Hexachlorobutadiene	ND	0.0049	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
2-Hexanone	ND	0.0081	0.49	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Isopropylbenzene	ND	0.0035	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
4-Isopropyltoluene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
4-Methyl-2-pentanone	ND	0.0092	0.49	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Methylene chloride	ND	0.0086	0.15	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
n-Butylbenzene	ND	0.0045	0.15	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
n-Propylbenzene	ND	0.0039	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
sec-Butylbenzene	ND	0.0055	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
Styrene	ND	0.0038	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
tert-Butylbenzene	ND	0.0046	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	1 42099

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
- PQL Practical Quanitative Limit
- 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
 - e detected below quantitation limits Page 32 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L1 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 11:30:00 AM

 Lab ID:
 1812773-011
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Tetrachloroethene (PCE)	ND	0.0039	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
trans-1,2-DCE	ND	0.0044	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
trans-1,3-Dichloropropene	ND	0.0051	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,2,3-Trichlorobenzene	ND	0.0043	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,1,1-Trichloroethane	ND	0.0044	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,1,2-Trichloroethane	ND	0.0034	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
Trichloroethene (TCE)	ND	0.0056	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
Trichlorofluoromethane	ND	0.016	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,2,3-Trichloropropane	ND	0.0079	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
Vinyl chloride	ND	0.0032	0.049	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
Xylenes, Total	ND	0.012	0.097	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
1,4-Dioxane	ND	0	0	mg/Kg	1	12/17/2018 6:53:38 PM	A 42099
Surr: Dibromofluoromethane	108		70-130	%Rec	1	12/17/2018 6:53:38 PM	A 42099
Surr: 1,2-Dichloroethane-d4	105		70-130	%Rec	1	12/17/2018 6:53:38 PM	A 42099
Surr: Toluene-d8	108		70-130	%Rec	1	12/17/2018 6:53:38 PM	A 42099
Surr: 4-Bromofluorobenzene	98.7		70-130	%Rec	1	12/17/2018 6:53:38 PM	A 42099

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
- PQL Practical Quanitative Limit
- 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 33 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:40:00 AM

 Lab ID:
 1812773-012
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE C	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	ND	2.0	10		mg/Kg	1	12/17/2018 7:34:05 PI	VI 42114
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	12/17/2018 7:34:05 PI	VI 42114
Surr: DNOP	106	0	50.6-138		%Rec	1	12/17/2018 7:34:05 PI	M 42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.9		mg/Kg	1	12/15/2018 1:45:49 Al	M 42099
Surr: BFB	97.6	0	73.8-119		%Rec	1	12/15/2018 1:45:49 Al	M 42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0067	0.033		mg/Kg	1	12/18/2018 10:58:59 A	
EPA METHOD 6010B: SOIL METALS					0 0		Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Arsenic	ND	6.9	12		mg/Kg	5	12/20/2018 2:46:48 PI	_
Barium	330	0.11	0.48		mg/Kg	5	12/20/2018 2:46:48 Pf	_
Beryllium	1.6	0.044	0.73		mg/Kg	5	12/20/2018 2:46:48 PI	
Cadmium	ND	0.12	0.48		mg/Kg	5	12/20/2018 2:46:48 PI	
Chromium	16	0.39	1.5		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Cobalt	6.5	0.51	1.5		mg/Kg	5	12/22/2018 4:53:37 PI	M 42119
Lead	3.9	1.2	1.2		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Nickel	16	0.72	2.4		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Selenium	ND	6.1	12		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Vanadium	26	0.32	12		mg/Kg	5	12/20/2018 2:46:48 PI	M 42119
Zinc	21	1.9	12		mg/Kg	5	12/22/2018 4:53:37 PI	M 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	:
Benzene	ND	0.0040	0.024		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Toluene	ND	0.0046	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Ethylbenzene	ND	0.0028	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Methyl tert-butyl ether (MTBE)	ND	0.012	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
1,3,5-Trimethylbenzene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
1,2-Dichloroethane (EDC)	ND	0.0050	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Naphthalene	ND	0.0097	0.097		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
1-Methylnaphthalene	ND	0.028	0.19		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Acetone	ND	0.040	0.73		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Bromobenzene	ND	0.0047	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099
Bromodichloromethane	ND	0.0044	0.049		mg/Kg	1	12/17/2018 7:22:52 PI	M 42099

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

PQL Practical Quanitative Limit

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 D

Page 34 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 ZOI

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:40:00 AM

 Lab ID:
 1812773-012
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJ	 F
Bromoform	ND	0.0044	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Bromomethane	ND	0.012	0.15	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
2-Butanone	ND	0.056	0.49	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Carbon disulfide	ND	0.016	0.49	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Carbon tetrachloride	ND	0.0046	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Chlorobenzene	ND	0.0062	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Chloroethane	ND	0.0071	0.097	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Chloroform	ND	0.0039	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Chloromethane	ND	0.0046	0.15	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
2-Chlorotoluene	ND	0.0042	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
4-Chlorotoluene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
cis-1,2-DCE	ND	0.0066	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
cis-1,3-Dichloropropene	ND	0.0041	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,2-Dibromo-3-chloropropane	ND	0.0050	0.097	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Dibromochloromethane	ND	0.0034	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Dibromomethane	ND	0.0052	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,2-Dichlorobenzene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,3-Dichlorobenzene	ND	0.0042	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,4-Dichlorobenzene	ND	0.0041	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Dichlorodifluoromethane	ND	0.011	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,1-Dichloroethane	ND	0.0031	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,1-Dichloroethene	ND	0.019	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,2-Dichloropropane	ND	0.0035	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,3-Dichloropropane	ND	0.0053	0.049	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
2,2-Dichloropropane	ND	0.016	0.097	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
1,1-Dichloropropene	ND	0.0044	0.097	mg/Kg	1	12/17/2018 7:22:52 F	M 42099
Hexachlorobutadiene	ND	0.0049	0.097	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
2-Hexanone	ND	0.0081	0.49	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
Isopropylbenzene	ND	0.0035	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
4-Isopropyltoluene	ND	0.0040	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
4-Methyl-2-pentanone	ND	0.0092	0.49	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
Methylene chloride	ND	0.0086	0.15	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
n-Butylbenzene	ND	0.0045	0.15	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
n-Propylbenzene	ND	0.0039	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
sec-Butylbenzene	ND	0.0055	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
Styrene	ND	0.0038	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
tert-Butylbenzene	ND	0.0046	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
1,1,1,2-Tetrachloroethane	ND	0.0033	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099
1,1,2,2-Tetrachloroethane	ND	0.0049	0.049	mg/Kg	1	12/17/2018 7:22:52 F	PM 42099

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
- PQL Practical Quanitative Limit
- 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 35 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

12/17/2018 7:22:52 PM 42099

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 ZOI

99.0

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:40:00 AM

 Lab ID:
 1812773-012
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Result **MDL PQL Oual Units** DF **Date Analyzed** Analyses **Batch ID EPA METHOD 8260B: VOLATILES** Analyst: DJF 12/17/2018 7:22:52 PM 42099 Tetrachloroethene (PCE) ND 0.0039 0.049 mg/Kg 1 trans-1,2-DCE ND 0.0044 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 trans-1,3-Dichloropropene ND 0.0051 0.049 12/17/2018 7:22:52 PM 42099 mg/Kg 1 1,2,3-Trichlorobenzene ND 0.0043 0.097 mg/Kg 12/17/2018 7:22:52 PM 42099 1 ND 1,2,4-Trichlorobenzene 0.0049 0.049 mg/Kg 12/17/2018 7:22:52 PM 42099 1 1,1,1-Trichloroethane ND 0.0044 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 1,1,2-Trichloroethane ND 0.0034 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 Trichloroethene (TCE) ND 0.0056 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 Trichlorofluoromethane ND 0.016 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 1,2,3-Trichloropropane ND 0.0079 0.097 12/17/2018 7:22:52 PM 42099 mg/Kg 1 Vinyl chloride ND 0.0032 0.049 mg/Kg 1 12/17/2018 7:22:52 PM 42099 Xylenes, Total ND 0.012 0.097 mg/Kg 1 12/17/2018 7:22:52 PM 42099 1,4-Dioxane ND 0 mg/Kg 12/17/2018 7:22:52 PM 42099 1 Surr: Dibromofluoromethane 110 70-130 %Rec 1 12/17/2018 7:22:52 PM 42099 Surr: 1,2-Dichloroethane-d4 103 70-130 %Rec 1 12/17/2018 7:22:52 PM 42099 Surr: Toluene-d8 108 70-130 %Rec 1 12/17/2018 7:22:52 PM 42099

70-130

%Rec

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

Oualifiers: * Value exceeds Maximum Contaminant Level.

