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October 29, 2020

Bradford Billings
New Mexico Oil Conservation Division
5200 Oakland Avenue, N.E. Suite 100
Albuquerque, New Mexico 87113

Re: Former F-State Tank Battery
2019 Annual Groundwater Monitoring Report
Case No. 1RP-258
Lea County, New Mexico

Dear Mr. Billings,

Please find enclosed the following report:

- Former F-State Tank Battery - 2019 Annual Groundwater Monitoring Report, Section 24 - Township 19 South - Range 36 East, Lea County, New Mexico.

The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of Chevron Environmental Management Company (CEMC) to document on-going groundwater monitoring and remediation activities throughout 2019 at the Site.

If you have any questions regarding this submittal, please contact Scott Foord with Arcadis at (713) 953-4853 or myself at (832) 854-5601.

Sincerely,

Jason Michelson
Project Manager

Encl. Former F-State Tank Battery - 2019 Annual Groundwater Monitoring Report

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

2019 ANNUAL GROUNDWATER MONITORING REPORT

F-State Tank Battery

Section 24, Township 19 South, Range 36 East

Lea County, New Mexico

Case No. 1RP-258

28 October 2020

2019 ANNUAL GROUNDWATER MONITORING REPORT

F-State Tank Battery
GW Remediation
Lea County, New Mexico

Morgan Jordan
Scientist II

Scott Foord, P.G.
Certified Project Manager

Prepared for:

Jason Michelson

Project Manager

Chevron Environmental Management Company

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Prepared by:

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Our Ref.:

30049835

Date:

28 October 2020

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1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this report for Chevron Environmental Management Company (CEMC), which summarizes semi-annual groundwater monitoring activities, and additional sentry well (MW-6) sampling at the F-State Tank Battery (Site). Data presented in this report was collected during two semi-annual groundwater monitoring events conducted in May and November 2019, and sentry well MW-6 was additionally sampled in February and August 2019. All monitoring wells were gauged during each sampling event. As such, gauging of all wells is conducted on a quarterly schedule.

The Site is located on Lea County Road 41 (Maddox Road), approximately three miles northwest of Monument, New Mexico, in the northeast quarter (NE/4) of the southeast quarter (SE/4), Section 24, Township 19 South, Range 36 East, Lea County, New Mexico. The Site's coordinates are latitude 32.643018 and longitude -103.301158.

A Site Location Map is presented as **Figure 1**. A Site Details Map and the surrounding vicinity are presented on **Figure 2**. Additional Site background information is presented in **Appendix A**.

2 GROUNDWATER MONITORING RESULTS

The Site is currently monitored with a network of seven monitoring wells and four recovery wells. Arcadis performed semi-annual groundwater sampling events on May 2 and 6, 2019, and November 18-19, 2019. Sentry well MW-6 was additionally sampled on February 7, 2019, and August 2, 2019 to ensure the dissolved-phase plume is not migrating southwest towards the off-site water wells (WW-1 and WW-2). Site-wide gauging was also conducted during the two additional sampling events at MW-6. Water levels are not gauged in the off-site water wells. Field monitoring methodologies are detailed in **Appendix B**.

At the request of the New Mexico- Oil Conservation Division (NMOCD), light non aqueous phase liquid (LNAPL) samples are collected annually from recovery wells containing measurable LNAPL. Wells with LNAPL (RW-1 and RW-4) were sampled during the November 2019 event only. Results are presented in **Table 3**.

2.1 Groundwater Gauging Data

Groundwater and LNAPL measurements collected during the quarterly monitoring events conducted in 2019 indicate:

- Groundwater elevations ranged from
  - 3,638.79 feet above mean sea level (ft AMSL) (MW-7) to 3,642.12 ft AMSL (RW-2) during the February 2019 gauging event,
  - 3,638.61 ft AMSL (MW-7) to 3,641.91 ft AMSL (RW-1) during the May 2019 gauging event,
  - 3,638.60 ft AMSL (MW-7) to 3,641.81 ft AMSL (RW-2) during the August 2019 gauging event, and
  - 3,638.37 ft AMSL (MW-7) to 3,641.57 ft AMSL (RW-2) during the November 2019 event.

- The groundwater elevations during the 2019 period appear to be consistent with historical levels, with groundwater flow generally to the southeast.
- Potentiometric elevation data for the sampling events are presented in **Table 1**. Groundwater potentiometric surface maps for February, May, August, and November 2019 are presented on **Figure 3**.
- The calculated gradients are:
  - 0.007 ft/ft for the February 2019 gauging event,
  - 0.009 ft/ft for the May 2019 gauging event,
  - 0.005 ft/ft for the August 2019 gauging event, and
  - 0.006 ft/ft for the November 2019 gauging event.

2.2 LNAPL Occurrence and Recovery

LNAPL was present in two recovery wells (RW-1 and RW-4) and a sheen in (RW-2 and RW-2) during the 2019 quarterly monitoring events, In addition to the quarterly monitoring events, LNAPL thickness was gauged on a biweekly basis in association with LNAPL bailing activities. LNAPL thicknesses gauged in 2019 are included in **Table 1** and with historical data in **Appendix C**. The distribution and extent of LNAPL during the 2019 quarterly monitoring events are presented on **Figures 5 and 6,** respectively.

The ranges of LNAPL thicknesses gauged during the 2019 quarterly events are summarized below:

- A sheen to 5.26 feet in RW-1,
- A sheen to 0.01 feet in RW-2,
- A sheen in RW-3, and
- 1.5 feet to 3.96 feet in RW-4.

2.2.1 Biweekly LNAPL Bailing

LNAPL thicknesses were gauged on a biweekly basis in association with LNAPL bailing activities. Bailers were used to recover LNAPL from each well**.** All recovery wells at the Site (RW-1 through RW-4) are gauged during bi-weekly O&M events. RW-1 and RW-4 are additionally hand bailed bi-weekly as needed. LNAPL thickness data is summarized in **Table 1**.

Approximately 25 gallons of LNAPL was recovered via hand bailing in 2019. The cumulative amount of LNAPL/water mixture recovered via the skimmer system during its installation from November 2006 to March 2017 was approximately 3,315 gallons. The cumulative amount of LNAPL recovered (including vapors) during the fifteen Mobile Duel Phase Extraction (MDPE) events conducted from 2011 through 2015 was 1,539 gallons. Collectively, an approximate total of 4,880 gallons of LNAPL/water mixture have been recovered and removed from the Site since 2006.

2.3 Groundwater Analytical Results

Seven monitoring wells and two off-site water wells were sampled at the site during the 2019 sampling period. Groundwater analytical results for benzene, toluene, ethylbenzene, xylenes (BTEX) and chloride were compared to the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards. A summary of the groundwater sample analytical results is presented in **Table 2**.

Wells with LNAPL (RW-1 and RW-4) were sampled during the November 2019 event only. Results are presented in **Table 3**.

Cumulative summary tables of potentiometric elevation data and groundwater analytical results obtained for the Site from 1998 through 2019 are presented in **Appendices C and D**, respectively. Copies of the certified analytical reports and chain-of-custody documentation from Eurofins TestAmerica and Xenco Laboratories are provided in **Appendix E**.

BTEX and Chloride sample results for the 2019 groundwater monitoring period are presented on **Figure 4**. The groundwater analytical results are further summarized below.

2.3.1 BTEX

- Groundwater samples had no detected concentrations of BTEX in the 2019 monitoring period.

2.3.2 Chloride

- Chloride concentrations detected during the 2019 groundwater monitoring period showed no exceedances of the NMWQCC standard of 250 milligrams per liter (mg/L) in any groundwater samples.

There were no exceedances of the NMWQCC groundwater standards for BTEX or chloride in any wells not containing LNAPL during the 2019 monitoring period.

Off-site water wells (WW-1 and WW-2) had no detected concentrations of BTEX in the 2019 monitoring period, and there were no exceedances of the NMWQCC groundwater standards for chloride in either well.

For the November 2019 LNAPL samples from recovery wells (RW-1 and RW-4), RW-1 was analyzed as a solid instead of a liquid due to the oily nature of sample and results are presented in micrograms per kilograms (ug/Kg), and RW-4 was analyzed as a liquid, results are presented in mg/L. These concentrations were not compared to groundwater standards; however, BTEX was detected in the samples. Results are presented in **Table 3**.

3 SUMMARY

The following findings are presented based on groundwater monitoring and O&M events conducted in 2019:

- All 7 monitoring wells and 4 recovery wells on Site were gauged to determine the groundwater elevation and the presence of LNAPL during the 2019 monitoring period;
- Potentiometric surface conditions were consistent with historical results showing groundwater flow to the southeast.
- LNAPL thickness in the recovery wells ranged from a sheen to 5.26 feet and indicate, LNAPL thickness increased with subsequent O&M events in the 2019 monitoring period.
- Sentry well (MW-6) was sampled quarterly during the February, May, August, and November 2019 sampling events with no exceedances reported.
- BTEX was detected in recovery wells containing LNAPL (RW-1 and RW-4). These concentrations were not compared to groundwater standards.
- Groundwater samples for Site monitoring wells and off-site water wells had no detected concentrations of BTEX in the 2019 monitoring period.
- Chloride concentrations detected during the 2019 groundwater monitoring period showed no exceedances of the NMWQCC standard of 250 mg/L in any groundwater samples.

4 2020 ACTIVITIES

O&M activities will continue to be performed on a bi-weekly schedule to document LNAPL levels within each monitoring well (hand-bail LNAPL fluids and replace the absorbent socks in RW-1 through RW-4 when needed). The recovered LNAPL will be stored in the 225-gallon holding tank which is situated inside a secondary containment structure at the Site. Alternate LNAPL recovery methods will be evaluated in 2020.

Semi-annual site-wide groundwater sampling events are scheduled to be performed during the second and fourth quarters of 2020. Groundwater samples will be collected from all wells that do not contain measurable LNAPL, and from the off-site water wells. Groundwater samples will continue to be collected annually from wells containing LNAPL. Sentry well MW-6 will continue to be gauged and sampled on a quarterly schedule to ensure that the plume is not migrating southwest toward the off-site water wells. Analytical results from off-site water wells, WW-1 and WW-2 will continue to be closely monitored in 2020.

TABLES

Table 1
2019 Summary of Groundwater Gauging Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-3	2/7/19	56.72	---	---	3640.13	67.78	2	55 - 75
3696.85	5/2/19	56.91	---	---	3639.94	67.70		
	8/1/19	56.88	---	---	3639.97	67.66		
	11/18/19	57.00	---	---	3639.85	69.65		
MW-4	2/7/19	60.03	---	---	3639.47	63.66	2	55 - 75
3699.50	5/2/19	60.18	---	---	3639.32	63.68		
	8/1/19	60.14	---	---	3639.36	63.66		
	11/18/19	60.27	---	---	3639.23	64.81		
MW-5	2/7/19	53.95	---	---	3639.57	64.70	2	48 - 68
3693.52	5/2/19	54.12	---	---	3639.40	64.70		
	8/1/19	54.14	---	---	3639.38	64.70		
	11/18/19	54.36	---	---	3639.16	65.85		
MW-6	2/7/19	64.71	---	---	3640.10	73.44	2	56 - 76
3704.81	5/2/19	65.06	---	---	3639.75	73.89		
	8/1/19	64.79	---	---	3640.02	73.41		
	11/18/19	64.82	---	---	3639.99	74.91		
MW-7	2/7/19	55.79	---	---	3638.79	64.11	2	49 - 69
3694.58	5/2/19	55.97	---	---	3638.61	64.13		
	8/1/19	55.98	---	---	3638.60	63.71		
	11/18/19	56.21	---	---	3638.37	64.70		
MW-8	2/7/19	54.10	---	---	3640.48	61.16	2	46 - 66
3694.58	5/2/19	54.30	---	---	3640.28	64.76		
	8/1/19	54.40	---	---	3640.18	61.16		
	11/18/19	54.67	---	---	3639.91	62.40		
MW-9R*	2/7/19	46.59	---	---	---	62.05	2	29.5 - 59.5
(not surveyed)	5/2/19	46.77	---	---	---	62.16		
	8/1/19	46.89	---	---	---	62.08		
	11/18/19	47.16	---	---	---	63.91		
RW-1	1/9/19	58.65	---	trace	3641.27	---	4	55 - 75
	2/7/19	57.88	---	trace	3642.04	---		
	2/21/19	57.69	---	---	3642.23	---		
	3/7/19	57.73	57.71	0.02	3642.19	---		
	3/18/19	57.74	---	---	3642.18	---		
	4/2/19	57.72	---	---	3642.20	---		
	4/18/19	58.09	57.99	0.10	3641.83	---		
3699.92	5/2/19	58.05	58.00	0.05	3641.91	---		
	6/9/19	60.40	58.00	2.40	3641.67	---		
	6/24/19	60.40	57.70	2.70	3641.94	---		
	7/23/19	60.59	57.79	2.80	3641.84	---		
	8/2/19	60.63	57.74	2.89	3641.88	---		
	8/26/19	60.63	57.74	2.89	3641.88	---		
	9/6/19	60.82	57.79	3.03	3641.82	---		
	9/18/19	60.64	57.89	2.75	3641.75	---		
	9/30/19	60.55	57.89	2.66	3641.76	---		
	11/19/19	63.21	57.95	5.26	3641.43	---		
RW-2	1/9/19	49.88	---	---	3642.24	---	4	47 - 67
	2/7/19	50.00	---	---	3642.12	---		
	2/21/19	49.95	---	---	3642.17	---		
	3/7/19	49.94	49.92	0.02	3642.20	---		
	3/18/19	49.99	---	---	3642.13	---		
	4/2/19	49.94	---	---	3642.18	---		
	4/18/19	50.22	---	---	3641.90	---		
3692.12	5/2/19	50.24	---	trace	3641.88	---		
	6/9/19	50.26	---	---	3641.86	---		
	6/24/19	50.24	---	---	3641.88	---		
	7/23/19	50.30	---	---	3641.82	---		
	8/2/19	50.32	50.31	0.01	3641.81	---		
	8/26/19	50.31	---	---	3641.81	---		
	9/6/19	50.35	---	---	3641.77	---		
	9/18/19	50.40	---	---	3641.72	---		
	9/30/19	50.42	---	---	3641.70	---		
	11/19/19	50.55	---	---	3641.57	---		

Table 1
2019 Summary of Groundwater Gauging Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-3	1/9/19	49.46	---	---	3641.40	---	4	47 - 67
	2/7/19	49.56	---	---	3641.30	---		
	2/21/19	49.53	---	---	3641.33	---		
	3/7/19	49.51	---	---	3641.35	---		
	3/18/19	49.57	---	---	3641.29	---		
	4/18/19	49.77	---	---	3641.09	---		
3690.86	5/2/19	49.81	---	trace	3641.05	---		
	6/9/19	49.83	---	---	3641.03	---		
	6/24/19	49.81	---	---	3641.05	---		
	7/23/19	49.88	---	---	3640.98	---		
	8/2/19	49.87	---	trace	3640.99	---		
	8/26/19	49.88	---	---	3640.98	---		
	9/6/19	49.92	---	---	3640.94	---		
	9/18/19	49.98	---	trace	3640.88	---		
	9/30/19	49.98	---	---	3640.88	70.44		
	11/19/19	50.07	---	---	3640.79	70.44		
RW-4	1/9/19	59.95	58.38	1.57	3641.40	---		35 - 75
	2/7/19	60.47	58.52	1.95	3641.22	---		
	2/21/19	59.94	58.46	1.48	3641.33	---		
	3/7/19	59.71	58.46	1.25	3641.35	---		
	3/18/19	60.08	58.46	1.62	3641.31	---		
	4/2/19	60.11	58.43	1.68	3641.34	---		
	4/18/19	61.12	58.66	2.46	3641.03	---		
3699.94	5/2/19	60.67	58.68	1.99	3641.06	---		
	6/9/19	60.57	57.70	2.87	3641.94	---		
	6/24/19	60.57	58.68	1.89	3641.07	---		
	7/23/19	61.04	58.70	2.34	3641.00	---		
	8/2/19	60.27	58.77	1.50	3641.02	---		
	8/26/19	60.94	58.73	2.21	3640.98	---		
	9/6/19	60.45	58.82	1.63	3640.95	---		
	9/18/19	61.06	58.88	2.18	3640.84	---		
	9/30/19	60.63	58.88	1.75	3640.88	---		
	11/19/19	62.73	58.77	3.96	3640.76	---		

Notes:
toc - top of casing.
msl - mean sea level.
bgs - below ground surface.
Corrected groundwater elevations from July 1998 to December 2006 were calculated using LNAPL specific gravity of 0.88.
Corrected groundwater elevations from January 2007 to current were calculated using LNAPL specific gravity of 0.897.
MW-1, MW-2 and MW-9 were plugged and abandoned and replaced with RW-1, RW-2 and RW-3 in November 1999.
Monitor wells (MWs) are 2-inch in diameter (exept for MW-9R); Recovery wells (RWs) are 4-inch in diameter.
*MW-9R was installed May 19, 2015. An elevation survey of this monitoring well had not been completed prior to submission of this report.