Surr: 4-Bromofluorobenzene

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 36 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:55:00 AM

 Lab ID:
 1812773-013
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE O	RGANICS						Analyst: Irm	
Diesel Range Organics (DRO)	ND	1.9	9.7		mg/Kg	1	12/17/2018 7:55:58 PM	Л 42114
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	12/17/2018 7:55:58 PM	Л 42114
Surr: DNOP	117	0	50.6-138		%Rec	1	12/17/2018 7:55:58 PM	A 42114
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSE	3
Gasoline Range Organics (GRO)	ND	1.4	4.8		mg/Kg	1	12/15/2018 2:09:15 AM	И 42099
Surr: BFB	97.6	0	73.8-119		%Rec	1	12/15/2018 2:09:15 AM	A 42099
EPA METHOD 7471: MERCURY							Analyst: pmf	
Mercury	ND	0.0068	0.034		mg/Kg	1	12/18/2018 11:00:53 A	
EPA METHOD 6010B: SOIL METALS					3 3		Analyst: rde	
Antimony	ND	1.8	12		mg/Kg	5	12/20/2018 2:56:18 PM	<i>I</i> I 42119
Arsenic	ND	7.0	12		mg/Kg	5	12/20/2018 2:56:18 PM	-
Barium	350	0.11	0.49		mg/Kg	5	12/20/2018 2:56:18 PM	_
Beryllium	1.3	0.045	0.74		mg/Kg	5	12/20/2018 2:56:18 PM	
Cadmium	ND	0.12	0.49		mg/Kg	5	12/20/2018 2:56:18 PM	
Chromium	12	0.39	1.5		mg/Kg	5	12/20/2018 2:56:18 PM	И 42119
Cobalt	5.5	0.52	1.5		mg/Kg	5	12/22/2018 4:55:16 PM	A 42119
Lead	3.6	1.2	1.2		mg/Kg	5	12/20/2018 2:56:18 PM	A 42119
Nickel	12	0.73	2.5		mg/Kg	5	12/20/2018 2:56:18 PM	A 42119
Selenium	ND	6.2	12		mg/Kg	5	12/20/2018 2:56:18 PM	И 42119
Silver	ND	0.16	1.2		mg/Kg	5	12/20/2018 2:56:18 PM	A 42119
Vanadium	22	0.33	12		mg/Kg	5	12/20/2018 2:56:18 PM	A 42119
Zinc	18	1.9	12		mg/Kg	5	12/22/2018 4:55:16 PM	A 42119
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Benzene	ND	0.0039	0.024		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Toluene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Ethylbenzene	ND	0.0028	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	Л 42099
Methyl tert-butyl ether (MTBE)	ND	0.011	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	И 42099
1,2,4-Trimethylbenzene	ND	0.0044	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	И 42099
1,3,5-Trimethylbenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	И 42099
1,2-Dichloroethane (EDC)	ND	0.0049	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,2-Dibromoethane (EDB)	ND	0.0044	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Naphthalene	ND	0.0096	0.096		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1-Methylnaphthalene	ND	0.028	0.19		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
2-Methylnaphthalene	ND	0.021	0.19		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Acetone	ND	0.040	0.72		mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Bromobenzene	ND	0.0046	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	Л 42099
Bromodichloromethane	ND	0.0044	0.048		mg/Kg	1	12/17/2018 7:52:13 PM	И 42099

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

PQL Practical Quanitative Limit

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 37 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:55:00 AM

 Lab ID:
 1812773-013
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Bromoform	ND	0.0043	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Bromomethane	ND	0.012	0.14	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
2-Butanone	ND	0.056	0.48	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Carbon disulfide	ND	0.016	0.48	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Carbon tetrachloride	ND	0.0046	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Chlorobenzene	ND	0.0062	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Chloroethane	ND	0.0071	0.096	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Chloroform	ND	0.0039	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Chloromethane	ND	0.0046	0.14	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
2-Chlorotoluene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
4-Chlorotoluene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
cis-1,2-DCE	ND	0.0066	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
cis-1,3-Dichloropropene	ND	0.0041	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,2-Dibromo-3-chloropropane	ND	0.0049	0.096	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Dibromochloromethane	ND	0.0034	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Dibromomethane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,2-Dichlorobenzene	ND	0.0039	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,3-Dichlorobenzene	ND	0.0042	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,4-Dichlorobenzene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	
Dichlorodifluoromethane	ND	0.011	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,1-Dichloroethane	ND	0.0031	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,1-Dichloroethene	ND	0.019	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	
1,2-Dichloropropane	ND	0.0035	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,3-Dichloropropane	ND	0.0052	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
2,2-Dichloropropane	ND	0.016	0.096	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
1,1-Dichloropropene	ND	0.0044	0.096	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Hexachlorobutadiene	ND	0.0049	0.096	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
2-Hexanone	ND	0.0080	0.48	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Isopropylbenzene	ND	0.0035	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
4-Isopropyltoluene	ND	0.0040	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
4-Methyl-2-pentanone	ND	0.0091	0.48	mg/Kg	1	12/17/2018 7:52:13 PM	
Methylene chloride	ND	0.0085	0.14	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
n-Butylbenzene	ND	0.0045	0.14	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
n-Propylbenzene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
sec-Butylbenzene	ND	0.0054	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
Styrene	ND	0.0038	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099
tert-Butylbenzene	ND	0.0045	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	
1,1,1,2-Tetrachloroethane	ND	0.0032	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	
1,1,2,2-Tetrachloroethane	ND	0.0049	0.048	mg/Kg	1	12/17/2018 7:52:13 PM	A 42099

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
- PQL Practical Quanitative Limit
- 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 38 of 50
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1812773**

Date Reported: 1/2/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Client Sample ID: LTU C3L2 TZ

 Project:
 Land Treatment Unit
 Collection Date: 12/11/2018 10:55:00 AM

 Lab ID:
 1812773-013
 Matrix: SOIL
 Received Date: 12/13/2018 8:57:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJ I	=
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
trans-1,2-DCE	ND	0.0044	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
trans-1,3-Dichloropropene	ND	0.0051	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,2,3-Trichlorobenzene	ND	0.0042	0.096		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,1,1-Trichloroethane	ND	0.0043	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,1,2-Trichloroethane	ND	0.0034	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
Trichloroethene (TCE)	ND	0.0056	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
Trichlorofluoromethane	ND	0.016	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,2,3-Trichloropropane	ND	0.0078	0.096		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
Vinyl chloride	ND	0.0031	0.048		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
Xylenes, Total	ND	0.012	0.096		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
1,4-Dioxane	ND	0	0		mg/Kg	1	12/17/2018 7:52:13 P	M 42099
Surr: Dibromofluoromethane	107		70-130		%Rec	1	12/17/2018 7:52:13 P	M 42099
Surr: 1,2-Dichloroethane-d4	103		70-130		%Rec	1	12/17/2018 7:52:13 P	M 42099
Surr: Toluene-d8	109		70-130		%Rec	1	12/17/2018 7:52:13 P	M 42099
Surr: 4-Bromofluorobenzene	99.0		70-130		%Rec	1	12/17/2018 7:52:13 P	M 42099

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

PQL Practical Quanitative Limit

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 39 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217021

Address:

4901 HAWKINS NE SUITE D

1812773

ALBUQUERQUE, NM 87109

Project Name:

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

181217021-001

Sampling Date

12/11/2018

Date/Time Received

12/14/20110:38 AM

Matrix

Sampling Time 12:45 PM

Client Sample ID

1812773-001B/LTU C1L1 ZOI

Comments

Parameter	Result	Units	PQL	Analysis Date	Anaiyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.22	12/19/2018 11:30:00 AM	! BKP	EPA 335.4	. "
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	· ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	*
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TG T	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Phenanthrene	ND .	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	T GT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
3+4-MethylpheпоI	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	T GT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	⊺ GT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TG T	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 1:58:00 AM	TGT	EPA 8270D	
%moisture	13.8	Percent		12/19/2018 2:26:00 PM	BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-001

Sampling Date Sampling Time 12/11/2018 12:45 PM Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-001B/LTU C1L1 ZOI

Comments

Parameter

Result

Units

PQL

Analysis Date

Analyst

Method

Qualifier

Surrogate Data

ple Number 181217021-001			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	55.0	41-121
2-Fluorobiphenyl	EPA 8270D	74.4	51-121
2-Fluorophenol	EPA 8270D	81.2	33-114
Nitrobenzene-d5	EPA 8270D	67.6	30-121
Phenol-d5	EPA 8270D	84.2	34-120
Terphenyl-d14	EPA 8270D	79.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-002

Sampling Date

Date/Time Received 12/14/20110:38 AM

Matrix Client Sample ID Soil

12/11/2018 Sampling Time 1:00 PM

1812773-002B/LTU C1L1 TZ

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.259	12/19/2018 11:30:00 AM	/ BKP	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	I TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	I TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	I TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	I TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenal	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 2:25:00 AM	TGT	EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 2:25:00 AM		EPA 8270D	
%moisture	12.8	Percent		12/19/2018 2:26:00 PM	ВКР	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-002

Sampling Date Sampling Time 12/11/2018 1:00 PM Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-002B/LTU C1L1 TZ

Comments

Parameter

Result

Units

PQL

Analysis Date

Analyst

Method

Qualifier

Surrogate Data

mple Number 181217021-002			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	52.2	41-121
2-Fluorobiphenyl	EPA 8270D	72.8	51-121
2-Fluorophenol	EPA 8270D	82.0	33-114
Nitrobenzene-d5	EPA 8270D	66.8	30-121
Phenoi-d5	EPA 8270D	84.0	34-120
Terphenyl-d14	EPA 8270D	73.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-003

Sampling Date Sampling Time 12/11/2018 12:00 PM

Date/Time Received 12/14/20110:38 AM

Matrix Client Sample ID

1812773-003B/LTU C1L2 ZOI

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.248	12/19/2018 11:30:00 A	M BKP	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	1 TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN	1 TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN	1 TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN	1 TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN	1 TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	1 TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN		EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AN	1 TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	1 TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	1 TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	1 TGT	EPA 8270D	
Fluoranthene	0.06	mg/Kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	J
Fluorene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 4:38:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 4:38:00 AM		EPA 8270D	
%moisture	13.6	Percent		12/19/2018 2:26:00 PM		%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-003

Soil

Sampling Date Sampling Time 12/11/2018 12:00 PM

Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-003B/LTU C1L2 ZOI

Comments

Parameter

Result

Units

PQL

Analysis Date

Analyst

Method

Qualifier

Surrogate Data

le Number 181217021-003			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	54.6	41-121
2-Fluorobiphenyl	EPA 8270D	74.8	51-121
2-Fluorophenol	EPA 8270D	77.0	33-114
Nitrobenzene-d5	EPA 8270D	65.2	30-121
Phenol-d5	EPA 8270D	78.8	34-120
Terphenyl-d14	EPA 8270D	79.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sampling Time 12:10 PM

12/11/2018

Sample Number

181217021-004

Sampling Date

Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-004B/LTU C1L2 TZ

Comments

1-Methylnaphthalene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthylene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthylene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Anthracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphtracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(glaphthy) Benzo(glaphthy) Benzo(glaphthy) B	Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthylpene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)puranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)puranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/kg 0.	Cyanide	ND	mg/Kg	0.254	12/19/2018 11:30:00 AM	VI BKP	EPA 335.4	
Acenaphthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[a]phylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[a]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[a]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[a]phyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,-b]oliorbenzene ND mg/Kg 0.1 2/22/201	1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Acenaphthylene Acenaphthylene Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(gln)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EP	2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(a)phracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(a)phracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(a)phracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(b)fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(b)fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo(k)fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a,h)anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz(a,h)anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND	Acenaphthene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Benzo(ghi)perylene	Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Benzo[a]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[a]pyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D <t< td=""><td>Anthracene</td><td>ND</td><td>mg/Kg</td><td>0.1</td><td>12/22/2018 2:52:00 AM</td><td>1 TGT</td><td>EPA 8270D</td><td></td></t<>	Anthracene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Benzo[a]pyrene ND	Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	1 TGT	EPA 8270D	
Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 1,4-	Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	I TGT	EPA 8270D	
Benzo[k]fluoranthene	Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
Chrysene	Benzo[b]fluoranthene	ND		0.1	12/22/2018 2:52:00 AM	I TGT	EPA 8270D	
Dibanz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D	Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	I TGT	EPA 8270D	
Fluoranthene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA	Chrysene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	I TGT	EPA 8270D	
Fluorene ND mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D mg/Kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D m	Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	I TG T	EPA 8270D	
ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D	Fluoranthene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	I TGT	EPA 8270D	
Naphthalene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 2:52:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4	Fluorene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
Phenanthrene	Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
ND mg/kg	Naphthalene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-16(4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Phenanthrene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	Pyrene	ND	mg/Kg	0.1	12/22/2018 2:52:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-is(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-is(4-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-inethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-inethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0-in-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	1,2-Dichlorobenzene	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0is(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0iethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0iethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0imethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	1,4-Dichlorobenzene	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
2-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0is(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0iethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0iethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0inethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D 0i-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	2,4-Dimethylphenol	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	2,4-Dinitrophenol	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
4-Nitrophenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dis(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylph	2-Methylphenol	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Dis(2-Ethylhexyl)phthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	3+4-Methylphenol	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Diethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	4-Nitrophenol	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Dimethylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Diethylphthalate	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Dimethylphthalate	ND	-	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Phenol ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Di-n-butylphthalate	ND	_	0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Pyridine ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Phenol	ND		0.1	2/22/2018 2:52:00 AM	TGT	EPA 8270D	
Quinoline ND mg/kg 0.1 2/22/2018 2:52:00 AM TGT EPA 8270D	Pyridine	ND	mg/kg	0.1	2/22/2018 2:52:00 AM			
	Quinoline	ND	mg/kg	0.1	2/22/2018 2:52:00 AM	TGT		
TELISIES IN DIA MINISTRE	%moisture	13.5	Percent		12/19/2018 2:26:00 PM	BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

ole Number 181217021-004			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	59.2	41-121
2-Fluorobiphenyl	EPA 8270D	74.4	51-121
2-Fluorophenol	EPA 8270D	82.8	33-114
Nitrobenzene-d5	EPA 8270D	66.0	30-121
Phenol-d5	EPA 8270D	85.6	34-120
Terphenyl-d14	EPA 8270D	80.4	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

12/11/2018

Sample Number

181217021-005

Sampling Date Sampling Time

Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-005B/LTU ZOI DUP

Comments

Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Acenaphthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(alphyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(alphyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ki)fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ki)fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ki)fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D <td>Cyanide</td> <td>ND</td> <td>mg/Kg</td> <td>0.278</td> <td>12/19/2018 11:30:00 A</td> <td>M BKP</td> <td>EPA 335.4</td> <td></td>	Cyanide	ND	mg/Kg	0.278	12/19/2018 11:30:00 A	M BKP	EPA 335.4	
Acenaphthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(alphyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(alphyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(k)fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz(a, h)anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D <	1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	/ TGT		
Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aphthylene) ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aphthylene) ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aphthylene) ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aphthylene) ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(kjfluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz(a,h)anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz(a,h)anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz(a,h)anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz(a,b)anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno(1,2,3-cd)pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D N	2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	/ TGT	EPA 8270D	
Anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aljanthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(aljanthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(bifluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(kjfluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo(kjfluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno(1,2,3-od)pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 A	Acenaphthene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	/ TGT	EPA 8270D	
Benzo(ghi)perylene	Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	/ TGT	EPA 8270D	
Benzo[a]anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo[a]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Anthracene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	/ TGT	EPA 8270D	
Benzo[a]pyrene ND	Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	/ TGT	EPA 8270D	
Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	A TGT	EPA 8270D	
Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	1 TGT	EPA 8270D	
Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorenthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-	Benzo[b]fluoranthene	ND	mg/Kg	0.1				
Dibenz[a,h]anthracene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluoranthene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Benzo[k]fluoranthene	ND	mg/Kg	0.1			EPA 8270D	
Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 5+C-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Chrysene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AN	1 TGT	EPA 8270D	
Fluoranthene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D <td< td=""><td>Dibenz[a,h]anthracene</td><td>ND</td><td>mg/Kg</td><td>0.1</td><td></td><td></td><td></td><td></td></td<>	Dibenz[a,h]anthracene	ND	mg/Kg	0.1				
Fluorene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 34-Me	Fluoranthene	ND	mg/Kg	0.1			EPA 8270D	
Indeno[1,2,3-cd]pyrene	Fluorene	ND	mg/Kg	0.1			EPA 8270D	
Phenanthrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
Pyrene	Naphthalene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D <td>Phenanthrene</td> <td>ND</td> <td>mg/Kg</td> <td>0.1</td> <td>12/22/2018 3:19:00 AM</td> <td>1 TGT</td> <td>EPA 8270D</td> <td></td>	Phenanthrene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018	Pyrene	ND	mg/Kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TG	1,2-Dichlorobenzene	ND		0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TG	1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
2-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	1 TGT		
3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	1 TGT	EPA 8270D	
4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	2-Methylphenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	I TGT	EPA 8270D	
Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	I TGT	EPA 8270D	
Diethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Diethylphthalate	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	TGT		
Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	TGT	EPA 8270D	
Phenol ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Di-n-butylphthalate	ND		0.1	12/22/2018 3:19:00 AM			
Pyridine ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Phenol	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	TGT		
Quinoline ND mg/kg 0.1 12/22/2018 3:19:00 AM TGT EPA 8270D	Pyridine	ND	mg/kg	0.1	12/22/2018 3:19:00 AM	I TG T		
0	Quinoline	ND	mg/kg	0.1	12/22/2018 3:19:00 AM			
	%moisture	13.6						

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

mple Number 181217021-005			· -
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	58.0	41-121
2-Fluorobiphenyl	EPA 8270D	72.4	51-121
2-Fluorophenol	EPA 8270D	76.8	33-114
Nitrobenzene-d5	EPA 8270D	62.4	30-121
Phenol-d5	EPA 8270D	82.2	34-120
Terphenyl-d14	EPA 8270D	83.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-006

Sampling Date Sampling Time 12/11/2018

2:20 PM

Date/Time Received

12/14/20110:38 AM

Matrix

Client Sample ID 1812773-006B/LTU C2L1 ZOI

Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Acenaphthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.13 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.0 0.0 12/22/2018 6:24:00 AM TGT EPA 8270D	Cyanide	1.18	mg/Kg	0.276	12/19/2018 11:30:00 A	м вкр	EPA 335.4	
Acenaphthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo[alphyrene 0.13 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo[alphyrene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo[alphyrene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo[k]fluoranthene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Chrysene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM <td>1-Methylnaphthalene</td> <td>ND</td> <td>mg/kg</td> <td>0.1</td> <td>12/22/2018 6:24:00 AM</td> <td>/ TGT</td> <td>EPA 8270D</td> <td></td>	1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	/ TGT	EPA 8270D	
Acenaphthylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.13 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.27 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(gh)lperylene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenzo(gh)lperylperylperylperylperylperylperylpery	2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AM	/I TGT	EPA 8270D	
Anthracene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.13 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(ghi)perylene 0.27 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(alpanthracene 0.27 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo(alphithracene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(bi)lluoranthene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo(ki)lluoranthene	Acenaphthene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Benzo(ghil)perylene	Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AM	/ TGT	EPA 8270D	
Benzo[a]anthracene 0.27 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Benzo[a]pyrene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo[b]fluoranthene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Chrysene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Dibenz[a,h]anthracene 0.06 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Naphthalene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J PA 8270D J PA 8270D<	Anthracene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Benzo[a]pyrene 0.07 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J	Benzo(ghi)perylene	0.13	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Benzo[b]fluoranthene 0.05 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J	Benzo[a]anthracene	0.27	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J	Benzo[a]pyrene	0.07	mg/Kg	0.1	12/22/2018 6:24:00 AM	/ TGT	EPA 8270D	J
Chrysene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dibenz[a,h]anthracene 0.06 mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D J Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D P Pastron ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D P	Benzo[b]fluoranthene	0.05	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Dibenz[a,h]anthracene 0.06 mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Fluoranthene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Fluorene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Naphthalene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Fluoranthene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D <td< td=""><td>Chrysene</td><td>ND</td><td>mg/Kg</td><td>0.1</td><td>12/22/2018 6:24:00 AN</td><td>/ TGT</td><td>EPA 8270D</td><td></td></td<>	Chrysene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Fluorene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3-4-Methylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT E	Dibenz[a,h]anthracene	0.06	mg/Kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	J
Indeno[1,2,3-cd]pyrene	Fluoranthene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	/ TGT	EPA 8270D	
Naphthalene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Fluorene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
Phenanthrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
Pyrene	Naphthalene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D <td>Phenanthrene</td> <td>ND</td> <td>mg/Kg</td> <td>0.1</td> <td>12/22/2018 6:24:00 AN</td> <td>1 TGT</td> <td>EPA 8270D</td> <td></td>	Phenanthrene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Pyrene	ND	mg/Kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM	1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Din-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 6:24:00 AN	1 TGT	EPA 8270D	
2-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
3+4-Methylphenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dinethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Din-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
4-Nitrophenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	2-Methylphenol	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
Diethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
Dimethylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Diethylphthalate	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
Phenol ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Di-n-butylphthalate	ND		0.1	12/22/2018 6:24:00 AM	i TGT	EPA 8270D	
Pyridine ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 6:24:00 AM TGT EPA 8270D	Phenol	ND		0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
The state of the s	Pyridine	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT		
	Quinoline	ND	mg/kg	0.1	12/22/2018 6:24:00 AM	1 TGT	EPA 8270D	
	%moisture	10.9			12/19/2018 2:26:00 PM	1 BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