Table 2
2019 Summary of Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
MW-3	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**53**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**59**
MW-4	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**54.6**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**99**
MW-5	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**114**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**49**
MW-6	2/7/19	<0.0020	<0.0020	<0.0020	<0.0020	**100**
	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**108**
	8/2/19	<0.0020	<0.0020	<0.0020	<0.0020	**112**
DUP	8/2/19	<0.0020	<0.0020	<0.0020	<0.0020	**115**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**80**
MW-7	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**58.7**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**50**
MW-8	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**102**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**65**
MW-9R[3]	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**94.1**
	11/19/19	<0.0020	<0.0020	<0.0020	<0.0020	**110**
WW-1	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**60.4**
DUP	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**55.5**
WW-2	2/7/19	<0.0020	<0.0020	<0.0020	<0.0020	**41.5**
	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**97.5**

Notes:

Results shown in mg/L.

Bold indicates detection above method detection limit.

Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.

[1]Human Health Standards for Groundwater.

[2]Other Standards for Domestic Water Supply.

[3]MW-9R was installed May 19, 2015.

Table 3
2019 Summary of LNAPL Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Section 24, Township 19 South, Range 36 East
Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Sample ID	Matrix	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
LNAPL Analytical Results						
RW-1[1]	**solid (ug/Kg)**	11/19/19	**6,000 J**	**2,800**	**25,000**	**100000**
RW-4[2]	**water (mg/L)**	11/19/19	**0.014 J**	**0.005 U**	**0.013 J**	**0.049 J**

Notes:

RW-1 and RW-4 LNAPL was sampled using a disposable PVC bailer.

[1]Sample for RW-1 was analyzed as a solid instead of a water due to oily nature of sample. Results shown in ug/Kg.

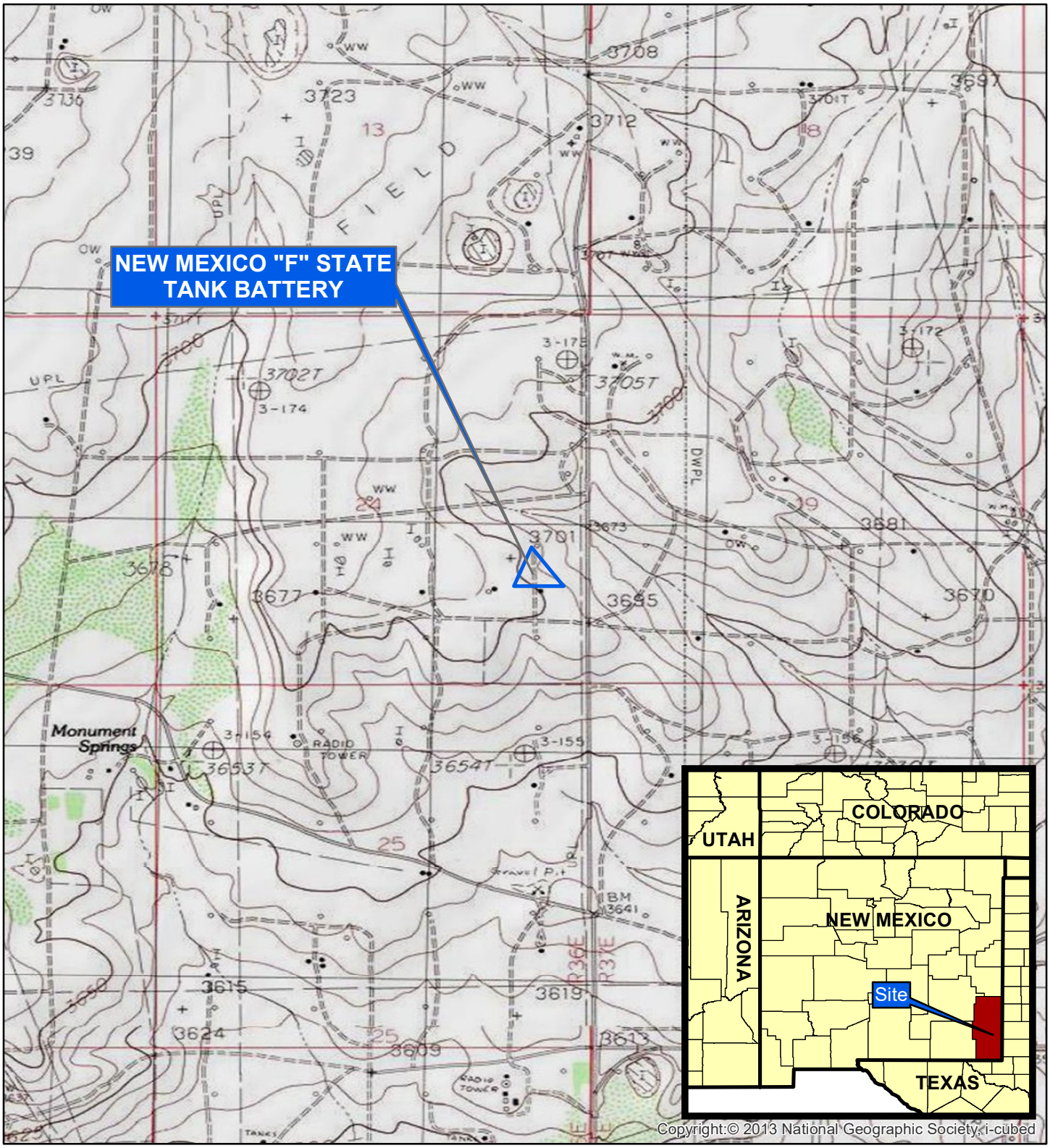
[2]Results shown in mg/L.

Table 4- Monitor Well Conductivity Profiles
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Well ID	Date Profiled	Conductivity																																	
		Depth in Feet																																	
		45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	76	78	80	82	84
MW-3	2/7/19														768			780			781			812												
	5/2/19														924		929		932		935		938													
	8/1/19													898	898		904		904		906		907													
MW-4	2/7/19																		914																	
	5/2/19																		1107		1121															
	8/1/19																		1065		1094															
MW-5	2/7/19										642		647			649																				
	5/2/19												794		794		797		798		798															
	8/1/19												747		742		741		744		747															
MW-6	2/7/19																					1010		1013		1016		1020		1020						
	5/2/19																						1164		1172		1172		1172							
	8/1/19																						1117		1111		1118		1120							
MW-7	2/7/19													749			771			779																
	5/2/19														911		914		921		922															
	8/1/19												832		850		865		869																	
MW-8	2/7/19												809		815		818																			
	5/2/19												933		950		956		964		968															
	8/1/19											884		893		898		900																		
MW-9	2/7/19			871	885			885			884			885			885																			
	5/2/19				1072		1075		1082		1078		1084		1084		1084		1085																	
	8/1/19				1016		1019		1025		1025		1025		1025		1026		1066																	
RW-2	2/7/19								875			879			883			891			892			895												
RW-3	2/7/19							910			919			923			925			924			928													
RW-4	2/7/19							910			919			923			925			924			928													

FIGURES



Legend

Site Boundary

Notes:
1. Datum: D_WGS_1984
2. Source: United States Geological Survey 7.5 Minute Quadrangle Map
3. Site Location: 32.643018, -103.301158

N

0 1,000 2,000 4,000 Feet

Chevron Environmental Management Company
New Mexico "F" State Tank Battery
Lea County, New Mexico

SITE LOCATION MAP

ARCADIS

FIGURE 1

Document Path: \\arcadis-us\officedata\Houston-TX\ENV\ChevronTexaco TX8\HES Transfer\F-State\GIS Files\GIS - F-State\Figure 1 - Site Details Map 01.19.2020

Legend

- Monitoring Well
- Water Well
- Recovery Well
- Fench Line

Note:
1. Datum: D_WGS_1984
2. Site Location: 32.643018, -103.301158

N

0 75 150 300 Feet

Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

SITE DETAILS MAP

ARCADIS

FIGURE 2

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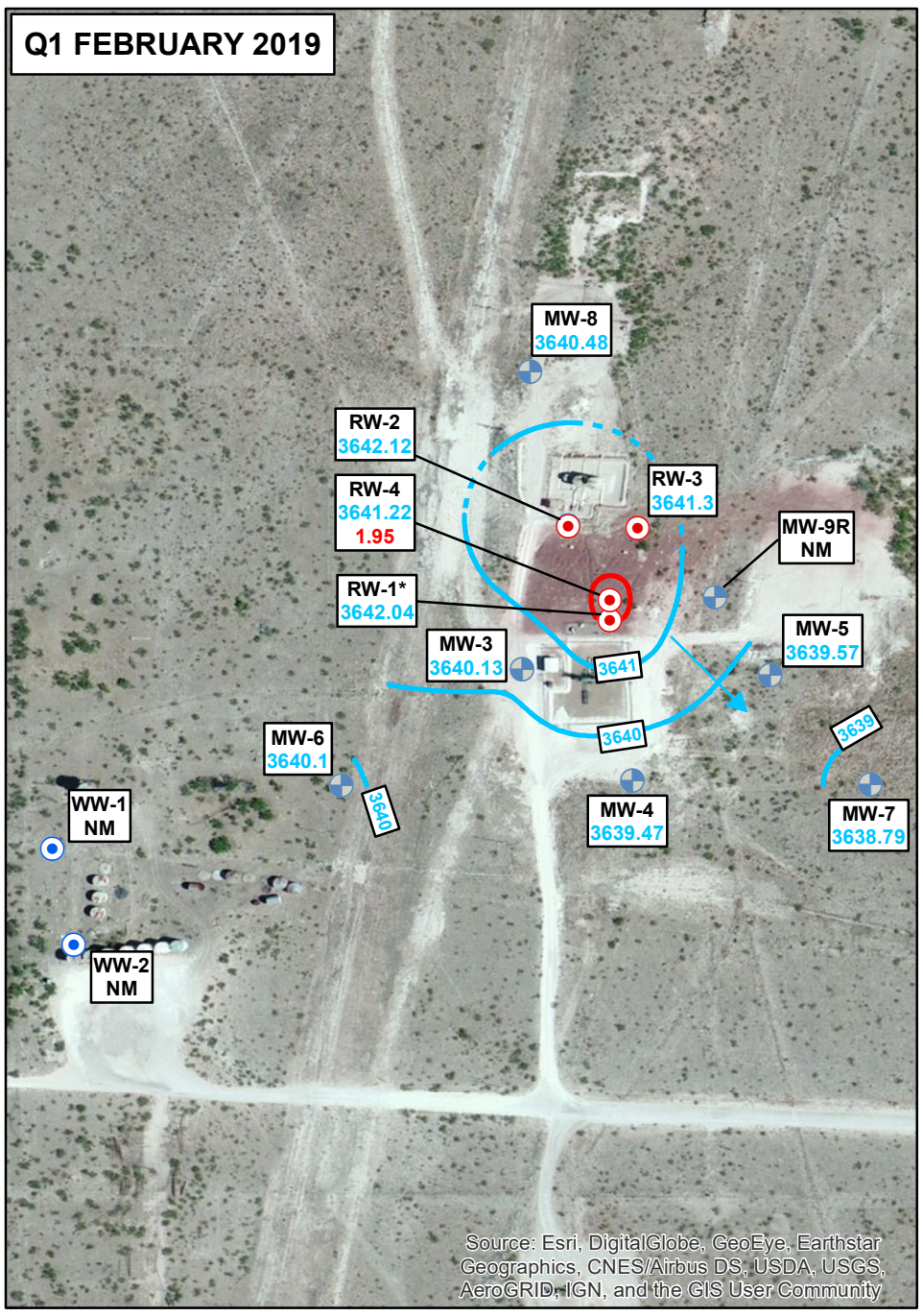
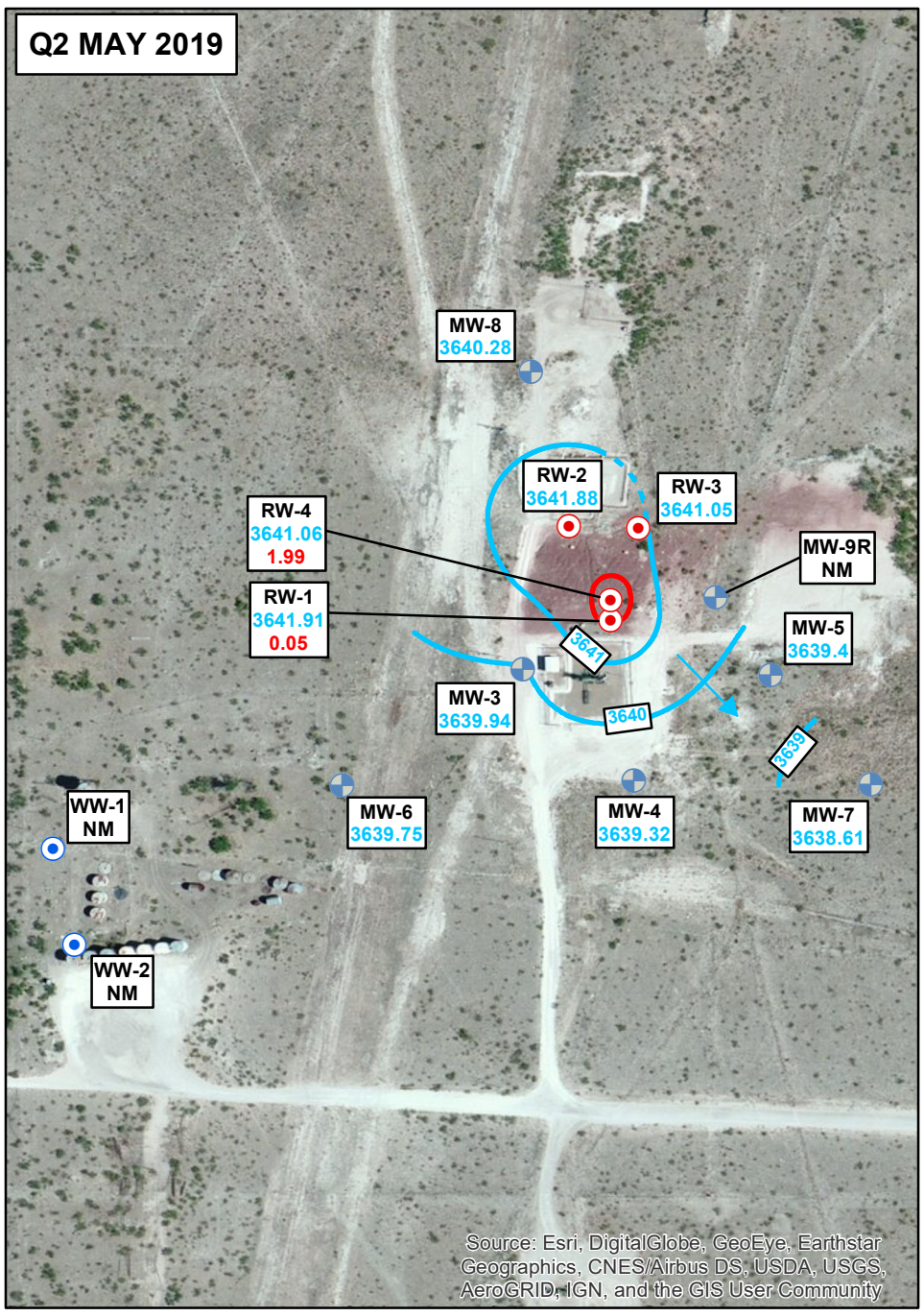
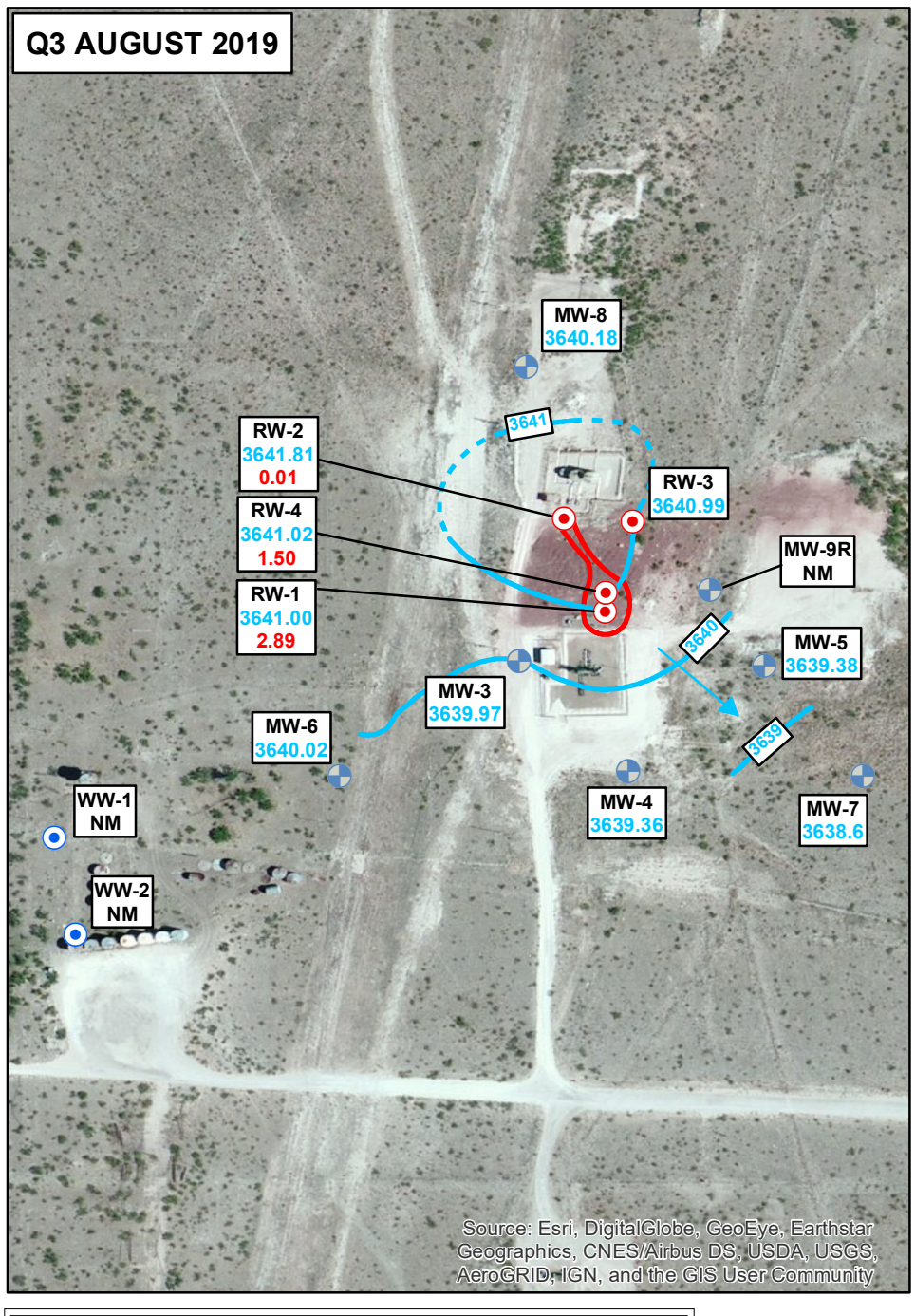
Q1 FEBRUARY 2019