ple Number 181217021-006			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	51.8	41-121
2-Fluorobiphenyl	EPA 8270D	71.6	51-121
2-Fluorophenol	EPA 8270D	73.8	33-114
Nitrobenzene-d5	EPA 8270D	64.4	30-121
Phenol-d5	EPA 8270D	77.6	34-120
Terphenyl-d14	EPA 8270D	71.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-007

Sampling Date

Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

12/11/2018

Sampling Time 2:35 PM

1812773-007B/LTU C2L1 TZ

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.430	mg/Kg	0.25	12/19/2018 11:30:00 A	M BKP	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Benzo(ghi)perylene	0.05	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	J
Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	~
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 5:31:00 AN	1 TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	1 TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:31:00 AN	I TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	I TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	
Quinoline							
	ND	mg/kg	0.1	12/22/2018 5:31:00 AM	TGT	EPA 8270D	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

mple Number 181217021-007		"	
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	48.2	41-121
2-Fluorobiphenyl	EPA 8270D	65.2	51-121
2-Fluorophenol	EPA 8270D	66.4	33-114
Nitrobenzene-d5	EPA 8270D	56.8	30-121
Phenol-d5	EPA 8270D	71.2	34-120
Terphenyl-d14	EPA 8270D	70.0	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-008

Sampling Date Sampling Time

12/11/2018 3:00 PM

Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

1812773-008B/LTU C2L2 ZOI

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	52.7	mg/Kg	1.41	12/19/2018 11:30:00 A	м вкр	EPA 335.4	·
1-Methylnaphthalene	0.06	mg/kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	J
2-Methylnaphthalene	0.07	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	J
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Anthracene	0.08	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	J
Benzo(ghi)perylene	0.96	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Benzo[a]anthracene	2.68	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Benzo[a]pyrene	0.41	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Benzo[b]fluoranthene	0.51	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Dibenz[a,h]anthracene	0.62	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	0.34	mg/Kg	0.1	12/22/2018 7:17:00 AN	/ TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
Phenanthrene	0.19	mg/Kg	0.1	12/22/2018 7:17:00 AN	/ TGT	EPA 8270D	
Pyrene	0.26	mg/Kg	0.1	12/22/2018 7:17:00 AM	1 TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	/ TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 7:17:00 AM	1 TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AM	/ TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.32	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 7:17:00 AN	1 TGT	EPA 8270D	
%moisture	17.2	Percent		12/19/2018 2:26:00 PM	1 BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

nple Number 181217021-008			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.6	41-121
2-Fluorobiphenyl	EPA 8270D	83.2	51-121
2-Fluorophenoi	EPA 8270D	82.4	33-114
Nitrobenzene-d5	EPA 8270D	76.8	30-121
Phenol-d5	EPA 8270D	92.0	34-120
Terphenyl-d14	EPA 8270D	75.6	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-009

Sampling Date Sampling Time 12/11/2018 3:10 PM

Date/Time Received 12/14/20110:38 AM

Matrix Client Sample ID

1812773-009B/LTU C2L2 TZ

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.976	mg/Kg	0.247	12/19/2018 11:30:00 AI	и вкр	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Benzo(ghi)perylene	0.21	mg/Kg	0.1	12/22/2018 6:51:00 AN	f TGT	EPA 8270D	
Benzo[a]anthracene	0.65	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Benzo[a]pyrene	0.10	mg/Kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
Benzo[b]fluoranthene	0.11	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT.	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AN	1 TGT	EPA 8270D	
Dibenz[a,h]anthracene	0.12	mg/Kg	0.1	12/22/2018 6:51:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AM	1 TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AM	1 TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	0.07	mg/Kg	0.1	12/22/2018 6:51:00 AM	1 TGT	EPA 8270D	J
Naphthalene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AM	1 TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 6:51:00 AM	TGT	EPA 8270D	
Pyrene	0.09	mg/Kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	J
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	I TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.05	mg/kg	0.1	12/22/2018 6:51:00 AM	TGT	EPA 8270D	J
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 6:51:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 6:51:00 AM		EPA 8270D	
%moisture	16.6	Percent		12/19/2018 2:26:00 PM		%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

ample Number 181217021-009			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	63.6	41-121
2-Fluorabipheny!	EPA 8270D	75.6	51-121
2-Fluorophenol	EPA 8270D	76.0	33-114
Nitrobenzene-d5	EPA 8270D	66.0	30-121
Phenol-d5	EPA 8270D	83.0	34-120
Terphenyl-d14	EPA 8270D	74.4	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number Matrix 181217021-010

Sampling Date
Sampling Time

12/11/2018 11:15 AM Date/Time Received

12/14/20110:38 AM

Client Sample ID

1812773-010B/LTU C3L1 ZOI

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.477	mg/Kg	0.269	12/19/2018 11:30:00 AI	M BKP	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Benzo(ghi)perylene	0.07	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	J
Benzo[a]anthracene	0.09	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	·J
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AN	1 TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	1 TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
2,4-Dimethylphenol	· ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	•
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	I TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 5:58:00 AM		EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 5:58:00 AM	TGT	EPA 8270D	
%moisture	12.0	Percent		12/19/2018 2:26:00 PM		%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

mple Number 181217021-010			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	57.4	41-121
2-Fluorobiphenyl	EPA 8270D	75.2	51-121
2-Fluorophenol	EPA 8270D	73.0	33-114
Nitrobenzene-d5	EPA 8270D	67.6	30-121
Phenol-d5	EPA 8270D	78.4	34-120
Terphenyl-d14	EPA 8270D	75.2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-011

Sampling Date 12/11/2018 Date/Time Received

12/14/20110:38 AM

Matrix

Sampling Time 11:30 AM

Client Sample ID

1812773-011B/LTU C3L1 TZ

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.271	12/19/2018 11:30:00 A	м вкр	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 4:12:00 At	M TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 4:12:00 Al	M TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 4:12:00 Af	M TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 4:12:00 Af	/I TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	√ TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	M TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	// TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	// TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	// TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 4:12:00 At	// TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/I TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	// TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AN	/ TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 4:12:00 AN	/I TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 4:12:00 AM	/ TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 4:12:00 AN	/ TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 4:12:00 AN	1 TGT	EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 4:12:00 AN	1 TGT	EPA 8270D	
%moisture	13.9	Percent		12/19/2018 2:26:00 PM	A BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

ımple Number 181217021-011			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	52.6	41-121
2-Fluorobiphenyl	EPA 8270D	66.0	51-121
2-Fluorophenol	EPA 8270D	70.0	33-114
Nitrobenzene-d5	EPA 8270D	56.8	30-121
Phenol-d5	EPA 8270D	72.6	34-120
Terphenyl-d14	EPA 8270D	75,2	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-012

Sampling Date Sampling Time 12/11/2018 10:40 AM

Date/Time Received 12/14/20110:38 AM

Matrix Client Sample ID

1812773-012B/LTU C3L2 ZOI

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.269	12/19/2018 11:30:00 A	M BKP	EPA 335.4	
1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Acenaphthene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Anthracene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:05:00 A	M TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
Chrysene	ND	mg/Kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
Fluoranthene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
Fluorene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
Naphthalene	ND	mg/Kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
Phenanthrene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
Pyrene	ND	mg/Kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 5:05:00 AI	M TGT	EPA 8270D	
2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 5:05:00 At	M TGT	EPA 8270D	
2-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	/I TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	M TGT	EPA 8270D	
Diethylphthalate	ND	mg/kg	0.1	12/22/2018 5:05:00 Al	√ TGT	EPA 8270D	
Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 5:05:00 A	и TGT	EPA 8270D	
Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 5:05:00 Af	M TGT	EPA 8270D	
Phenol	ND	mg/kg	0.1	12/22/2018 5:05:00 Af	M TGT	EPA 8270D	
Pyridine	ND	mg/kg	0.1	12/22/2018 5:05:00 Af	/ TGT	EPA 8270D	
Quinoline	ND	mg/kg	0.1	12/22/2018 5:05:00 AM	// TGT	EPA 8270D	
%moisture	13.2	Percent		12/19/2018 2:26:00 PM	M BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

mple Number 181217021-012			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	63.4	41-121
2-Fluorobiphenyl	EPA 8270D	68.4	51-121
2-Fluorophenol	EPA 8270D	64.8	33-114
Nitrobenzene-d5	EPA 8270D	69.6	30-121
Phenol-d5	EPA 8270D	74.4	34-120
Terphenyl-d14	EPA 8270D	79.6	40-134

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Analytical Results Report

Sample Number

181217021-013

Sampling Date Sampling Time 12/11/2018 10:55 AM Date/Time Received

12/14/20110:38 AM

Matrix Client Sample ID

Soil 1812773-013B/LTU C3L2 TZ

Comments

1-Methylnaphthalene	Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Acenaphthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(al)pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(la)pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(la)pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(la)pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dibenz(a, h)arthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Cyanide	ND	mg/Kg	0.196	12/19/2018 11:30:00 A	м вкр	EPA 335.4	
Acenaphthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ajhi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ajhyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ajhyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ajhuranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ajhuranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dibenz(a, hjanthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	1-Methylnaphthalene	ND	mg/kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Acenaphthylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(ghi)perylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TG	2-Methylnaphthalene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(a)phiperylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(a)phiperylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(a)phiperylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(a)phiperylene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(b)fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(b)fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo(k)fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT	Acenaphthene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Benzo(ghi)perylene	Acenaphthylene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Benzo[a]anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo[a]pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo[b]fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Benzo[k]fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Chrysene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Indean(1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D <t< td=""><td>Anthracene</td><td>ND</td><td>mg/Kg</td><td>0.1</td><td>12/22/2018 3:45:00 AM</td><td>/ TGT</td><td>EPA 8270D</td><td></td></t<>	Anthracene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Benzo[a]pyrene ND	Benzo(ghi)perylene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Benzo[b]filoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Benzo[a]anthracene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Benzo[kijfluoranthene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Benzo[a]pyrene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/I TGT	EPA 8270D	
Chrysene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dibenz[a,h]anthracene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluorenthene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluorene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Naphthalene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenanthrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Din	Benzo[b]fluoranthene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
Dibenz[a,h]anthracene	Benzo[k]fluoranthene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
Fluoranthene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Fluorene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Indeno[1,2,3-cd]pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Naphthalene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 5-EP	Chrysene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
Fluorene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D mg/Kg 0.1	Dibenz[a,h]anthracene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Fluoranthene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	A TGT	EPA 8270D	
Naphthalene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenanthrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D <t< td=""><td>Fluorene</td><td>ND</td><td>mg/Kg</td><td>0.1</td><td>12/22/2018 3:45:00 AM</td><td>/ TGT</td><td>EPA 8270D</td><td></td></t<>	Fluorene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AM	/ TGT	EPA 8270D	
Phenanthrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyrene ND mg/Kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Indeno[1,2,3-cd]pyrene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pulline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pulline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Naphthaleле	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
1,2-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dienthylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Phenanthrene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
1,4-Dichlorobenzene ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3-4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dien-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Pyrene	ND	mg/Kg	0.1	12/22/2018 3:45:00 AN	/ TGT	EPA 8270D	
2,4-Dimethylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM	1,2-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
2,4-Dinitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	1,4-Dichlorobenzene	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
2-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	2,4-Dimethylphenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
3+4-Methylphenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D 4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	2,4-Dinitrophenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
4-Nitrophenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	2-Methylphenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	3+4-Methylphenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
Diethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	4-Nitrophenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
Dimethylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
Di-n-butylphthalate ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Diethylphthalate	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
Phenol ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Dimethylphthalate	ND	mg/kg	0.1	12/22/2018 3:45:00 AN	1 TGT	EPA 8270D	
Pyridine ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Di-n-butylphthalate	ND	mg/kg	0.1	12/22/2018 3:45:00 AM	1 TGT	EPA 8270D	
Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Phenol	ND	mg/kg	0.1	12/22/2018 3:45:00 AM	1 TGT	EPA 8270D	
Quinoline ND mg/kg 0.1 12/22/2018 3:45:00 AM TGT EPA 8270D	Pyridine	ND	mg/kg	0.1	12/22/2018 3:45:00 AM	1 TGT	EPA 8270D	
	Quinoline	ND		0.1	12/22/2018 3:45:00 AM	1 TGT		
	%moisture	10.2			12/19/2018 2:26:00 PM	1 BKP	%moisture	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

181217021

Project Name:

1812773

Surrogate Data

nple Number 181217021-013			
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	58.8	41-121
2-Fluorobiphenyl	EPA 8270D	72.0	51-121
2-Fluorophenol	EPA 8270D	65.2	33-114
Nitrobenzene-d5	EPA 8270D	61.6	30-121
Phenoi-d5	EPA 8270D	72.0	34-120
Terphenyl-d14	EPA 8270D	82.8	40-134

Authorized Signature

Todd Taruscio, Lab Manager

J

The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit. EPA's Maximum Contaminant Level

MCL ND

Not Detected

PQL

Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.

The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

181217021

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1812773

Attn:

ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sa	ample									, <u>,</u>	
Parameter Cyanide		LCS Result 0.524	Unita mg/k		Spike 0.5	%Rec 104.8		% Rec -110	-	Date //2018	Analysis Date 12/19/2018
Matrix Spike			 		<u>.</u>						
Sample Number 181217021-001	Parameter Cyanide		Sample Result ND	MS Result 11.2	Uni mg/l		MS Spike 13.4	% Rec 83.6	AR %Rec 70-130	Prep Date 12/19/2018	
Matrix Spike D	uplicate										
Parameter Cyanide		MSD Result 11.3	Units mg/kg	MSD Spike 13.4	%F	Rec	%RPD 0.9	AR %RPD 0-25		p Date 19/2018	Analysis Date 12/19/2018
Method Blank											
Parameter Cyanide			Re Ni	sult	-	nits g/Kg		PQL 0.01		ep Date 19/2018	Analysis Date 12/19/2018

AR ND Acceptable Range

ND

Not Detected

PQL

Practical Quantitation Limit Relative Percentage Difference

Comments:

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812773

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID LCS-42114 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics LCSS Client ID: Batch ID: 42114 RunNo: 56379 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1884998 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 10 O 54 50.00 109 70 130 Surr: DNOP 4.7 5.000 94.4 50.6 138 Sample ID MB-42114 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 42114 RunNo: 56379 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1884999 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 ND Motor Oil Range Organics (MRO) 50 Surr: DNOP 10 10.00 101 50.6 138 Sample ID 1812773-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LTU C1L1 ZOI Batch ID: 42114 RunNo: 56379 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885949 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 54 9.9 49.60 110 53.5 126 Surr: DNOP 4.8 4.960 96.7 50.6 138 TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID 1812773-001AMSD SampType: MSD Client ID: LTU C1L1 ZOI Batch ID: 42114 RunNo: 56379 Prep Date: 12/14/2018 Analysis Date: 12/17/2018 SeqNo: 1885950 Units: mg/Kg LowLimit %RPD Analyte Result PQI SPK value SPK Ref Val %REC HighLimit **RPDLimit** Qual Diesel Range Organics (DRO) 50 9.8 48.88 0 103 53.5 126 7.78 21.7 Surr: DNOP 4.888 102 50.6 138 0 5.0 0 Sample ID LCS-42154 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 42154 RunNo: 56409 Prep Date: 12/17/2018 Analysis Date: 12/18/2018 SeqNo: 1886087 Units: %Rec **RPDLimit PQL** SPK value SPK Ref Val %REC %RPD Result LowLimit HighLimit Qual Surr: DNOP 4.1 5.000 81.7 50.6 138

Qualifiers:

Analyte

Client ID:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Sample ID MB-42154

Prep Date: 12/17/2018

PBS

Η Holding times for preparation or analysis exceeded

SampType: MBLK

Batch ID: 42154

Analysis Date: 12/18/2018

Result

ND Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

LowLimit

TestCode: EPA Method 8015M/D: Diesel Range Organics

Units: %Rec

%RPD

HighLimit

Е Value above quantitation range

RunNo: 56409

SeqNo: 1886088

J Analyte detected below quantitation limits

Page 40 of 50

Qual

RPDLimit

P Sample pH Not In Range

SPK value SPK Ref Val %REC

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812773

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42154 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

PBS Client ID: Batch ID: 42154 RunNo: 56409

12/17/2018 SeqNo: 1886088 Prep Date: Analysis Date: 12/18/2018 Units: %Rec

Analyte SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Surr: DNOP 88.1 50.6 8.8 10.00 138

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

Page 41 of 50

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812773**

Qual

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42100 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS** Batch ID: **42100** RunNo: **56353**

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884432 Units: %Rec

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Surr: BFB 920 1000 92.0 73.8 119

Sample ID LCS-42100 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 42100 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884434 Units: %Rec

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit

Surr: BFB 1100 1000 106 73.8 119

Sample ID MB-42099 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 42099 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884458 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Gasoline Range Organics (GRO)
 ND
 5.0

 Surr: BFB
 950
 1000
 95.2
 73.8
 119

Sample ID LCS-42099 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: 42099 RunNo: 56353

Prep Date: 12/13/2018 Analysis Date: 12/14/2018 SeqNo: 1884460 Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

 Gasoline Range Organics (GRO)
 26
 5.0
 25.00
 0
 104
 80.1
 123

 Surr: BFB
 1100
 1000
 107
 73.8
 119

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

PQL Practical Quanitative Limit

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 42 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