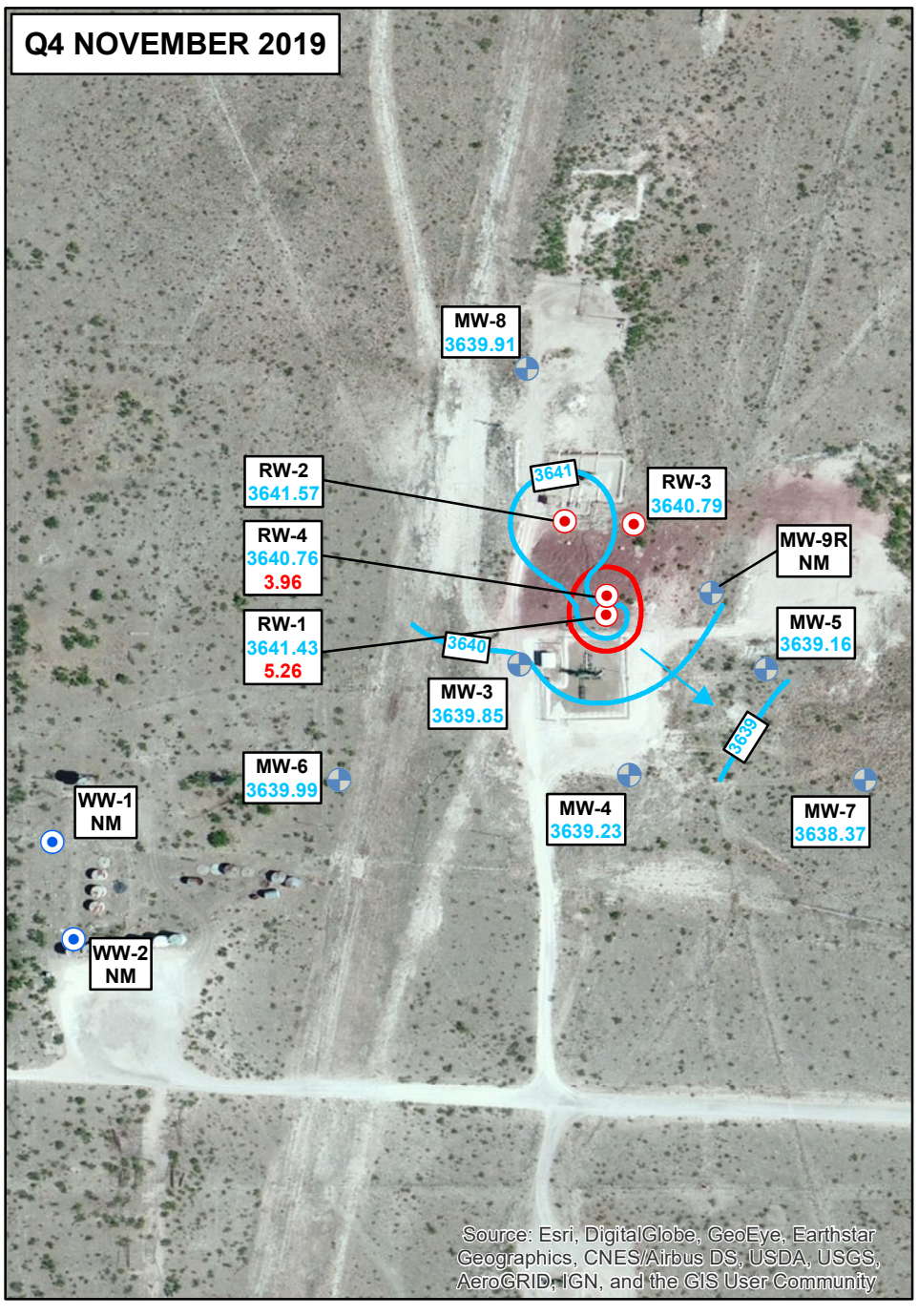
Q2 MAY 2019



Q3 AUGUST 2019



Q4 NOVEMBER 2019



Legend

- Monitoring Well Location — 2.89 LNAPL Thickness (ft)
- Recovery Well Location
- Water Well Location
- 3640 — Potentiometric Contour and Elevation
- Infered Potentiometric Contour
- 3640.02 — Groundwater Elevation (ft above mean sea level)
- Approximate Groundwater Flow
- Approximate LNAPL Contour

Notes:
1. Datum: D_WGS_1984
2. Site Location: 32.643018, -103.301158
3. NM: Not Measured
4. RW-1 was ommitted when developing potentiometric surface for Quarter 1 2019

N

0 125 250 500 Feet

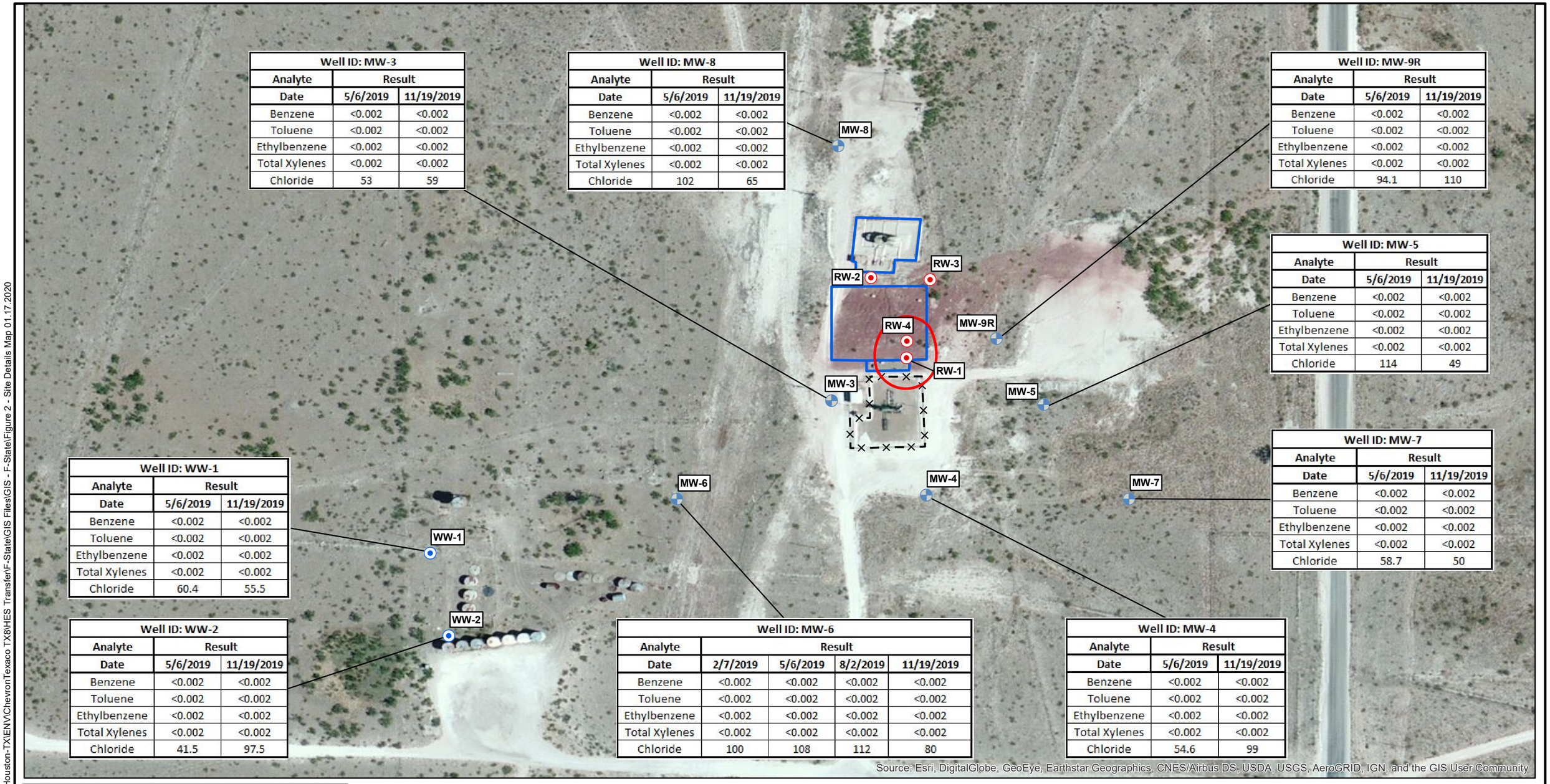
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

QUARTERLY POTENTIOMETRIC SURFACE MAPS 2019

ARCADIS

FIGURE 3

Document Path: \\arcadis-us\officedata\Houston-TX\ENV\ChevronTexaco TX8\HES Transfer\F-State\GIS Files\GIS - F-State\Figure 3 - GW Map 2019 Combined 01.17.2020



Well ID: MW-3		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	53	59

Well ID: MW-8		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	102	65

Well ID: MW-9R		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	94.1	110

Well ID: MW-5		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	114	49

Well ID: MW-7		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	58.7	50

Well ID: WW-1		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	60.4	55.5

Well ID: WW-2		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	41.5	97.5

Well ID: MW-6				
Analyte	Result			
Date	2/7/2019	5/6/2019	8/2/2019	11/19/2019
Benzene	<0.002	<0.002	<0.002	<0.002
Toluene	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	<0.002	<0.002	<0.002	<0.002
Total Xylenes	<0.002	<0.002	<0.002	<0.002
Chloride	100	108	112	80

Well ID: MW-4		
Analyte	Result	
Date	5/6/2019	11/19/2019
Benzene	<0.002	<0.002
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.002
Chloride	54.6	99

Legend

- Monitoring Well
- Water Well
- Recovery Well
- Approximate LNAPL Countour (November 2019)
- Site Details
- Fench Line

Note:
1. Datum: D_WGS_1984
2. Site Location: 32.643018, -103.301158
3. All wells sampled semi-annually.
4. MW-6 is sampled quarterly.
5. BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes

N

0 75 150 300 Feet

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Former New Mexico "F" State Tank Battery
Lea County, New Mexico

2019 BTEX & CHLORIDE SAMPLING RESULTS MAP

ARCADIS

FIGURE 4

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APPENDIX A

Site Background

REGULATORY BACKGROUND

The oil field tank battery was historically operated by Texaco Exploration and Production, Inc. (Texaco). An earthen emergency reserve pit was located approximately 175 feet north of the tank battery. The tank battery and reserve pit are visible in aerial photographs dating from 1949 to 1986. The tank battery and ancillary equipment were removed from the Site sometime after 1986.

The former reserve pit was encountered by the Amerada-Hess Corporation during construction of an adjacent production facility. Approximately 7,400 cubic yards of soil and caliche rock were excavated from the former pit and stockpiled at an adjacent location. In 1998, Highlander Environmental Corporation performed a subsurface assessment which included collection of soil samples from the sidewalls and bottom of the excavation, and additionally from the stockpiled soil. Chemical analyses of the soil samples confirmed that concentrations of all constituents of concern were below the historical New Mexico Oil Conservation Division (NMOCD) recommended remediation action levels for the Site. The soil sampling activities and laboratory analyses are documented in the Subsurface Investigation Report, New Mexico "F" State Tank Battery (Highlander Environmental Corporation, September 1998). According to the Annual Groundwater Monitoring Report, New Mexico "F" State Tank Battery (Larson and Associates, Inc., 2005), the pit was closed between September 1998 and November 2003 per closure requirements stipulated by the NMOCD in correspondence dated January 20, 1999. The bottom of the excavated pit was lined with 2 feet of compacted clay, the stockpiled soil was returned to the excavation, and the backfilled excavation was contoured to natural grade.

Nine groundwater monitoring wells (MW-1 through MW-9) were installed at the Site between 1998 and 1999, and LNAPL was found in two wells (MW-1 and MW-2). Three monitoring wells (MW-1, MW-2, and MW-9) were plugged and abandoned in 1999 and replaced with LNAPL recovery wells RW-1, RW-2, and RW-3. On February 17, 2003, the New Mexico Office of the State Engineer (NMOSE) approved permit applications (L-11029, L-11030, and L-11031) to divert underground water for the purpose of LNAPL remediation.

Semi-annual groundwater monitoring, bi-weekly operation and maintenance (O&M) activities, and annual reporting were previously performed by GHD from 2005 through mid-2019. The initial groundwater recovery/gradient control remediation system operated from February 2005 until November 2006 when the system was shut down. A LNAPL skimmer pump was subsequently installed in RW-1, and absorbent socks were placed in RW-2 and RW-3. An additional recovery well (RW-4) was installed in May 2011 and equipped with a LNAPL skimmer pump in October 2012. The LNAPL skimmer system in RW-1 and RW-4 operated on a continuous, automated basis since installation through February 2017.

The recovered LNAPL/water mixture was contained within a 225-gallon holding tank adjacent to RW-1 situated within secondary containment. The pneumatic system was inspected on a bi-weekly basis, the nitrogen supply was replenished as needed, and the frequency/duration of pumping cycles were adjusted based on LNAPL accumulation rates observed in RW-1 and RW-4. The volume of recovered LNAPL/water mixture was recorded during each O&M event, and the fluids were removed from the Site as needed by Nabors Completion and Production Services Company or C&J Energy Services, Inc.

Sentry well MW-6 has been sampled on a quarterly schedule beginning in 2007 to ensure the plume is not migrating to the southwest, toward off-site water wells WW-1 and WW-2 (see **Figure 2**). MW-9R was installed to the east of the former reserve pit in May 2015 (at a different location than the original MW-9 which was replaced by RW-3 in 1999).

For the purpose of additional LNAPL removal, a total of 14 Mobile Dual Phase Extraction (MDPE) events were conducted on RW-1 and RW-4 in 2011, 2012, and 2013. All but three events were conducted on RW-1 due to the higher LNAPL recovery rate in that well. The durations of each event ranged from 6.5 to 8 hours. A total of 1,495 gallons of LNAPL was recovered during the collective events. The recovery rates from RW-1 during the 2012 events were constant with no declining trends, suggesting that subsequent MDPE events would recover additional LNAPL.

In October 2015, a 24-hour MDPE pilot test event was conducted on RW-1 to evaluate the potential effectiveness of a permanent Dual Phase Extraction (DPE) system. A total of 6,120 gallons of groundwater and 44 gallons of LNAPL were recovered from RW-1 over a 24-hour period. The average depth of induced groundwater depression within the area of hydraulic control was estimated at 1.50 feet below the static level. The LNAPL thickness decreased from 2.25 to 0.27 feet at the conclusion of the event. The LNAPL recovery rate began at 3 percent, and steadily declined over nine hours when LNAPL recovery stopped. LNAPL recovery resumed at event hour 17 at a rate of 0.5 percent, stopped again at event hour 21, then resumed at a 0.25 percent rate during the last two event hours. Due to the low recovery rates and low LNAPL recharge, it was concluded that a permanent DPE system was not feasible for LNAPL recovery at the Site.

Due to the sustained reduction in LNAPL thicknesses after 2015, accompanied by low accumulation rates and negligible LNAPL recovery rates, the LNAPL skimmer pumps in RW-1 and RW-4 were removed in March 2017 and replaced with absorbent socks. All recovery wells at the Site (i.e., RW-1 through RW-4) now contain absorbent socks which are replaced as necessary. LNAPL is hand bailed from RW-1 and RW-4 on a bi-weekly basis. LNAPL has not been present in RW-2 or RW-3 since 2013.

The dissolved phase plume is primarily limited to benzene in wells containing LNAPL (RW-1 and RW-4), and the concentrations are remaining relatively stable. Concentrations detected in other wells (e.g., RW-2 and RW-3) are below regulatory limits.

REGULATORY FRAMEWORK

The NMOCD provides guidance for remediation of contaminants of oil field wastes or products in Guidelines for Remediation of Leaks, Spills, and Releases (August 13, 1993). The guidance requires remediation of groundwater to the human health standards of the New Mexico Water Quality Control Commission (NMWQCC) set forth in New Mexico Administrative Code (NMAC) 20.6.2.3103. NMAC 20.6.2 was amended and revised standards were effective December 21, 2018. Standards for benzene, toluene, ethylbenzene, xylenes (BTEX) and chloride are listed below:

Analyte	NMWQCC Standard for Groundwater (mg/L)
Benzene	0.005
Toluene	1.0
Ethylbenzene	0.7
Total Xylenes	0.62
Chloride	250

Note: mg/L = milligrams per liter

GEOLOGY/HYDROGEOLOGY ASSESSMENT

Site Setting

The Site is located on Lea County Road 41 (Maddox Road), approximately three miles northwest of Monument, New Mexico, in the northeast quarter (NE/4) of the southeast quarter (SE/4), Section 24, Township 19 South, Range 36 East, Lea County, New Mexico. The Site's coordinated are latitude 32.643018 and longitude -103.301158.

Land in the vicinity of the Site is utilized primarily for livestock ranching and oil and gas production, and production and has areas of undeveloped rangeland vegetated with indigenous grass. No active Chevron U.S.A. Inc. (Chevron) operations are present in the area. A Site Location Map is presented as **Figure 1**. A Site Detail Map and the surrounding vicinity are presented on **Figure 2**.

Regional Geologic Conditions

The region is characterized by a surface cover of up to 200 feet of unconsolidated to semi-lithified sediments of the Ogallala Formation consisting of sand, clay, and fluvial gravel. The upper portion of the Ogallala Formation has been heavily cemented by caliche. The Tertiary-aged sediments are underlain by the Triassic-aged Dockum Group shale ("red beds").

Hydrogeologic Conditions

Regional groundwater flow in the Ogallala Aquifer is controlled by the slope of the land surface to the south with localized eastward flow into the valley of Monument Draw. The aquifer typically behaves as an unconfined aquifer. Monument Draw is an intermittent stream that contains water only after heavy rains (Texas Water Development Board [TWDB], 2008)1. The Dockum Group Shale is considered the underlying aquitard for the Ogallala Aquifer.

Site Hydrogeology

Groundwater beneath the Site is found within the upper Ogallala deposits. The depth to groundwater at the Site ranges from approximately 47 to 75 ft bgs, based on the groundwater monitoring event conducted in the 2019 monitoring period.

At the Site, the local groundwater flow direction trends to the southeast with an average horizontal hydraulic gradient of approximately 0.007 feet per foot (ft/ft), as presented in the attached **Figure 3**. The southeast groundwater flow direction observed at the Site is consistent with the regional groundwater flow direction to the southeast in the Ogallala Aquifer.

APPENDIX B

Field Methodology and Documentation

FIELD METHODS

Prior to sampling, static fluid water levels were measured with an electronic interface probe to the nearest hundredth of a foot and recorded. In addition, a conductivity probe was used to record the conductivity levels every 2 feet in each well to evaluate the vertical distribution of chloride-affected groundwater. After recording conductivity levels, discrete samples were collected at the interval of highest conductivity using a Hydrasleeve™. Geochemical water quality parameters (pH, temperature, and conductivity) were recorded at the sampling depth. All non-disposable groundwater sampling equipment was thoroughly decontaminated between measurements to prevent possible cross-contamination between wells. Laboratory-supplied sample containers were filled directly from the Hydrasleeve™. Groundwater samples were placed on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F). The coolers were sealed for shipment with proper chain-of-custody documentation and shipped to Test America, located in Houston, Texas, for analysis of BTEX by Environmental Protection Agency (EPA) Method 8021B and chloride by Method 300.