SampType: MBLK

WO#: **1812773**

02-Jan-19

Client: Marathon

Sample ID mb-42099

Project: Land Treatment Unit

Client ID: **PBS** Batch ID: 42099 RunNo: 56400 Prep Date: 12/13/2018 Analysis Date: 12/18/2018 SeqNo: 1885587 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Benzene ND 0.025 Toluene ND 0.050 ND Ethylbenzene 0.050 Methyl tert-butyl ether (MTBE) ND 0.050 1,2,4-Trimethylbenzene ND 0.050 0.050 1,3,5-Trimethylbenzene ND 1,2-Dichloroethane (EDC) ND 0.050 1,2-Dibromoethane (EDB) ND 0.050 Naphthalene ND 0.10 ND 0.20 1-Methylnaphthalene 2-Methylnaphthalene ND 0.20 ND 0.75 Acetone ND 0.050 Bromobenzene Bromodichloromethane ND 0.050 ND 0.050 Bromoform Bromomethane ND 0.15 2-Butanone ND 0.50 Carbon disulfide ND 0.50 Carbon tetrachloride ND 0.050 Chlorobenzene ND 0.050 ND Chloroethane 0.10 Chloroform ND 0.050 Chloromethane ND 0.15 2-Chlorotoluene ND 0.050 4-Chlorotoluene ND 0.050 cis-1,2-DCE ND 0.050 cis-1,3-Dichloropropene ND 0.050 1,2-Dibromo-3-chloropropane ND 0.10 Dibromochloromethane ND 0.050 ND 0.050 Dibromomethane ND 0.050 1.2-Dichlorobenzene ND 0.050 1,3-Dichlorobenzene

TestCode: EPA Method 8260B: Volatiles

Qualifiers:

1.4-Dichlorobenzene

1,1-Dichloroethane

1,1-Dichloroethene

1,2-Dichloropropane 1,3-Dichloropropane

2,2-Dichloropropane

Dichlorodifluoromethane

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

ND

ND

ND

ND

ND

ND

ND

0.050

0.050

0.050

0.050

0.050

0.050

0.10

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 43 of 50

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812773**

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID mb-42099	SampT	уре: МЕ	BLK	Test	tCode: El	PA Method	8260B: Volat	iles		
Client ID: PBS	Batch	n ID: 42	099	R	RunNo: 5	6400				
Prep Date: 12/13/2018	Analysis D	oate: 12	2/18/2018	S	SeqNo: 1	885587	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: Toluene-d8	0.56		0.5000		111	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			

Sample ID Ics-42099	SampT	ype: LC	s	Tes	tCode: El	PA Method	8260B: Volat	iles		
Client ID: LCSS	Batch	n ID: 42 0	099	R	RunNo: 5	6400				
Prep Date: 12/13/2018	Analysis D	ate: 12	2/18/2018	S	SeqNo: 1	885588	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
_										
Benzene	0.95	0.025	1.000	0	94.6	70	130			
Toluene Toluene	0.95 1.0	0.025 0.050	1.000 1.000	0 0	94.6 100	70 70	130 130			

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 44 of 50

Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#: **1812773**

02-Jan-19

Client: Marathon

Sample ID Ics-42099

Project: Land Treatment Unit

Client ID: LCSS Batch ID: 42099 RunNo: 56400 Prep Date: 12/13/2018 Analysis Date: 12/18/2018 SeqNo: 1885588 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

TestCode: EPA Method 8260B: Volatiles

1,1-Dichloroethene 0.050 50.8 1.0 1.000 0 104 164 0 Trichloroethene (TCE) 0.98 0.050 1.000 98.3 70 130 70 Surr: Dibromofluoromethane 0.58 0.5000 115 130 Surr: 1,2-Dichloroethane-d4 0.53 0.5000 107 70 130 Surr: Toluene-d8 0.57 0.5000 113 70 130 Surr: 4-Bromofluorobenzene 0.53 0.5000 106 70 130

Sample ID 1812773-001ams SampType: MS TestCode: EPA Method 8260B: Volatiles

Client ID: LTU C1L1 ZOI Batch ID: 42099 RunNo: 56400

Ciletit ID. LIU CILI 201	Date	111D. 42	099	''	Cullivo. J	0400				
Prep Date: 12/13/2018	Analysis [Date: 12	2/17/2018	9	SeqNo: 1	885590	Units: mg/h	K g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9643	0	89.1	68.9	131			
Toluene	0.90	0.048	0.9643	0	92.9	64.3	137			
Chlorobenzene	0.88	0.048	0.9643	0	90.9	65.9	143			
1,1-Dichloroethene	0.99	0.048	0.9643	0	103	53.4	150			
Trichloroethene (TCE)	0.87	0.048	0.9643	0	90.5	70	130			
Surr: Dibromofluoromethane	0.55		0.4822		113	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.4822		107	70	130			
Surr: Toluene-d8	0.52		0.4822		108	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.4822		106	70	130			

Sample ID 1812773-001amsd SampType: MSD TestCode: EPA Method 8260B: Volatiles

Client ID: LTU C1L1 ZOI Batch ID: 42099 RunNo: 56400

Prep Date: 12/13/2018	Analysis D	Analysis Date: 12/17/2018			SeqNo: 1885591 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.024	0.9479	0	90.2	68.9	131	0.403	20	
Toluene	0.92	0.047	0.9479	0	97.5	64.3	137	3.10	20	
Chlorobenzene	0.92	0.047	0.9479	0	96.6	65.9	143	4.35	20	
1,1-Dichloroethene	0.95	0.047	0.9479	0	101	53.4	150	3.98	20	
Trichloroethene (TCE)	0.90	0.047	0.9479	0	95.2	70	130	3.39	20	
Surr: Dibromofluoromethane	0.54		0.4739		114	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.53		0.4739		111	70	130	0	0	
Surr: Toluene-d8	0.54		0.4739		114	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4739		103	70	130	0	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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 45 of 50

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812773

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42146 SampType: MBLK TestCode: EPA Method 7471: Mercury

Client ID: **PBS** Batch ID: 42146 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886105 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

ND 0.033 Mercury

Sample ID LLLCS-42146 SampType: LCSLL TestCode: EPA Method 7471: Mercury

Client ID: **BatchQC** Batch ID: 42146 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886107 Units: mg/Kg

SPK value SPK Ref Val **RPDLimit** Analyte Result **PQL** %REC LowLimit HighLimit %RPD Qual

Mercury 0.0085 0.033 0.006660 0 127 130 J

Sample ID LCS-42146 SampType: LCS TestCode: EPA Method 7471: Mercury

Client ID: LCSS Batch ID: 42146 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886108 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte LowLimit

0.15 0.033 0.1667 Mercury

Sample ID 1812773-001AMS SampType: MS TestCode: EPA Method 7471: Mercury

Client ID: LTU C1L1 ZOI Batch ID: 42146 RunNo: 56412

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886110 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC I owl imit HighLimit %RPD **RPDLimit** Qual

Mercury 0.14 0.033 0.1658 85.5 80 120

Sample ID 1812773-001AMSD TestCode: EPA Method 7471: Mercury SampType: MSD

Client ID: LTU C1L1 ZOI RunNo: 56412 Batch ID: 42146

0.034

0.15

Prep Date: 12/17/2018 Analysis Date: 12/17/2018 SeqNo: 1886111 Units: mg/Kg

0.1729

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Qualifiers:

Mercury

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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

88.3

80

120

7.33

J Analyte detected below quantitation limits

Page 46 of 50

20

P Sample pH Not In Range

RLReporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812773**

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID MB-42119 Client ID: PBS	·	ype: ME 1 ID: 42			tCode: El		6010B: Soil I	Metals		
Prep Date: 12/14/2018	Analysis D	ate: 12	2/19/2018	\$	SeqNo: 1	888302	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	0.54	2.5								J

Sample ID LCS-42119	SampT	ype: LC	S	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	n ID: 42	119	R	RunNo: 5	6472				
Prep Date: 12/14/2018	Analysis D	ate: 12	2/19/2018	S	SeqNo: 1	888303	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	25	2.5	25.00	0	100	80	120			
Arsenic	26	2.5	25.00	0	106	80	120			
Barium	25	0.10	25.00	0	101	80	120			
Beryllium	26	0.15	25.00	0	106	80	120			
Cadmium	25	0.10	25.00	0	101	80	120			
Chromium	25	0.30	25.00	0	101	80	120			
Cobalt	24	0.30	25.00	0	97.5	80	120			
Nickel	25	0.50	25.00	0	99.4	80	120			
Selenium	24	2.5	25.00	0	94.7	80	120			
Silver	5.1	0.25	5.000	0	103	80	120			
Vanadium	26	2.5	25.00	0	104	80	120			
Zinc	25	2.5	25.00	0	99.7	80	120			

Sample ID MB-42119	SampT	уре: МЕ	BLK	Test	tCode: El	PA Method	6010B: Soil I	Vietals		
Client ID: PBS	Batch	ID: 42	119	R	tunNo: 5	6498				
Prep Date: 12/14/2018	Analysis D	ate: 12	2/20/2018	S	eqNo: 1	889585	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5	•		•					
Arsenic	ND	2.5								
Barium	0.024	0.10								J
Beryllium	ND	0.15								

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

PQL Practical Quanitative Limit

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

W Sample container temperature is out of limit as specified

Page 47 of 50

Hall Environmental Analysis Laboratory, Inc.