APPENDIX C

Cumulative Summary of Groundwater Potentiometric Elevation Data

Appendix C
Cumulative Groundwater Gauging Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-3	7/28/98	59.53	---	---	3637.32	70.15	2.00	55 - 75
3696.85	6/25/99	59.06	---	---	3637.79	---		
	2/16/01	59.53	---	---	3637.32	---		
	6/11/02	59.18	---	---	3637.67	---		
	11/26/02	59.54	---	---	3637.31	---		
	6/5/03	59.45	---	---	3637.40	---		
	12/3/03	59.47	---	---	3637.38	---		
	7/1/04	59.24	---	---	3637.61	---		
	12/20/04	58.83	---	---	3638.02	---		
	6/6/05	58.53	---	---	3638.32	---		
	12/12/05	57.83	---	---	3639.02	---		
	1/25/06	57.85	---	---	3639.00	---		
	5/1/06	57.59	---	---	3639.26	---		
	6/26/06	57.66	---	---	3639.19	---		
	12/18/06	57.54	---	---	3639.31	---		
	3/16/07	57.43	---	---	3639.42	---		
	6/26/07	57.31	---	---	3639.54	---		
	9/27/07	57.89	---	---	3638.96	---		
	12/13/07	57.61	---	---	3639.24	---		
	3/6/08	57.70	---	---	3639.15	---		
	6/4/08	57.33	---	---	3639.52	---		
	9/4/08	57.45	---	---	3639.40	---		
	11/13/08	57.26	---	---	3639.59	---		
	3/5/09	57.65	---	---	3639.20	---		
	6/15/09	57.40	---	---	3639.45	---		
	9/9/09	57.64	---	---	3639.21	---		
	11/19/09	57.59	---	---	3639.26	---		
	3/23/10	57.60	---	---	3639.25	---		
	6/29/10	58.34	---	---	3638.51	---		
	9/22/10	58.35	---	---	3638.50	---		
	11/8/10	57.61	---	---	3639.24	---		
	6/2/11	57.49	---	---	3639.36	---		
	12/1/11	58.42	---	---	3638.43	---		
	3/7/12	57.92	---	---	3638.93	---		
	6/26/12	57.89	---	---	3638.96	---		
	9/20/12	58.14	---	---	3638.71	---		
	11/26/12	58.15	---	---	3638.70	---		
	3/14/13	58.10	---	---	3638.75	---		
	6/14/13	58.64	58.63	0.01	3638.22	---		
	9/13/13	58.48	---	---	3638.37	---		
	11/20/13	58.02	---	---	3638.83	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-3 Cont.	3/20/14	57.89	---	---	3638.96	68.09		
	7/31/14	57.88	---	---	3638.97	67.97		
	9/22/14	---------- not gauged ----------						
	12/12/14	57.46	---	---	3639.39	---		
	3/31/15	---------- not gauged ----------						
	6/9/15	57.22	---	---	3639.63	67.75		
	9/16/15	56.97	---	---	3639.88	67.97		
	12/9/15	56.57	---	---	3640.28	67.92		
	3/7/16	56.50	---	---	3640.35	67.89		
	6/21/16	56.51	---	---	3640.34	67.92		
	8/31/16	56.82	---	---	3640.03	67.88		
	12/8/16	56.54	---	---	3640.31	67.94		
	3/9/17	56.27	---	---	3640.58	---		
	6/13/17	56.22	---	---	3640.63	67.87		
	9/5/17	56.40	---	---	3640.45	---		
	11/28/17	56.30	---	---	3640.55	---		
	3/22/18	56.25	---	---	3640.60	---		
	6/14/18	52.23	---	---	3644.62	67.79		
	9/6/18	56.45	---	---	3640.40	67.71		
	12/13/18	56.54	---	---	3640.31	67.81		
	2/7/19	56.72	---	---	3640.13	67.78		
	5/2/19	56.91	---	---	3639.94	67.70		
	8/1/19	56.88	---	---	3639.97	67.66		
	11/18/19	57.00	---	---	3639.85	69.65		
MW-4	7/28/98	69.72	---	---	3629.78	68.74	2.00	55 - 75
3699.50 ft	6/25/99	62.31	---	---	3637.19	---		
	2/16/01	62.52	---	---	3636.98	---		
	6/11/02	62.39	---	---	3637.11	---		
	11/26/02	62.76	---	---	3636.74	---		
	6/5/03	62.71	---	---	3636.79	---		
	12/3/03	62.67	---	---	3636.83	---		
	7/1/04	62.43	---	---	3637.07	---		
	12/20/04	62.02	---	---	3637.48	---		
	6/6/05	61.67	---	---	3637.83	---		
	12/12/05	61.11	---	---	3638.39	---		
	1/25/06	61.11	---	---	3638.39	---		
	5/1/06	60.89	---	---	3638.61	---		
	6/26/06	60.93	---	---	3638.57	---		
	12/18/06	60.79	---	---	3638.71	---		
	3/16/07	60.72	---	---	3638.78	---		
	6/26/07	60.60	---	---	3638.90	---		
	9/27/07	61.02	---	---	3638.48	---		
	12/13/07	60.88	---	---	3638.62	---		
	3/6/08	60.96	---	---	3638.54	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-4 Cont.	6/4/08	60.65	---	---	3638.85	---		
	9/4/08	60.75	---	---	3638.75	---		
	11/13/08	60.61	---	---	3638.89	---		
	3/5/09	60.75	---	---	3638.75	---		
	6/15/09	60.70	---	---	3638.80	---		
	9/9/09	60.89	---	---	3638.61	---		
	11/19/09	60.83	---	---	3638.67	---		
	3/23/10	60.91	---	---	3638.59	---		
	6/29/10	61.54	---	---	3637.96	---		
	9/22/10	61.53	---	---	3637.97	---		
	11/8/10	60.96	---	---	3638.54	---		
	6/2/11	60.85	---	---	3638.65	---		
	12/1/11	61.63	---	---	3637.87	---		
	3/7/12	61.16	---	---	3638.34	---		
	6/26/12	61.16	---	---	3638.34	---		
	9/20/12	61.33	---	---	3638.17	---		
	11/26/12	61.40	---	---	3638.10	---		
	3/14/13	61.75	---	---	3637.75	---		
	6/14/13	61.80	---	---	3637.70	---		
	9/13/13	61.70	---	---	3637.80	---		
	11/20/13	61.18	---	---	3638.32	---		
	3/20/14	61.99	---	---	3637.51	63.65		
	7/31/14	61.03	---	---	3638.47	63.60		
	9/22/14	---------- not gauged ----------						
	12/12/14	60.71	---	---	3638.79	---		
	3/31/15	---------- not gauged ----------						
	6/9/15	60.47	---	---	3639.03	63.63		
	9/16/15	60.29	---	---	3639.21	63.65		
	12/9/15	59.93	---	---	3639.57	---		
	3/7/16	59.82	---	---	3639.68	63.65		
	6/21/16	59.83	---	---	3639.67	63.67		
	8/31/16	60.14	---	---	3639.36	63.66		
	12/8/16	59.88	---	---	3639.62	63.67		
	3/9/17	59.60	---	---	3639.90	---		
	6/13/17	59.55	---	---	3639.95	63.62		
	9/5/17	59.70	---	---	3639.80	---		
	11/28/17	59.60	---	---	3639.90	---		
	3/22/18	59.61	--	--	3639.89	--		
	6/14/18	59.61	--	--	3639.89	63.71		
	9/6/18	59.80	--	--	3639.70	63.70		
	12/13/18	59.96	--	--	3639.54	63.61		
	2/7/19	60.03	--	--	3639.47	63.66		
	5/2/19	60.18	--	--	3639.32	63.68		
	8/1/19	60.14	--	--	3639.36	63.66		
	11/18/19	60.27	--	--	3639.23	64.81		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-5	7/28/98	56.53	---	---	3636.99	66.80	2.00	48 - 68
3693.52	3/23/99	56.30	---	---	3637.22	---		
	6/25/99	56.21	---	---	3637.31	---		
	2/16/01	56.31	---	---	3637.21	---		
	6/11/02	56.29	---	---	3637.23	---		
	11/26/02	56.13	---	---	3637.39	---		
	6/5/03	56.53	---	---	3636.99	---		
	12/3/03	56.57	---	---	3636.95	---		
	7/1/04	54.34	---	---	3639.18	---		
	12/20/04	55.86	---	---	3637.66	---		
	6/6/05	55.60	---	---	3637.92	---		
	12/12/05	55.04	---	---	3638.48	---		
	1/25/06	55.07	---	---	3638.45	---		
	5/1/06	54.87	---	---	3638.65	---		
	6/26/06	54.86	---	---	3638.66	---		
	12/18/06	54.61	---	---	3638.91	---		
	3/16/07	54.51	---	---	3639.01	---		
	6/26/07	54.49	---	---	3639.03	---		
	9/27/07	54.84	---	---	3638.68	---		
	12/13/07	54.74	---	---	3638.78	---		
	3/6/08	54.77	---	---	3638.75	---		
	6/4/08	54.58	---	---	3638.94	---		
	9/4/08	54.68	---	---	3638.84	---		
	11/13/08	54.57	---	---	3638.95	---		
	3/5/09	54.70	---	---	3638.82	---		
	6/15/09	54.69	---	---	3638.83	---		
	9/9/09	54.86	---	---	3638.66	---		
	11/19/09	54.81	---	---	3638.71	---		
	3/23/10	54.80	---	---	3638.72	---		
	6/29/10	55.38	---	---	3638.14	---		
	9/22/10	55.40	---	---	3638.12	---		
	11/8/10	54.84	---	---	3638.68	---		
	6/2/11	55.79	---	---	3637.73	---		
	12/1/11	55.49	---	---	3638.03	---		
	3/7/12	54.14	---	---	3639.38	---		
	6/26/12	55.14	---	---	3638.38	---		
	9/20/12	55.28	---	---	3638.24	---		
	11/26/12	55.37	---	---	3638.15	---		
	3/14/13	55.30	---	---	3638.22	---		
	6/14/13	55.60	---	---	3637.92	---		
	9/13/13	55.54	---	---	3637.98	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-5 Cont.	11/20/13	55.34	---	---	3638.18	---		
	3/20/14	55.02	---	---	3638.50	65.04		
	7/31/14	54.92	---	---	3638.60	64.93		
	9/22/14	---------- not gauged ----------						
	12/12/14	54.58	---	---	3638.94	---		
	3/31/15	---------- not gauged ----------						
	6/9/15	54.32	---	---	3639.20	64.86		
	9/16/15	54.22	---	---	3639.30	64.91		
	12/9/15	53.94	---	---	3639.58	64.85		
	3/7/16	53.85	---	---	3639.67	64.85		
	6/21/16	53.86	---	---	3639.66	64.80		
	8/31/16	54.10	---	---	3639.42	64.83		
	12/8/16	53.79	---	---	3639.73	64.80		
	3/9/17	53.71	---	---	3639.81	---		
	6/13/17	53.60	---	---	3639.92	64.80		
	9/5/17	53.75	---	---	3639.77	---		
	11/28/17	53.69	---	---	3639.83	---		
	3/22/18	53.65	---	---	3639.87	---		
	6/14/18	52.63	---	---	3640.89	55.83		
	9/6/18	53.80	---	---	3639.72	64.78		
	12/13/18	53.81	---	---	3639.71	64.73		
	2/7/19	53.95	---	---	3639.57	64.70		
	5/2/19	54.12	---	---	3639.40	64.70		
	8/1/19	54.14	---	---	3639.38	64.70		
	11/18/19	54.36	---	---	3639.16	65.85		
MW-6	7/28/98	67.86	---	---	3636.95	78.25	2.00	56 - 76
3704.81	6/25/99	67.25	---	---	3637.56	---		
	2/16/01	67.45	---	---	3637.36	---		
	6/11/02	67.19	---	---	3637.62	---		
	11/26/02	67.09	---	---	3637.72	---		
	6/5/03	67.57	---	---	3637.24	---		
	12/3/03	67.61	---	---	3637.20	---		
	7/1/04	67.43	---	---	3637.38	---		
	12/20/04	67.55	---	---	3637.26	---		
	6/6/05	66.41	---	---	3638.40	---		
	12/12/05	65.80	---	---	3639.01	---		
	1/25/06	65.88	---	---	3638.93	---		
	5/1/06	65.57	---	---	3639.24	---		
	6/26/06	65.82	---	---	3638.99	---		
	12/18/06	65.67	---	---	3639.14	---		
	3/16/07	65.69	---	---	3639.12	---		
	6/26/07	65.41	---	---	3639.40	---		
	9/27/07	66.46	---	---	3638.35	---		
	12/13/07	65.85	---	---	3638.96	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-6 Cont.	3/6/08	65.68	---	---	3639.13	---		
	6/4/08	65.39	---	---	3639.42	---		
	9/4/08	65.56	---	---	3639.25	---		
	11/13/08	65.32	---	---	3639.49	---		
	3/5/09	65.88	---	---	3638.93	---		
	6/15/09	65.38	---	---	3639.43	---		
	9/9/09	65.67	---	---	3639.14	---		
	11/19/09	65.70	---	---	3639.11	---		
	3/23/10	65.69	---	---	3639.12	---		
	6/29/10	66.69	---	---	3638.12	---		
	9/22/10	66.72	---	---	3638.09	---		
	11/8/10	65.75	---	---	3639.06	---		
	3/3/11	65.52	---	---	3639.29	---		
	6/2/11	65.28	---	---	3639.53	---		
	9/27/11	67.49	---	---	3637.32	---		
	12/1/11	66.55	---	---	3638.26	---		
	3/7/12	66.00	---	---	3638.81	---		
	6/26/12	65.92	---	---	3638.89	---		
	9/20/12	66.53	---	---	3638.28	---		
	11/26/12	66.19	---	---	3638.62	---		
	3/14/13	65.96	---	---	3638.85	---		
	6/14/13	67.08	---	---	3637.73	---		
	9/13/13	66.75	---	---	3638.06	---		
	11/20/13	65.94	---	---	3638.87	---		
	3/20/14	66.24	---	---	3638.57	75.54		
	7/31/14	66.49	---	---	3638.32	75.43		
	9/22/14	66.84	---	---	3637.97	---		
	12/12/14	65.63	---	---	3639.18	---		
	3/31/15	65.24	---	---	3639.57	75.44		
	6/9/15	65.61	---	---	3639.20	75.08		
	9/16/15	64.99	---	---	3639.82	75.00		
	12/9/15	64.63	---	---	3640.18	74.91		
	3/7/16	64.39	---	---	3640.42	74.91		
	6/21/16	64.45	---	---	3640.36	74.35		
	8/31/16	64.95	---	---	3639.86	74.80		
	12/8/16	64.56	---	---	3640.25	74.78		
	3/9/17	64.10	---	---	3640.71	---		
	6/13/17	64.06	---	---	3640.75	74.85		
	9/5/17	64.40	---	---	3640.41	---		
	11/28/17	64.28	---	---	3640.53	---		
	3/22/18	64.22	---	---	3640.59	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-6 Cont.	6/14/18	64.05	---	---	3640.76	73.25		
	9/6/18	64.33	---	---	3640.48	73.35		
	12/13/18	64.48	---	---	3640.33	73.61		
	2/7/19	64.71	---	---	3640.10	73.44		
	5/2/19	65.06	---	---	3639.75	73.89		
	8/1/19	64.79	---	---	3640.02	73.41		
	11/18/19	64.82	---	---	3639.99	74.91		
MW-7	7/28/98	58.08	---	---	3636.50	68.88	2.00	49 - 69
3694.58	6/25/99	57.96	---	---	3636.62	---		
	2/16/01	58.09	---	---	3636.49	---		
	6/11/02	58.07	---	---	3636.51	---		
	11/26/02	57.92	---	---	3636.66	---		
	6/5/03	58.29	---	---	3636.29	---		
	12/3/03	58.33	---	---	3636.25	---		
	7/1/04	58.11	---	---	3636.47	---		
	12/20/04	57.62	---	---	3636.96	---		
	6/6/05	57.28	---	---	3637.30	---		
	12/12/05	56.84	---	---	3637.74	---		
	1/25/06	56.86	---	---	3637.72	---		
	5/1/06	56.69	---	---	3637.89	---		
	6/26/06	56.66	---	---	3637.92	---		
	12/18/06	56.40	---	---	3638.18	---		
	3/16/07	56.28	---	---	3638.30	---		
	6/26/07	56.29	---	---	3638.29	---		
	9/27/07	56.59	---	---	3637.99	---		
	12/13/07	56.51	---	---	3638.07	---		
	3/6/08	56.56	---	---	3638.02	---		
	6/4/08	56.38	---	---	3638.20	---		
	9/4/08	56.49	---	---	3638.09	---		
	11/13/08	56.40	---	---	3638.18	---		
	3/5/09	56.48	---	---	3638.10	---		
	6/15/09	56.51	---	---	3638.07	---		
	9/9/09	56.64	---	---	3637.94	---		
	11/19/09	56.59	---	---	3637.99	---		
	3/23/10	56.63	---	---	3637.95	---		
	6/29/10	57.13	---	---	3637.45	---		
	9/22/10	57.15	---	---	3637.43	---		
	11/8/10	56.61	---	---	3637.97	---		
	6/2/11	56.58	---	---	3638.00	---		
	12/1/11	57.22	---	---	3637.36	---		
	3/7/12	56.92	---	---	3637.66	---		
	6/26/12	56.93	---	---	3637.65	---		
	9/20/12	57.01	---	---	3637.57	---		
	11/26/12	57.13	---	---	3637.45	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-7 Cont.	3/14/13	57.02	---	---	3637.56	---		
	6/14/13	57.26	---	---	3637.32	---		
	9/13/13	57.30	---	---	3637.28	---		
	11/20/13	56.93	---	---	3637.65	---		
	3/20/14	56.77	---	---	3637.81	65.09		
	7/31/14	56.63	---	---	3637.95	65.09		
	9/22/14	---------- not gauged ----------						
	12/12/14	56.40	---	---	3638.18	---		
	3/31/15	---------- not gauged ----------						
	6/9/15	56.12	---	---	3638.46	64.91		
	9/16/15	56.04	---	---	3638.54	64.82		
	12/9/15	55.84	---	---	3638.74	---		
	3/7/16	55.72	---	---	3638.86	64.63		
	6/21/16	55.72	---	---	3638.86	64.60		
	8/31/16	54.94	---	---	3639.64	64.62		
	12/8/16	55.64	---	---	3638.94	64.48		
	3/9/17	55.57	---	---	3639.01	---		
	6/13/17	55.51	---	---	3639.07	64.67		
	9/5/17	55.60	---	---	3638.98	---		
	11/28/17	55.49	---	---	3639.09	---		
	3/22/18	55.61	---	---	3638.97	---		
	6/14/18	55.53	---	---	3639.05	64.48		
	9/6/18	55.80	---	---	3638.78	64.31		
	12/13/18	55.70	---	---	3638.88	64.30		
	2/7/19	55.79	---	---	3638.79	64.11		
	5/2/19	55.97	---	---	3638.61	64.13		
	8/1/19	55.98	---	---	3638.60	63.71		
	11/18/19	56.21	---	---	3638.37	64.70		
MW-8	7/28/98	56.84	---	---	3637.74	66.91	2.00	46 - 66
3694.58	6/25/99	56.56	---	---	3638.02	---		
	2/16/01	56.49	---	---	3638.09	---		
	6/11/02	56.56	---	---	3638.02	---		
	11/26/02	56.88	---	---	3637.70	---		
	6/5/03	56.89	---	---	3637.69	---		
	12/3/03	56.91	---	---	3637.67	---		
	7/1/04	56.70	---	---	3637.88	---		
	12/20/04	56.23	---	---	3638.35	---		
	6/6/05	55.86	---	---	3638.72	---		
	12/12/05	55.29	---	---	3639.29	---		
	1/25/06	55.30	---	---	3639.28	---		
	5/1/06	55.03	---	---	3639.55	---		
	6/26/06	54.96	---	---	3639.62	---		
	12/18/06	54.80	---	---	3639.78	---		
	3/16/07	54.68	---	---	3639.90	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-8 Cont.	6/26/07	54.67	---	---	3639.91	---		
	9/27/07	54.95	---	---	3639.63	---		
	12/13/07	54.82	---	---	3639.76	---		
	3/6/08	54.82	---	---	3639.76	---		
	6/4/08	54.70	---	---	3639.88	---		
	9/4/08	54.77	---	---	3639.81	---		
	11/13/08	54.73	---	---	3639.85	---		
	3/5/09	55.05	---	---	3639.53	---		
	6/15/09	54.96	---	---	3639.62	---		
	9/9/09	55.14	---	---	3639.44	---		
	11/19/09	55.12	---	---	3639.46	---		
	3/23/10	55.16	---	---	3639.42	---		
	6/29/10	55.66	---	---	3638.92	---		
	9/22/10	55.65	---	---	3638.93	---		
	11/8/10	55.12	---	---	3639.46	---		
	6/2/11	55.02	---	---	3639.56	---		
	12/1/11	55.73	---	---	3638.85	---		
	3/7/12	55.46	---	---	3639.12	---		
	6/26/12	55.46	---	---	3639.12	---		
	9/20/12	55.50	---	---	3639.08	---		
	11/26/12	55.57	---	---	3639.01	---		