ND

0.65

2.5

2.5

WO#: 1812773

02-Jan-19

Client: Marathon

Vanadium

Zinc

Project: Land Treatment Unit

Sample ID MB-42119 SampType: MBLK TestCode: EPA Method 6010B: Soil Metals **PBS** Client ID: Batch ID: 42119 RunNo: 56498 Prep Date: 12/14/2018 Analysis Date: 12/20/2018 SeqNo: 1889585 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Cadmium ND 0.10 Chromium ND 0.30 ND 0.30 Cobalt Lead ND 0.25 Nickel ND 0.50 Selenium ND 2.5 Silver ND 0.25

Sample ID LCS-42119	SampT	ype: LC	s	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	1D: 42	119	R	RunNo: 5	6498				
Prep Date: 12/14/2018	Analysis D	ate: 12	2/20/2018	S	SeqNo: 1	889586	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	26	2.5	25.00	0	105	80	120			
Arsenic	26	2.5	25.00	0	104	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Beryllium	27	0.15	25.00	0	108	80	120			
Cadmium	26	0.10	25.00	0	105	80	120			
Chromium	26	0.30	25.00	0	105	80	120			
Cobalt	26	0.30	25.00	0	103	80	120			
Lead	25	0.25	25.00	0	102	80	120			
Nickel	26	0.50	25.00	0	103	80	120			
Selenium	25	2.5	25.00	0	101	80	120			
Silver	5.1	0.25	5.000	0	101	80	120			
Vanadium	26	2.5	25.00	0	106	80	120			
Zinc	27	2.5	25.00	0	106	80	120			

Sample ID 1812773-001AMS	SampT	ype: MS	6	Tes	tCode: E	PA Method	6010B: Soil	Metals		
Client ID: LTU C1L1 ZOI	Batch	ID: 42	119	F	RunNo: 5	6498				
Prep Date: 12/14/2018	Analysis Da	ate: 12	2/20/2018	8	SeqNo: 1	890179	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.79	0	0	75	125			S
Arsenic	24	12	24.79	0	96.4	75	125			
Barium	430	0.50	24.79	237.6	793	75	125			S
Beryllium	28	0.74	24.79	1.588	106	75	125			
Cadmium	24	0.50	24.79	0	95.8	75	125			
Chromium	45	1.5	24.79	19.68	100	75	125			

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

Practical Quanitative Limit

% 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 48 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812773**

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID 1812773-001AMS	Samp1	SampType: MS TestCode: EPA Method 6010B: Soil Metals								
Client ID: LTU C1L1 ZOI	Batcl	h ID: 42	119	F	RunNo: 5	6498				
Prep Date: 12/14/2018	Analysis D	ysis Date: 12/20/2018 SeqNo: 1890179 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	24	1.2	24.79	1.303	91.2	75	125			
Nickel	43	2.5	24.79	18.13	101	75	125			
Selenium	23	12	24.79	0	91.1	75	125			
Silver	2.7	1.2	4.957	0	54.4	75	125			S
Vanadium	62	12	24.79	33.90	113	75	125			

Sample ID 1812773-001AN	/ISD SampT	ype: M \$	SD	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: LTU C1L1 ZOI	Batch	ID: 42	119	F	RunNo: 5	6498				
Prep Date: 12/14/2018	Analysis D	ate: 12	2/20/2018	S	SeqNo: 1	890180	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	12	24.77	0	0	75	125	0	20	S
Arsenic	22	12	24.77	0	90.1	75	125	6.89	20	
Barium	340	0.50	24.77	237.6	405	75	125	25.0	20	RS
Beryllium	28	0.74	24.77	1.588	108	75	125	2.17	20	
Cadmium	24	0.50	24.77	0	96.4	75	125	0.566	20	
Chromium	45	1.5	24.77	19.68	104	75	125	1.74	20	
Lead	24	1.2	24.77	1.303	91.2	75	125	0.0539	20	
Nickel	44	2.5	24.77	18.13	105	75	125	2.19	20	
Selenium	24	12	24.77	0	98.3	75	125	7.53	20	
Silver	2.3	1.2	4.955	0	46.8	75	125	15.0	20	S
Vanadium	61	12	24.77	33.90	107	75	125	2.12	20	

Sample ID	1812773-001APS	Samp1	Type: PS	;	Tes	tCode: E	PA Method	6010B: Soil	Metals		
Client ID:	LTU C1L1 ZOI	Batcl	h ID: 42	119	F	RunNo: 5	6498				
Prep Date:		Analysis D	Date: 12	2/20/2018	8	SeqNo: 1	890181	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		97	12	120.5	0	80.3	80	120			
Barium		350	0.48	120.5	237.6	90.4	80	120			
Silver		18	1.2	24.09	0	76.6	80	120			S

Sample ID	ple ID 1812773-001AMS SampType: MS			TestCode: EPA Method 6010B: Soil Metals							
Client ID:	LTU C1L1 ZOI	Batch ID: 42119			RunNo: 56598						
Prep Date:	12/14/2018	Analysis D	ate: 12	2/22/2018	S	SeqNo: 1	893481	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt		28	1.5	24.79	7.148	86.0	75	125			
Zinc		49	12	24.79	25.89	94.8	75	125			

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

PQL Practical Quanitative Limit

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 49 of 50

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: **1812773**

02-Jan-19

Client: Marathon

Project: Land Treatment Unit

Sample ID 1812773-001AMSD SampType: MSD TestCode: EPA Method 6010B: Soil Metals

Client ID: LTU C1L1 ZOI Batch ID: 42119 RunNo: 56598

Prep Date: 12/14/2018 Analysis Date: 12/22/2018 SeqNo: 1893482 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Cobalt 29 7.148 88.7 75 2.25 20 1.5 24.77 125 51 24.77 25.89 103 75 Zinc 12 125 3.92 20

Sample ID 1812773-001APS SampType: PS TestCode: EPA Method 6010B: Soil Metals

Client ID: LTU C1L1 ZOI Batch ID: 42119 RunNo: 56598

Prep Date: Analysis Date: 12/22/2018 SeqNo: 1893483 Units: mg/Kg LowLimit Analyte Result **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Cobalt 110 1.4 120.5 7.148 85.6 80 120 140 25.89 90.7 80 Zinc 12 120.5 120

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
- PQL Practical Quanitative Limit
- 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
- W Sample container temperature is out of limit as specified

Page 50 of 50



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

MARATHON GALLUP Client Name: Work Order Number: 1812773 RcptNo: 1 Victoria Gellas Received By: Victoria Zellar 12/13/2018 8:57:00 AM UMI3 Completed By: Erin Melendrez 12/13/2018 11:13:39 AM 13118 Reviewed By: Chain of Custody Yes 🗸 No 🗌 Not Present 1. Is Chain of Custody complete? 2. How was the sample delivered? Courier Log In No 🗌 NA 🗌 3. Was an attempt made to cool the samples? Yes 🗹 No 🗌 4. Were all samples received at a temperature of >0° C to 6.0°C NA 🗀 Yes 🔽 5. Sample(s) in proper container(s)? Yes 🔽 No 🗆 Sufficient sample volume for indicated test(s)? Yes 🔽 No 🗌 No 🗌 7. Are samples (except VOA and ONG) properly preserved? No 🗹 Yes 🗌 NA 🗌 8. Was preservative added to bottles? Yes 🗌 No 🗆 No VOA Vials 🗹 9. VOA vials have zero headspace? Yes 🗀 No 🗹 10. Were any sample containers received broken? # of preserved bottles checked 11. Does paperwork match bottle labels? Yes 🔽 No 🔲 for pH: (<2 or > (Note discrepancies on chain of custody) Adjusted? 12. Are matrices correctly identified on Chain of Custody? Yes 🗹 No 🛄 13. Is it clear what analyses were requested? Yes 🗸 No 🗌 14. Were all holding times able to be met? Yes 🗹 No (If no, notify customer for authorization.) Special Handling (if applicable) 15. Was client notified of all discrepancies with this order? Yes 🗌 No 🗌 NA 🗹 Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: 17. Cooler Information Cooler No Temp °C Condition Seal Intact | Seal No Seal Date 3.9 Good Yes

Air Bubbles (Y or N) **ANALYSIS LABORATORY** HALL ENVIRONMENTAL CAMIDE × × × × × × × MERCURY × × × × × × × 4901 Hawkins NE - Albuquerque, NM 87109 **METALS MOD SKINNER LIST** × × × × × × × Fax 505-345-4107 × × × × × × × www.hallenvironmental.com 8270 MOD. SKINNER LIST Analysis Request × × × × × 8260B MOD. SKINNER LIST × × 8081 Pesticides / 8082 PCB's Anions (F,Cl, MO_3 , MO_2 , PO_4 , SO_4) RCRA 8 Metals Tel. 505-345-3975 (2MI20728 to 0188) HA9 (1108 bodteM) 803 (PH (Method 418.1) PH 8015 (GRO/DRO/MRO) × × × × × × × Remarks: Carrier 121 -211 BIEX+MIBE+IPH(Gas only) BTEX+MTBE+TMB's(8021) 12/18/18/18/18/ Time HEAL No. Project Name: Land Treatment Unit 005 100-700-00k 003 Date -001 8 Project Manager: Brian Moore **2** Sample Temperature:/9 (/೯ □ Rush Preservative None None None None None None None Turn-Around Time: X Standard Type and # Container 8oz jar - 2 4oz jar - 1 8oz jar - 2 40z jar - 1 8oz jar - 2 40z jar - 1 8oz jar - 2 40z jar - 1 80z jar - 2 4oz jar - 1 8oz jar - 2 4oz jar - 1 8oz jar - 2 4oz jar - 1 Received by: Received by: Project #: Sampler: On Ice: BMoore1@Marathonpetroleum.com LTU C1L1 ZO! MSD * Level 4 (Full Validation) Sample Request ID LTU C1L1 ZOI MS Chain-of-Custody Record Mailing Address: 92 Giant Crossing Road LTU C1L1 ZOI LTU C1L1 TZ LTU C1L2 Z0I LTU ZOI DUP LTU C1L2 TZ Gallup, NM 87301 Client: Marathon Petroleum 505-726-3745 Relinquished by: nguished by: Gallup Refinery Matrix EXCE SOIL 1245 747 Time 300 282 X EDD (Type) 1249 (210 2-12-19080 QA/QC Package: email or Fax#: Time: □ Standard Time: Phone #: □ Other Date 81-11-2 Date:

5

Air Bubbles (Y or N) **ANALYSIS LABORATORY** HALL ENVIRONMENTAL **CANIDE** × × × × × × × × MERCURY 4901 Hawkins NE - Albuquerque, NM 87109 METALS MOD SKINNER LIST × × × × Fax 505-345-4107 × × × × www.hallenvironmental.com 8270 MOD. SKINNER LIST Analysis Request × × × × 8260B MOD. SKINNER LIST 1200 No. 12/13/188557 8081 Pesticides / 8082 PCB's Anions (F,CI, NO3, NO2, PO4, SO4) RCRA 8 Metals Tel. 505-345-3975 (2MI20YS8 10 01E8) HA9 EDB (Method 8011) (1.814 bodteM) H9T (ORM\ORG\ORG) &108 H9T × × × × Remarks: BTEX+MTBE+TPH(Gas only) BTEX+MTBE+TMB's(8021) alble P.D Time HEAL No. Project Name: Land Treatment Unit 900-L00-P00-800-Project Manager: Brian Moore S D □ Rush Preservative Sample Temperature: $oldsymbol{oldsymbol{eta}}$, None None None None Type Tum-Around Time: M X Standard 402-jar- 1-8oz jar - 🏚 Type and # 80z jar - 2 8oz jar 🏖 Container 8oz jar - 🎕 402 jara4 40mjerent 40z jar - 1 Project #: Sampler: On Ice: BMoore1@Marathonpetroleum.com X Level 4 (Full Validation) Sample Request ID Chain-of-Custody Record Mailing Address: 92 Giant Crossing Road LTU C2L2 ZOI LTU C2L1 ZOI LTU C2L1 TZ LTU C2L2 TZ **Gallup, NM 87301** Client: Marathon Petroleum 505-726-3745 quished by Gallup Refinery Relinquished X EDD (Type) EXCEL Matrix SOIL 0800 1435 241-18/1420 1500 1510 QA/QC Package: Time email or Fax#: Time: □ Standard Phone #: Date 81-71-21 Date:

									(M 10	Y)	Air Bubbles				Γ					
- \\ \\ \\ \		2																			
ļ	HALL ENVIRONMENTAL ANALYSIS LABORATORY	5										CAPNIDE	×	×	×	×					
	Z		ග				٠					MERCURY	×	×	×	×					
		{	Albuquerque, NM 87109	20		T			_			METALS M	×	×	×	×					
	7 2	ğ	¥	505-345-4107	t s							.dom 0728	×	×	×	×					
à	₹ <u>₹</u>	Tall I	Ue.	5.34	dne							8260B MOE	×	×	×	×					~
5			uero	200	s Re							8081 Pestic									5
	ANALYSTS	www.hallenvironmental.com	ongl	Fax	Analysis Request		(°O	3. ₆ O	۹, _¢ (D,9) snoinA	1	<u> </u>					ļ		ω_{i}
	<u> </u>	a e			Ana			/01				RCRA 8 Me						<u>.</u>		_	6)1
-	Į Ą	W	Ä N	-397				(SV				0168) HAG									2(13
Ī	Ì	⋛	vkins	505-345-3975								orieM) H9T EDB (Metho									212
-533		in a	Hay	505		-	10	MIAL) 2108 HQT odiaM) HQT	×	×	×	×	<u></u>	-			Ž
:T)).			4901 Hawkins NE	Tel.								8TM+X3T8				_			<u> </u>		arks Se
						-		_	-			8TM+X3T8									Remarks: Cautien VVZ 12/13/19 8,57
		ļ	-				()	,000	,, 0,1								-				7
										ii ii ii		3									Time
		l ii										HEAL NO			~ 1						3)
		ıt				رو						2))(011	-012	013					Date
		重				00			0	S I	Š	8	010-	0-	7						_ 6
	Rush	Project Name: Land Treatment Unit				nager. Brian Moore					Ö	ive		r	•	,				•	
١.,		멸				Bria			11	Se	Jie [Preservative Type	None	None	None	None					
Lime		La				Jer.			12		erati	Pres	2	2	Z	2					13
Turn-Around Time:	lard	ame		ĺ		lanaç					Sample Temperature.	. #	-2	-2	-2	-2	- · · · · · · · ·				
¥10	X Standard	ᅜ		# %		\ <u>x</u>			pler:	Ģ		ntain e an	802 jar - 402 jar -	8oz jar - 4oz jar -	8oz jar - 4oz jar -	8oz jar 4oz jar				1	Of Diversify
<u>F</u>	×	Proje		Project #:		Project Ma			Sampler:	On Ice:	Sam	Container Type and	802 402	802 402	802 402	802 402					Receip
								<u> </u>	:			0					_				
פֿ			ad			m.cc		datio		ı		Sample Request ID	ō	Ŋ	ō	Ŋ					
00	:		Ro			oleu		Vali				dne	LTU C3L1 ZOI	LTU C3L1 TZ	LTU C3L2 ZOI	LTU C3L2 TZ					8
Re			ing	301		petr		Full				Re	 	င်ဒ	1ES	<u>23</u>					1.1
λ	u.		SSO.	873	10	athor		<u>e</u>				nple	₽]	F.	₽	T.					1.7
	lenı		t Cr	ΣZ	374	Mara		X Level 4 (Full Validation)				Sar		_	_	-					1/h ==
Sn	etro	ler.	ian	up,	26-	91@		×			ŀ				_						
ပ္	n P	efir	92 Giant Crossing Road	Gallup, NM 87301	505-726-3745	BMoore1@Marathonpetroleum.com				EXCEL		Matrix	SOIL								Relinquished by:
Ç	tho	₽			ಸ						ŀ		<u> </u>		- 57	→					
Chain-of-Custody Record	Marathon Petroleum	Gallup Refinery	Mailing Address:			email or Fax#:	QA/QC Package:	μ		X EDD (Type)		Time	2-4-18 1115	130	1040	8					Time:
5		Ü	ng A		ie #:	o F	C Pa	□ Standard	her	<u>)</u>	}		<u>~</u>	_=		1/6	_				
ء ا	Client:		Mailii		Phone #:	emai.	3A/Q	IJ □	□ Other	×EL		Date	17)						\$		Date: Date:
* 1	- 1		· — i	1	, —	. "	_	_	_		1	I	2	Į		ı		•		i l	127

ATTACHMENT 1

Region 5 Waste Management Branch "Skinner List" Constituents of Concern for Wastes from Petroleum Processes							
<u>Inorganics</u>							
Antimony	Cadmium	Lead	Silver				
Arsenic	Chromium	Mercury	Vanadium				
Barium	Cobalt	Nickel	Zinc				
Beryllium	Cyanide	Selenium					

Volatile Organics			
Benzene	1,2-Dichloroethane	Ethylene dibromide (EDB)	1,1,1-Trichloroethane
Carbon disulfide	1,1-Dichloroethane	Methyl ethyl ketone (MEK)	Trichloroethene
Chlorobenzene	1,4-Dioxane	Styrene	Tetrachloroethylene
Chloroform	Ethylbenzene	Toluene	Xylenes (total)

Semivolatile Organics			
Acenaphthene	o-Cresol	Diethyl phthalate	Naphthalene
Anthracene	m-Cresol	2,4 Dimethylphenol	4-Nitrophenol
Benzo(a)anthracene	p-Cresol	Dimethyl phthalate	Phenanthrene
Benzo(b)fluroranthene	Dibenz(a,h)anthracene	2,4 Dinitrophenol	PhenoI
Benzo(k)fluoranthene	Di-n-butyl phthalate	Fluoranthene	Pyrene
Benzo(a)pyrene	1,2-Dichlorobenzene*	Fluorene	Pyridine
Bis(2-ethylhexyl) phthalate	1,3-Dichlorobenzene*	Indeno(1,2,3-cd)pyrene	Quinoline
Chrysene	1,4-Dichlorobenzene*	Methyl tertiary butyl ether (MTBE)	*- can be tested as a volatile

Low Concentration Polynuclear Aromatic Hydrocarbons (Optional)

Benzo(a)anthracene

Benzo(k)fluoranthene

Dibenz(a,h)anthracene

Indeno(1,2,3-cd)pyrene

Benzo(b)fluoranthene

Benzo(a)pyrene

Chrysene*

Optional Semivolatile Organics

Indene no d

Benzenethiol**

Dibenz(a,h)acridine

1-Methylnaphthalene*

^{*} added to this group to assist the chromatographic resolution of chrysene from Dibenz(a,h)anthracene in sample extracts

^{*}Note that 2-Methylnaphthalene is part of Appendix IX and is a CLP TCL organic. 1-Methylnaphthalene is not on these lists.

^{**}Benzenethiol can be detected in certain petroleum refinery wastes. Its measurement must compensate for its instability at neutral and acid pH values during sample preparation and its unstable instrument calibration standards



APPENDIX H GROUNDWATER ANALYTICAL DATA (ON ATTACHED CD)



APPENDIX I GROUNDWATER DATA VALIDATION (ON ATTACHED CD)



APPENDIX J NEW MONITORING WELL LOGS



APPENDIX K YSI 556 OPERATIONS MANUAL (ON ATTACHED CD)