	3/14/13	55.38	---	---	3639.20	---		
	6/14/13	55.61	---	---	3638.97	---		
	9/13/13	55.65	---	---	3638.93	---		
	11/20/13	55.43	---	---	3639.15	---		
	3/20/14	55.22	---	---	3639.36	61.11		
	7/31/14	55.19	---	---	3639.39	61.40		
	9/22/14	---------- not gauged ----------						
	12/12/14	54.75	---	---	3639.83	---		
	3/31/15	---------- not gauged ----------						
	6/9/15	54.43	---	---	3640.15	61.13		
	9/16/15	54.33	---	---	3640.25	61.15		
	12/9/15	54.28	---	---	3640.30	---		
	3/7/16	54.01	---	---	3640.57	61.14		
	6/21/16	54.02	---	---	3640.56	61.18		
	8/31/16	54.20	---	---	3640.38	61.25		
	12/8/16	53.82	---	---	3640.76	61.01		
	3/9/17	53.75	---	---	3640.83	---		
	6/13/17	53.75	---	---	3640.83	64.91		
	9/5/17	53.80	---	---	3640.78	---		
	11/28/17	53.70	---	---	3640.88	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
MW-8 Cont.	3/22/18	53.70	--	--	3640.88	--		
	6/14/18	53.77	--	--	3640.81	61.21		
	9/6/18	54.00	--	--	3640.58	61.15		
	12/13/18	54.01	--	--	3640.57	61.12		
	2/7/19	54.10	--	--	3640.48	61.16		
	5/2/19	54.30	--	--	3640.28	64.76		
	8/1/19	54.40	--	--	3640.18	61.16		
	11/18/19	54.67	--	--	3639.91	62.40		
MW-9R*	6/9/15	46.99	---	---	---	62.12	2.00	29.5 - 59.5
(not surveyed)	9/16/15	46.93	---	---	---	62.12		
	12/9/15	46.72	---	---	---	---		
	3/7/16	46.62	---	---	---	62.08		
	6/21/16	46.58	---	---	---	62.13		
	8/31/16	46.77	---	---	---	62.18		
	12/8/16	46.48	---	---	---	62.02		
	3/9/17	46.40	---	---	---	---		
	6/13/17	46.43	---	---	---	62.13		
	9/5/17	46.50	---	---	---	---		
	11/28/17	46.23	---	---	---	---		
	3/22/18	46.36	---	---	---	---		
	6/15/18	46.39	---	---	---	62.14		
	9/6/18	46.61	---	---	---	62.07		
	12/13/18	46.51	---	---	---	62.41		
	2/7/19	46.59	---	---	---	62.05		
	5/2/19	46.77	---	---	---	62.16		
	8/1/19	46.89	---	---	---	62.08		
	11/18/19	47.16	---	---	---	63.91		
RW-1	11/3/99	62.17	---	---	3637.75	71.60	4.00	55 - 75
3699.92	2/16/01	62.37	62.33	0.04	3637.59	---		
	6/11/02	62.26	61.86	0.40	3638.01	---		
	11/26/02	62.60	62.07	0.53	3637.79	---		
	6/5/03	63.00	62.84	0.16	3637.06	---		
	12/3/03	63.26	62.61	0.65	3637.23	---		
	7/1/04	63.10	62.33	0.77	3637.50	---		
	12/20/04	61.80	60.96	0.84	3638.86	---		
	3/1/05	---------- start-up groundwater extraction system ----------						
	1/25/06	61.44	58.67	2.77	3640.92	---		
	5/1/06	61.56	58.38	3.18	3641.16	---		
	6/26/06	61.59	58.43	3.16	3641.11	---		
	12/18/06	58.78	58.55	0.23	3641.34	---		
	3/16/07	58.74	58.30	0.44	3641.57	---		
	6/26/07	58.52	58.37	0.15	3641.53	---		
	9/27/07	59.40	58.72	0.68	3641.13	---		
	12/13/07	60.90	58.44	2.46	3641.23	---		
	3/6/08	59.24	58.76	0.48	3641.11	---		
	6/4/08	59.37	58.59	0.78	3641.25	---		
	9/4/08	58.82	58.51	0.31	3641.38	---		
	11/13/08	60.59	58.10	2.49	3641.56	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-1 Cont.	3/5/09	60.82	58.50	2.32	3641.18	---		
	6/15/09	60.65	58.28	2.37	3641.40	---		
	9/9/09	60.77	58.50	2.27	3641.19	---		
	11/19/09	58.96	58.63	0.33	3641.26	---		
	3/23/10	61.51	58.80	2.71	3640.84	---		
	6/29/10	62.18	59.00	3.18	3640.59	---		
	9/22/10	60.80	58.40	2.40	3641.27	---		
	11/8/10	61.16	58.39	2.77	3641.24	---		
	6/2/11	61.23	58.36	2.87	3641.26	---		
	9/27/11	62.44	59.43	3.01	3640.18	---		
	12/2/11	62.24	58.95	3.29	3640.63	---		
	3/7/12	61.10	58.80	2.30	3640.88	---		
	6/26/12	60.80	58.80	2.00	3640.91	---		
	9/20/12	62.09	58.84	3.25	3640.75	---		
	11/26/12	62.24	58.85	3.39	3640.72	---		
	3/14/13	61.96	58.72	3.24	3640.87	---		
	6/14/13	62.51	59.12	3.39	3640.45	---		
	9/13/13	62.91	60.05	2.86	3639.58	---		
	11/20/13	---------- not gauged ----------						
	3/20/14	61.36	58.61	2.75	3641.03	---		
	7/31/14	60.87	58.69	2.18	3641.01	---		
	9/22/14	---------- not gauged ----------						
	12/12/14	59.98	58.31	1.67	3641.44	---		
	3/31/15	58.76	58.07	0.69	3641.78	70.99		
	6/9/15	60.44	58.00	2.44	3641.67	---		
	9/16/15	59.92	57.80	2.12	3641.90	---		
	12/9/15	---------- not gauged ----------						
	3/7/16	57.76	57.75	0.01	3642.17	---		
	6/21/16	57.64	57.62	0.02	3642.30	---		
	8/31/16	57.41	57.34	0.07	3642.57	---		
	12/8/16	57.61	---	trace	3642.31	---		
	3/1/17	---------- skimmer pump removed, absorbant sock installed ----------						
	3/9/17	57.45	---	trace	3642.47	---		
	6/13/17	57.36	57.34	0.02	3642.58	---		
	9/5/17	---------- not gauged ----------						
	11/28/17	57.31	---	---	3642.61	---		
	1/9/18	57.42	---	---	3642.50	---		
	1/26/18	57.50	---	trace	3639.35	---		
	2/5/18	57.21	---	---	3642.71	---		
	2/20/18	57.35	---	trace	3639.50	---		
	3/8/18	57.25	---	trace	3639.60	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-1 Cont.	3/22/18	57.52	---	trace	3642.40	---		
	4/2/18	57.33	---	---	3642.59	---		
	4/16/18	57.50	---	---	3642.42	---		
	5/2/18	57.38	---	---	3642.54	---		
	5/14/18	57.30	---	---	3642.62	---		
	6/1/18	57.32	---	trace	3642.60	---		
	6/15/18	57.39	57.36	0.03	3642.53	---		
	6/27/18	57.47	57.93	---	3642.45	---		
	7/9/18	57.49	---	---	3642.43	---		
	7/25/18	57.52	---	---	3642.40	---		
	8/6/18	57.56	---	---	3642.36	---		
	8/21/18	57.50	---	trace	3642.42	---		
	9/6/18	57.55	---	trace	3642.37	---		
	9/21/18	57.87	---	---	3642.05	---		
	10/1/18	57.70	---	---	3642.22	---		
	11/28/18	57.35	---	trace	3631.26	---		
	12/13/18	57.7	---	---	3642.22	71.10		
	1/9/19	58.65	58.64	trace	3641.27	---		
	2/7/19	57.88	---	trace	3642.04	---		
	2/21/19	57.69	---	---	3642.23	---		
	3/7/19	57.32	57.71	---	3642.60	---		
	3/18/19	57.74	---	---	3642.18	---		
	4/2/19	57.72	---	---	3642.20	---		
	4/18/19	58.09	57.99	---	3641.83	---		
	5/2/19	58.05	58	0.05	3641.87	---		
	6/9/19	60.4	58	2.40	3639.52	---		
	6/24/19	60.4	57.7	2.70	3639.52	---		
	7/23/19	60.59	57.79	2.80	3639.33	---		
	8/2/19	60.63	57.74	2.89	3639.29	---		
	8/26/19	60.63	57.74	2.89	3639.29	---		
	9/6/19	60.82	57.79	3.03	3639.10	---		
	9/18/19	60.64	57.89	2.75	3639.28	---		
	9/30/19	60.55	57.89	trace	3639.37	---		
	11/19/19	63.21	57.95	5.26	3636.71	---		
RW-2	10/14/99	53.28	---	---	3638.84	67.55	4.00	47 - 67
3692.12	11/3/99	53.95	---	---	3638.17	---		
	2/16/01	54.01	---	---	3638.11	---		
	6/11/02	54.01	53.98	0.03	3638.14	---		
	11/26/02	54.28	54.07	0.21	3638.02	---		
	6/5/03	53.24	53.23	0.01	3638.89	---		
	12/3/03	54.51	54.38	0.13	3637.72	---		
	7/1/04	54.51	54.12	0.39	3637.95	---		
	12/20/04	53.69	53.52	0.17	3638.58	---		
	3/1/05	---------- start-up groundwater extraction system ----------						
	1/25/06	51.55	51.14	0.41	3640.93	---		
	5/1/06	51.34	50.91	0.43	3641.16	---		
	6/26/06	51.02	50.94	0.08	3641.17	---		
	11/28/06	---------- absorbant sock installed ----------						
	12/18/06	51.15	50.75	0.40	3641.32	---		
	3/16/07	50.69	---	---	3641.43	---		
	6/26/07	50.63	---	---	3641.49	---		
	9/27/07	51.00	---	---	3641.12	---		
	12/13/07	50.92	---	---	3641.20	---		
	3/6/08	50.90	---	---	3641.22	---		
	6/4/08	50.65	---	---	3641.47	---		
	9/4/08	50.73	---	---	3641.39	---		
	11/13/08	50.67	---	---	3641.45	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-2 Cont.	3/5/09	51.03	---	---	3641.09	---		
	6/15/09	50.80	---	---	3641.32	---		
	9/9/09	51.02	50.97	0.05	3641.14	---		
	11/19/09	50.99	50.95	0.04	3641.17	---		
	3/23/10	51.16	---	---	3640.96	---		
	6/29/10	51.70	51.56	0.14	3640.55	---		
	9/22/10	51.65	---	---	3640.47	---		
	11/8/10	50.95	50.94	0.01	3641.18	---		
	11/29/10	50.89	---	---	3641.23	---		
	2/4/11	50.82	---	---	3641.30	---		
	6/2/11	50.91	---	---	3641.21	---		
	9/27/11	51.97	---	---	3640.15	---		
	12/2/11	51.85	---	---	3640.27	---		
	3/7/12	51.33	---	---	3640.79	---		
	6/26/12	51.35	51.27	0.08	3640.84	---		
	9/20/12	51.54	51.40	0.14	3640.71	---		
	11/26/12	55.26	---	---	3636.86	---		
	3/14/13	51.50	---	---	3640.62	---		
	6/14/13	52.20	51.73	0.47	3640.34	---		
	9/13/13	51.89	51.74	0.15	3640.36	---		
	11/20/13	51.29	51.26	0.03	3640.86	---		
	3/20/14	51.12	---	---	3641.00	---		
	7/31/14	51.14	---	---	3640.98	---		
	9/22/14	51.49	---	---	3640.63	---		
	12/12/14	50.98	---	---	3641.14	---		
	3/31/15	50.39	---	---	3641.73	---		
	6/9/15	50.44	---	---	3641.68	67.13		
	9/16/15	50.28	---	---	3641.84	---		
	12/9/16	49.92	---	---	3642.20	---		
	3/7/16	49.83	---	---	3642.29	67.18		
	6/21/16	49.84	---	---	3642.28	67.25		
	8/31/16	50.11	---	---	3642.01	67.22		
	12/8/16	49.83	---	---	3642.29	---		
	3/9/17	49.65	---	---	3642.47	---		
	6/13/17	49.60	---	---	3642.52	67.40		
	9/5/17	49.70	---	---	3642.42	---		
	11/28/17	49.57	---	---	3642.55	---		
	1/9/18	49.55	---	---	3642.57	---		
	1/26/18	49.64	---	---	3642.48	---		
	2/5/18	49.46	---	trace	3642.66	---		
	2/20/18	49.52	---	---	3642.60	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-2 Cont.	3/8/18	49.50	---	---	3642.62	---		
	3/22/18	49.58	---	---	3642.54	---		
	4/2/18	49.52	---	---	3642.60	---		
	4/16/18	49.60	---	---	3642.52	---		
	5/2/18	49.61	---	trace	3642.51	---		
	5/14/18	49.55	---	trace	3642.57	---		
	6/1/18	49.56	---	---	3642.56	---		
	6/15/18	49.62	---	---	3642.50	67.38		
	6/27/18	49.68	---	---	3642.44	---		
	7/9/18	49.73	---	---	3642.39	---		
	7/25/18	49.74	---	---	3642.38	---		
	8/6/18	49.75	---	---	3642.37	---		
	8/21/18	49.76	---	---	3642.36	---		
	9/6/18	49.80	---	---	3642.32	67.20		
	9/21/18	49.88	---	---	3642.24	---		
	10/1/18	49.72	---	---	3642.40	---		
	11/28/18	49.7	---	---	3642.42	---		
	12/13/18	49.85	---	---	3642.27	67.71		
	2/7/19	50	---	---	3642.12	67.27		
	2/21/19	49.95	---	---	3642.17	---		
	3/7/19	49.94	49.92	0.02	3642.18	---		
	3/18/19	49.99	---	---	3642.13	---		
	4/2/19	49.94	---	---	3642.18	---		
	4/18/19	50.22	---	---	3641.9	---		
	5/2/19	50.24	---	trace	3641.88	---		
	6/9/19	50.26	---	---	3641.86	---		
	6/24/19	50.24	---	---	3641.88	---		
	7/23/19	50.30	---	---	3641.82	---		
	8/2/19	50.32	50.31	0.01	3641.8	---		
	8/26/19	50.31	---	---	3641.81	---		
	9/6/19	50.35	---	---	3641.77	---		
	9/18/19	50.40	---	---	3641.72	---		
	9/30/19	50.42	---	---	3641.7	---		
	11/19/19	50.55	---	---	3641.57	69.80		
RW-3	10/14/99	45.82	---	---	3645.04	68.65	4.00	47 - 67
3690.86	11/3/99	52.82	---	---	3638.04	---		
	2/16/01	52.88	---	---	3637.98	---		
	6/11/02	52.91	---	---	3637.95	---		
	11/26/02	53.22	53.15	0.07	3637.70	---		
	6/5/03	54.56	54.40	0.16	3636.44	---		
	12/3/03	53.23	---	---	3637.63	---		
	7/1/04	53.19	52.98	0.21	3637.85	---		
	12/20/04	52.50	52.09	0.41	3638.72	---		
	3/1/05	---------- start-up groundwater extraction system ----------						
	1/25/06	50.71	---	---	3640.15	---		
	5/1/06	50.49	---	---	3640.37	---		
	6/26/06	50.50	---	---	3640.36	---		
	11/28/06	---------- absorbant sock installed ----------						
	12/18/06	50.31	---	---	3640.55	---		
	3/16/07	50.22	---	---	3640.64	---		
	6/26/07	50.15	---	---	3640.71	---		
	9/27/07	50.49	---	---	3640.37	---		
	12/13/07	52.38	---	---	3638.48	---		
	3/6/08	50.42	---	---	3640.44	---		
	6/4/08	50.32	---	---	3640.54	---		
	9/4/08	50.90	---	---	3639.96	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-3 Cont.	11/13/08	50.15	---	---	3640.71	---		
	3/5/09	50.49	---	---	3640.37	---		
	6/15/09	50.35	---	---	3640.51	---		
	9/9/09	50.52	---	---	3640.34	---		
	11/19/09	50.50	---	---	3640.36	---		
	3/23/10	51.73	---	---	3639.13	---		
	6/29/10	51.10	---	---	3639.76	---		
	9/22/10	51.22	---	---	3639.64	---		
	11/8/10	50.65	50.64	0.01	3640.22	---		
	2/4/11	50.39	---	---	3640.47	---		
	6/2/11	54.01	---	---	3636.85	---		
	9/27/11	51.55	---	---	3639.31	---		
	12/2/11	51.39	---	---	3639.47	---		
	3/7/12	51.00	50.85	0.15	3639.99	---		
	6/26/12	50.90	50.84	0.06	3640.01	---		
	9/20/12	---------- not gauged (obstruction in well) ----------						
	11/26/12	---------- not gauged (obstruction in well) ----------						
	3/14/13	51.02	---	---	3639.84	51.10		
	6/14/13	51.41	51.25	0.16	3640.85	---		
	9/13/13	51.70	51.02	0.68	3641.03	---		
	11/20/13	50.93	50.86	0.07	3641.25	---		
	3/20/14	50.68	---	---	3640.18	---		
	7/31/14	50.69	---	---	3640.17	---		
	9/22/14	50.97	---	---	3639.89	---		
	12/12/14	50.41	---	---	3640.45	---		
	3/31/15	49.93	---	---	3640.93	---		
	6/9/15	49.95	---	---	3640.91	68.09		
	9/16/15	49.82	---	---	3641.04	---		
	12/9/15	49.77	---	---	3641.09	67.27		
	3/7/16	49.43	---	---	3641.43	67.93		
	6/21/16	49.44	---	---	3641.42	68.02		
	8/31/16	49.69	---	---	3641.17	68.05		
	12/8/16	49.39	---	---	3641.47	---		
	3/9/17	49.23	---	---	3641.63	---		
	6/13/17	49.18	---	---	3641.68	68.10		
	9/5/17	49.31	---	---	3641.55	---		
	11/28/17	49.12	---	---	3641.74	---		
	1/9/18	49.10	---	---	3641.76	---		
	1/26/18	49.20	---	---	3641.66	---		
	2/5/18	49.03	---	---	3641.83	---		
	2/20/18	49.17	---	---	3641.69	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-3 Cont.	3/8/18	49.08	---	---	3641.78	---		
	3/22/18	49.20	---	---	3641.66	---		
	4/2/18	49.18	---	---	3641.68	---		
	4/16/18	50.20	---	---	3640.66	---		
	5/2/18	50.20	---	---	3640.66	---		
	5/14/18	49.15	---	---	3641.71	---		
	6/1/18	49.20	---	---	3641.66	---		
	6/15/18	49.23	---	---	3641.63	68.10		
	6/27/18	49.27	---	---	3641.59	---		
	7/9/18	49.28	---	---	3641.58	---		
	7/25/18	49.30	---	---	3641.56	---		
	8/6/18	49.33	---	---	3641.53	---		
	8/21/18	49.35	---	---	3641.51	---		
	9/6/18	49.40	---	---	3641.46	68.01		
	9/21/18	49.42	---	---	3641.44	---		
	10/1/18	49.35	---	---	3641.51	---		
	11/28/18	49.29	---	---	3642.83	---		
	12/13/18	49.41	---	---	3642.71	68.23		
	2/7/19	49.56	---	---	3642.56	67.95		
	2/21/19	49.53	---	---	3642.59	---		
	3/7/19	49.51	---	---	3642.61	---		
	3/18/19	49.57	---	---	3642.55	---		
	4/18/19	49.77	---	---	3642.35	---		
	5/2/19	49.81	---	trace	3642.31	---		
	6/9/19	49.83	---	---	3642.29	---		
	6/24/19	49.81	---	---	3642.31	---		
	7/23/19	49.88	---	---	3642.24	---		
	8/2/19	49.87	---	trace	3642.25	---		
	8/26/19	49.88	---	---	3642.24	---		
	9/6/19	49.92	---	---	3642.20	---		
	9/18/19	49.98	---	trace	3642.14	---		
	9/30/19	49.98	---	---	3642.14	70.44		
	11/19/19	50.07	---	---	3642.05	70.44		
RW-4	6/2/11	60.44	59.40	1.04	3640.43	75.00	4.00	35 - 75
3699.94	6/21/11	63.15	59.35	3.80	3640.20	---		
	9/27/11	65.66	59.95	5.71	3639.40	---		
	12/2/11	63.54	59.82	3.72	3639.74	---		
	3/7/12	60.21	59.90	0.31	3640.01	---		
	6/26/12	63.06	59.55	3.51	3640.03	---		
	9/20/12	63.10	56.08	7.02	3643.14	---		
	11/26/12	63.67	59.70	3.97	3639.83	---		
	3/14/13	63.68	59.98	3.70	3639.58	---		
	6/14/13	---------- not gauged ----------						
	9/13/13	63.14	59.02	4.12	3640.50	---		
	11/20/13	62.98	59.56	3.42	3640.03	---		
	3/20/14	60.44	59.70	0.74	3640.16	---		
	7/31/14	60.17	59.78	0.39	3640.12	---		
	9/22/14	---------- not gauged ----------						
	12/12/14	60.91	59.03	1.88	3640.72	---		
	3/31/15	59.15	58.98	0.17	3640.94	77.22		
	6/9/15	61.50	58.89	2.61	3640.78	---		
	9/16/15	60.40	58.75	1.65	3641.02	---		
	12/9/15	---------- not gauged ----------						
	3/7/16	58.55	58.47	0.08	3641.46	---		
	6/21/16	58.57	58.52	0.05	3641.41	---		

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])
RW-4 Cont.	8/31/16	58.30	58.24	0.06	3641.69	---		
	12/8/16	58.70	58.47	0.23	3641.45	---		
	3/1/17	---------- skimmer pump removed, absorbant sock installed ----------						
	3/9/17	58.38	58.37	0.01	3641.57	---		
	6/13/17	58.54	58.38	0.16	3641.54	---		
	9/5/17	---------- not gauged ----------						
	11/28/17	59.09	58.11	0.98	3641.73	---		
	1/9/18	59.17	58.15	1.02	3641.68	---		
	1/26/18	59.20	58.19	1.01	3641.65	---		
	2/5/18	58.53	58.05	0.48	3641.84	---		
	2/20/18	58.98	58.11	0.87	3641.74	---		
	3/8/18	58.69	58.09	0.60	3641.79	---		
	3/22/18	58.91	58.31	0.60	3641.57	---		
	4/2/48	58.81	58.10	0.71	3641.77	---		
	4/16/18	58.91	58.23	0.68	3641.64	---		
	5/2/18	59.18	58.18	1.00	3641.66	---		
	5/14/18	59.01	58.21	0.80	3641.65	---		
	6/1/18	59.20	58.20	1.00	3641.64	---		
	6/15/18	59.08	58.18	0.90	3641.67	---		
	6/27/18	59.59	58.23	1.00	3641.25	---		
	7/9/18	59.30	59.27	1.03	3641.56	---		
	7/25/18	59.35	58.24	1.06	3641.54	---		
	8/6/18	59.39	58.33	1.01	3641.46	---		
	8/21/18	59.38	58.31	1.07	3641.52	---		
	9/6/18	59.37	58.35	1.02	3641.48	---		
	9/21/18	59.95	58.39	1.20	3641.07	---		
	10/1/18	59.58	58.31	1.27	3641.50	---		
	11/28/18	59.60	58.23	1.37	3641.57	---		
	12/13/18	59.71	58.30	1.41	3641.49	---		
	1/9/19	58.38	57.95	0.43	3641.95	---		
	2/7/19	60.47	58.52	1.95	3641.22	---		
	2/21/19	59.94	58.46	1.48	3641.33	---		
	3/7/19	59.71	58.46	1.25	3641.35	---		
	3/18/19	60.08	58.46	1.62	3641.31	---		
	4/2/19	60.11	58.43	1.68	3641.34	---		
	4/18/19	61.12	58.66	2.46	3641.03	---		
	5/2/19	60.67	58.68	1.99	3641.06	---		
	6/9/19	60.57	57.70	2.87	3641.94	---		
	6/24/19	60.57	58.68	1.89	3641.07	---		
	7/23/19	61.04	58.70	2.34	3641.00	---		
	8/2/19	60.27	58.77	1.50	3641.02	---		
	8/23/19	60.94	58.73	2.21	3640.98	---		
	9/6/19	60.45	58.82	1.63	3640.95	---		
	9/18/19	61.06	58.88	2.18	3640.84	---		
	9/30/19	60.63	58.88	1.75	3640.88	---		
	11/19/19	62.73	58.77	3.96	3640.76	---		
WW-1	6/11/02	66.35	---	---	3637.82	unknown	unknown	unknown
3704.17	6/5/03	68.25	---	---	3635.92	---	---	---
	--	---------- not gauged since 2003 ----------						
WW-2	6/11/02	66.18	---	---	3637.66	unknown	unknown	unknown
3703.84	11/26/02	66.18	---	---	3637.66	---	---	---
	6/5/03	68.54	---	---	3635.30	---	---	---
	--	---------- not gauged since 2003 ----------						

Well ID *toc elevation*	Date	Depth to Groundwater (ft toc[2])	Depth to LNAPL (ft toc[2])	LNAPL Thickness (ft)	Groundwater Elevation (ft msl[3])	Total Well Depth (ft toc[2])	Well Diameter (inches)	Well Screen Interval (ft bgs[4])

Notes:

Data through June 6, 2005 provided by Larson & Associates, Inc.

toc - top of casing.

msl - mean sea level.

bgs - below ground surface.

Corrected groundwater elevations from July 1998 to December 2006 were calculated using LNAPL specific gravity of 0.88.

Corrected groundwater elevations from January 2007 to current were calculated using LNAPL specific gravity of 0.897.

MW-1, MW-2 and MW-9 were plugged and abandoned and replaced with RW-1, RW-2 and RW-3 in November 1999.

Monitor wells (MWs) are 2-inch in diameter (exept for MW-9R); Recovery wells (RWs) are 4-inch in diameter.

*MW-9R was installed May 19, 2015. An elevation survey of this monitoring well had not been completed prior to submission of this report.

APPENDIX D

Cumulative Summary of Groundwater Analytical Results

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
MW-3	7/28/98	**0.003**	<0.001	<0.001	**0.002**	**36**
MW-3	2/16/01	<0.005	<0.005	<0.005	<0.005	**31**
MW-3	6/12/02	<0.005	<0.005	<0.005	<0.005	**27.1**
MW-3	11/26/03	<0.001	<0.001	<0.001	<0.001	**31.9**
MW-3	6/6/03	<0.001	<0.001	<0.001	<0.001	**27.5**
MW-3	12/4/03	<0.001	<0.001	<0.001	**0.0017**	**26.1**
MW-3	7/2/04	<0.005	<0.005	<0.005	<0.005	**28**
MW-3	12/21/04	<0.005	<0.005	<0.005	<0.005	**32.3**
MW-3	6/6/05	<0.00100	<0.00100	<0.00100	<0.00100	**34.3**
MW-3	12/13/05	<0.005	<0.005	<0.005	<0.010	**29.3**
MW-3	6/27/06	<0.005	<0.005	<0.005	<0.010	**31.1**
MW-3	12/19/06	<0.005	<0.005	<0.005	<0.001	**28**
MW-3	6/27/07	<0.005	<0.005	<0.005	<0.010	**31**
MW-3	12/14/07	<0.005	<0.005	<0.005	<0.010	**31**
MW-3	6/5/08	<0.00037	<0.00039	<0.00042	<0.00035	**30**
MW-3	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**32**
DUP	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**32**
MW-3	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**35**
MW-3	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**40**
MW-3	7/1/10	<0.00020	<0.00020	<0.00020	<0.00070	**50.4**
MW-3	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**64**
MW-3	6/2/11	**0.00053J**	**0.00061J**	<0.0010	<0.0030	**90.7**
MW-3	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**85.0**
DUP	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**85.7**
MW-3	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**114**
MW-3	11/26/12	<0.0001	<0.0002	**0.00116**	**0.00345**	**94.6**
MW-3	6/14/13	<0.001	<0.002	<0.001	<0.001	**79**
MW-3	11/27/13	<0.001	<0.002	<0.001	<0.001	**101**
MW-3	8/1/14	<0.001	<0.002	<0.001	<0.003	**75.6**
MW-3	12/12/14	<0.001	<0.002	<0.001	<0.003	**137**
MW-3	6/9/15	<0.001	<0.002	<0.001	<0.003	**89.1**
MW-3	12/9/15	<0.001	<0.002	<0.001	<0.003	**67.8**
MW-3	6/21/16	<0.002	<0.002	<0.002	<0.002	**57.9**
MW-3	12/8/16	<0.002	<0.002	<0.002	<0.002	**60.6**
MW-3	6/14/17	<0.002	<0.002	<0.002	<0.002	**55.0**
MW-3	11/29/17	<0.002	<0.002	<0.002	<0.002	**49.8**
MW-3	6/14/18	<0.002	<0.002	<0.002	<0.002	**50.6**
MW-3	12/13/18	<0.0020	<0.0020	<0.002	<0.002	**50.0**
MW-3	5/6/19	<0.0020	<0.0020	<0.0020	<0.0020	**53.0**
MW-3	11/19/19	<0.0010	<0.0010	<0.0010	<0.0020	**59.0**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
MW-4	7/28/98	<0.001	<0.001	<0.001	<0.001	**94**
MW-4	2/16/01	<0.005	<0.005	<0.005	**0.008**	**170**
MW-4	6/12/02	<0.005	<0.005	<0.005	<0.005	**85.6**
MW-4	11/26/03	**0.002**	<0.001	<0.001	<0.005	**160**
MW-4	6/6/03	<0.001	<0.001	<0.001	**0.0026**	**111**
MW-4	12/4/03	**0.0015**	<0.001	<0.001	<0.001	**104**
MW-4	7/2/04	<0.001	<0.001	<0.001	<0.001	**72.4**
MW-4	12/21/04	<0.005	<0.005	<0.005	<0.005	**59.7**
MW-4	6/6/05	<0.001	<0.001	<0.001	<0.001	**58.4**
MW-4	12/13/05	<0.005	<0.005	<0.005	<0.010	**55.3**
MW-4	6/27/06	**0.000597**	<0.0005	<0.0005	<0.001	**48.8**
MW-4	12/19/06	<0.005	<0.005	<0.005	<0.001	**34**
MW-4	6/27/07	<0.005	<0.005	<0.005	<0.010	**39**
MW-4	12/13/07	**0.000968**	<0.000500	<0.000500	**0.00254**	**63.1**
MW-4	6/5/08	<0.00037	<0.00039	<0.00042	<0.00035	**61**
MW-4	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**52**
MW-4	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**59**
MW-4	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**58**
MW-4	7/1/10	**0.00032J**	<0.00020	<0.00020	<0.00070	**54.5**
MW-4	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**57.5**
DUP	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**58.4**
MW-4	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**49.8**
MW-4	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**142**
MW-4	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**73.7**
MW-4	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**69.3**
MW-4	6/14/13	<0.001	<0.002	<0.001	<0.001	**59.5**
MW-4	11/27/13	<0.001	<0.002	<0.001	<0.001	**65.1**
MW-4	8/1/14	<0.001	<0.002	<0.001	<0.003	**71.8**
MW-4	12/12/14	<0.001	<0.002	<0.001	<0.003	**104**
MW-4	6/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**98.5**
MW-4	12/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**70.6**
MW-4	6/21/16	<0.002	<0.002	<0.002	<0.002	**60.9**
MW-4	12/8/16	<0.002	<0.002	<0.002	<0.002	**86.2**
MW-4	6/14/17	<0.002	<0.002	<0.002	<0.002	**86.4**
MW-4	11/29/17	<0.002	<0.002	<0.002	<0.002	**81.7**
MW-4	6/14/18	<0.002	<0.002	<0.002	<0.002	**96.4**
MW-4	12/13/18	<0.002	<0.002	<0.002	<0.002	**77.6**
MW-4	5/6/19	<0.002	<0.002	<0.002	<0.002	**54.6**
MW-4	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**99**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
MW-5	7/28/98	<0.001	<0.001	<0.001	<0.001	**360**
MW-5	2/16/01	<0.005	<0.005	<0.005	<0.005	**120**
MW-5	6/12/02	<0.005	<0.005	<0.005	<0.005	**90.2**
MW-5	11/26/03	**0.002**	<0.001	**0.003**	<0.002	**59.1**
MW-5	6/6/03	<0.001	<0.001	<0.001	<0.001	**48.6**
MW-5	12/4/03	<0.001	<0.001	<0.001	<0.001	**36.5**
MW-5	7/2/04	<0.005	<0.005	<0.005	<0.005	**32.9**
MW-5	12/21/04	<0.005	<0.005	<0.005	<0.005	**39.8**
MW-5	6/6/05	<0.001	<0.001	<0.001	<0.001	**41.1**
MW-5	12/13/05	<0.005	<0.005	<0.005	<0.010	**39.7**
MW-5	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**43.2**
MW-5	12/19/06	<0.005	<0.005	<0.005	<0.001	**51**
MW-5	6/27/07	<0.005	<0.005	<0.005	<0.001	**67**
MW-5	12/14/07	<0.005	<0.005	<0.005	<0.001	**101**
MW-5	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**78.7**
MW-5	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**100**
MW-5	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**140**
MW-5	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**110**
MW-5	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**115**
MW-5	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**168**
MW-5	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**134**
MW-5	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**172**
MW-5	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**137**
MW-5	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**110**
MW-5	6/14/13	<0.001	<0.002	<0.001	<0.001	**66.6**
MW-5	11/27/13	<0.001	<0.002	<0.001	<0.001	**72.3**
MW-5	8/1/14	<0.001	<0.002	<0.001	<0.003	**69.5**
MW-5	12/12/14	<0.001	<0.002	<0.001	<0.003	**66.9**
MW-5	6/9/15	<0.001	<0.002	<0.001	<0.003	**69.1**
MW-5	12/9/15	<0.001	<0.002	<0.001	<0.003	**44**
MW-5	6/21/16	<0.002	<0.002	<0.002	<0.002	**39.9**
MW-5	12/8/16	<0.002	<0.002	<0.002	<0.002	**39.1**
MW-5	6/14/17	<0.002	<0.002	<0.002	<0.002	**42.1**
MW-5	11/29/17	<0.002	<0.002	<0.002	<0.002	**35.6**
MW-5	6/14/18	<0.002	<0.002	<0.002	<0.002	**37.6**
MW-5	12/13/18	<0.002	<0.002	<0.002	<0.002	**37.4**
MW-5	5/6/19	<0.002	<0.002	<0.002	<0.002	**114.0**
MW-5	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**49.0**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
MW-6	7/28/98	<0.001	<0.001	<0.001	<0.001	**43.0**
MW-6	2/16/01	<0.005	<0.005	**0.006**	**0.006**	**52**
MW-6	6/12/02	<0.001	<0.001	<0.001	<0.001	**54.1**
MW-6	11/26/03	<0.001	<0.001	<0.001	<0.002	**65**
MW-6	6/6/03	<0.001	<0.001	<0.001	<0.001	**43.7**
MW-6	12/4/03	<0.001	<0.001	<0.001	<0.001	**45.3**
MW-6	7/2/04	<0.001	<0.001	<0.001	<0.001	**57.5**
MW-6	12/21/04	<0.005	<0.005	<0.005	<0.005	**61.3**
MW-6	6/6/05	<0.001	<0.001	<0.001	<0.001	**66.7**
MW-6	12/13/05	<0.005	<0.005	<0.005	<0.010	**80.9**
MW-6	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**86.4**
MW-6	12/19/06	<0.005	<0.005	<0.005	<0.001	**88**
MW-6	3/16/07	<0.0005	<0.0005	<0.0005	<0.001	**92.2**
MW-6	6/27/07	<0.0005	<0.0005	<0.0005	<0.001	**110**
MW-6	9/27/07	<0.0005	<0.0005	<0.0005	<0.001	**99.5**
MW-6	12/14/07	<0.0005	<0.0005	<0.0005	<0.001	**99.2**
MW-6	3/6/08	<0.00037	<0.00039	<0.00042	<0.00035	**88.8**
MW-6	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**117**
MW-6	9/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**130**
MW-6	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**130**
MW-6	3/5/09	<0.00037	<0.00039	<0.00042	<0.00035	**140**
MW-6	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**160**
MW-6	9/9/09	<0.00037	<0.00039	<0.00042	<0.00035	**160**
MW-6	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**140**
MW-6	3/23/10	<0.0002	<0.0002	<0.0002	<0.0007	**169**
MW-6	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**161**
DUP	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**169**
MW-6	9/22/10	**0.00033J**	<0.0001	<0.0001	<0.0003	**157**
MW-6	11/9/10	<0.0001	<0.0001	**0.0010**	<0.0003	**182**
MW-6	3/3/11	<0.0001	<0.0001	<0.0001	<0.0003	**225**
MW-6	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**215**
DUP	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**221**
MW-6	9/27/11	<0.0001	<0.0001	<0.0001	<0.0003	**222**
MW-6	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**198**
MW-6	3/7/12	<0.0001	<0.0001	<0.0001	<0.0001	**189**
MW-6	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**259**
DUP	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**260**
MW-6	9/20/12	<0.0001	<0.0001	<0.0001	<0.0001	**221**
MW-6	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**176**
MW-6	3/14/13	<0.001	<0.002	<0.001	<0.001	**195**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	1.0[1]	0.7[1]	0.62[1]	250[2]
MW-6	6/14/13	<0.001	<0.002	<0.001	<0.001	**219**
MW-6	9/13/13	<0.001	<0.002	<0.001	<0.001	**209**
MW-6	11/27/13	<0.001	<0.002	<0.001	<0.001	**220**
MW-6	3/21/14	<0.001	<0.002	<0.001	<0.003	**231**
MW-6	8/1/14	<0.001	<0.002	<0.001	<0.003	**220**
MW-6	9/22/14	<0.001	<0.002	<0.001	<0.003	**186**
MW-6	12/12/14	<0.001	<0.002	<0.001	<0.003	**217**
MW-6	3/31/15	<0.001	<0.002	<0.001	<0.003	**201**
MW-6	6/9/15	<0.001	<0.002	<0.001	<0.003	**209**
MW-6	9/16/15	<0.001	<0.002	<0.001	<0.003	**212**
MW-6	12/9/15	<0.001	<0.002	<0.001	<0.003	**175**
MW-6	3/7/16	<0.001	<0.002	<0.001	<0.001	**218**
MW-6	6/21/16	<0.002	<0.002	<0.002	<0.002	**201**
MW-6	8/31/16	<0.002	<0.002	<0.002	<0.002	**222**
MW-6	12/8/16	<0.002	<0.002	<0.002	<0.002	**190**
MW-6	3/9/17	<0.002	<0.002	<0.002	<0.002	**182**
MW-6	6/14/17	<0.002	<0.002	<0.002	<0.002	**168**
MW-6	9/5/17	<0.002	<0.002	<0.002	<0.002	**151**
MW-6	11/29/17	<0.002	<0.002	<0.002	<0.002	**124**
MW-6	3/22/18	<0.002	<0.002	<0.002	<0.002	**127**
MW-6	6/14/18	<0.002	<0.002	<0.002	<0.002	**110**
MW-6	9/6/18	<0.002	<0.002	<0.002	<0.002	**106**
MW-6	12/14/18	<0.002	<0.002	<0.002	<0.002	**78.7**
MW-6	2/7/19	<0.002	<0.002	<0.002	<0.002	**100.0**
MW-6	5/6/19	<0.002	<0.002	<0.002	<0.002	**108.0**
MW-6	8/2/19	<0.002	<0.002	<0.002	<0.002	**112.0**
DUP	8/2/19	<0.002	<0.002	<0.002	<0.002	**115.0**
MW-6	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**80.0**
MW-7	7/28/98	<0.001	<0.001	<0.001	<0.001	**82**
MW-7	2/16/01	<0.005	<0.005	<0.005	<0.005	**150**
MW-7	6/12/02	<0.005	<0.005	<0.005	<0.005	**96.7**
MW-7	11/26/03	<0.001	<0.001	<0.001	<0.002	**133**
MW-7	6/6/03	<0.001	<0.001	<0.001	<0.001	**199**
MW-7	12/4/03	<0.001	<0.001	<0.001	<0.001	**230**
MW-7	7/2/04	<0.001	<0.001	<0.001	<0.001	**215**
MW-7	12/21/04	<0.005	<0.005	<0.005	<0.005	**274**
MW-7	6/6/05	<0.001	<0.001	<0.001	<0.001	**221**
MW-7	12/13/05	<0.005	<0.005	<0.005	<0.010	**204**
MW-7	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**158**
MW-7	12/19/06	<0.005	<0.005	<0.005	<0.001	**130**
MW-7	6/27/07	<0.0005	<0.0005	<0.0005	<0.001	**110**
MW-7	12/13/07	<0.0005	<0.0005	<0.0005	<0.001	**135**
MW-7	6/5/08	<0.00037	<0.00039	<0.00042	<0.00035	**72.4**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	1.0[1]	0.7[1]	0.62[1]	250[2]
MW-7	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**66**
MW-7	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**58**
MW-7	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**47**
MW-7	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**51.2**
MW-7	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**67.1**
MW-7	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**69.4**
MW-7	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**76.6**
MW-7	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**91.5**
MW-7	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**67.7**
MW-7	6/14/13	<0.001	<0.002	<0.001	<0.001	**56.4**
MW-7	11/27/13	<0.001	<0.002	<0.001	<0.001	**78.1**
MW-7	8/1/14	<0.001	<0.002	<0.001	<0.003	**68.3**
MW-7	12/12/14	<0.001	<0.002	<0.001	<0.003	**122**
MW-7	6/9/15	<0.001	<0.002	<0.001	<0.003	**79.2**
MW-7	12/9/15	<0.001	<0.002	<0.001	<0.003	**94**
MW-7	6/21/16	<0.002	<0.002	<0.002	<0.002	**52.3**
MW-7	12/8/16	<0.002	<0.002	<0.002	<0.002	**69.0**
MW-7	6/14/17	<0.002	<0.002	<0.002	<0.002	**68.6**
MW-7	11/29/17	<0.002	<0.002	<0.002	<0.002	**62.6**
MW-7	6/14/18	<0.002	<0.002	<0.002	<0.002	**58.5**
MW-7	12/13/18	<0.002	<0.002	<0.002	<0.002	**49.9**
MW-7	5/6/19	<0.002	<0.002	<0.002	<0.002	**58.7**
MW-7	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**50.0**
MW-8	7/28/98	<0.001	<0.001	<0.001	<0.001	**29**
MW-8	2/16/01	<0.005	<0.005	<0.005	<0.005	**94**
MW-8	6/12/02	<0.005	<0.005	<0.005	<0.005	**180**
MW-8	11/26/03	<0.001	<0.001	<0.001	<0.002	**239**
MW-8	6/6/03	<0.001	<0.001	<0.001	<0.001	**244**
MW-8	12/4/03	<0.001	<0.001	<0.001	<0.001	**251**
MW-8	7/2/04	<0.005	<0.005	<0.005	<0.005	**206**
MW-8	12/21/04	<0.005	<0.005	<0.005	<0.005	**244**
MW-8	6/6/05	<0.0001	<0.0001	<0.0001	<0.0001	**227**
MW-8	12/13/05	<0.005	<0.005	<0.005	<0.010	**144**
MW-8	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**92.6**
MW-8	12/19/06	<0.005	<0.005	<0.005	<0.001	**83.0**
MW-8	6/27/07	<0.0005	<0.0005	<0.0005	<0.001	**79**
MW-8	12/13/07	<0.0005	<0.0005	<0.0005	<0.001	**82.9**
MW-8	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**54.9**
MW-8	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**47**
MW-8	6/16/09	<0.00037	<0.00039	<0.00042	<0.00035	**45**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	1.0[1]	0.7[1]	0.62[1]	250[2]
MW-8	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**36**
MW-8	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**38.4**
MW-8	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**47.6**
MW-8	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**51.8**
MW-8	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**72.7**
MW-8	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**95.7**
MW-8	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**77.6**
MW-8	6/14/13	<0.001	<0.002	<0.001	<0.001	**83.3**
DUP	6/14/13	<0.001	<0.002	<0.001	<0.001	**84.3**
MW-8	11/27/13	<0.001	<0.002	<0.001	<0.001	**72.2**
DUP	11/27/13	<0.001	<0.002	<0.001	<0.001	**71.3**
MW-8	8/1/14	<0.001	<0.002	<0.001	<0.003	**63.2**
MW-8	12/12/14	<0.001	<0.002	<0.001	<0.003	**82.8**
MW-8	6/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**79.8**
DUP	6/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**84.6**
MW-8	12/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**69.9**
DUP	12/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**68.0**
MW-8	6/21/16	<0.002	<0.002	<0.002	<0.002	**74.4**
DUP	6/21/16	<0.002	<0.002	<0.002	<0.002	**68.0**
MW-8	12/8/16	<0.002	<0.002	<0.002	<0.002	**71.4**
DUP	12/8/16	<0.002	<0.002	<0.002	<0.002	**72.2**
MW-8	6/14/17	<0.002	<0.002	<0.002	<0.002	**67.1**
DUP	6/14/17	<0.002	<0.002	<0.002	<0.002	**63.8**
MW-8	11/29/17	<0.002	<0.002	<0.002	<0.002	**58.7**
MW-8	6/14/18	<0.002	<0.002	<0.002	<0.002	**68.0**
DUP	6/14/18	<0.002	<0.002	<0.002	<0.002	**67.9**
MW-8	12/13/18	<0.002	<0.002	<0.002	<0.002	**62.6**
DUP	12/13/18	<0.002	<0.002	<0.002	<0.002	**61.5**
MW-8	5/6/19	<0.002	<0.002	<0.002	<0.002	**102.0**
MW-8	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**65.0**
MW-9R	6/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**145**
MW-9R	12/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**119**
MW-9R	6/21/16	<0.002	<0.002	<0.002	<0.002	**109**
MW-9R	12/8/16	<0.002	<0.002	<0.002	<0.002	**120**
MW-9R	6/14/17	<0.002	<0.002	<0.002	<0.002	**115**
MW-9R	11/29/17	<0.002	<0.002	<0.002	<0.002	**98**
MW-9R	6/15/18	<0.002	<0.002	<0.002	<0.002	**92.2**
MW-9R	12/13/18	<0.002	<0.002	<0.002	<0.002	**84.0**
MW-9R	5/6/19	<0.002	<0.002	<0.002	<0.002	**94.1**
MW-9R	11/19/19	<0.0010	<0.0010	<0.0010	<0.002	**110.0**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
WW-1	7/28/98	<0.001	<0.001	<0.001	<0.001	**100**
WW-1	6/12/02	<0.001	<0.001	<0.001	<0.001	**43.6**
WW-1	11/26/02	<0.001	<0.001	<0.001	<0.002	**80**
WW-1	6/6/03	<0.001	<0.001	<0.001	<0.001	**73.4**
WW-1	12/4/03	<0.001	<0.001	<0.001	<0.001	**65.3**
WW-1	7/2/04	<0.001	<0.001	<0.001	<0.001	**66.5**
WW-1	12/21/04	<0.005	<0.005	<0.005	<0.005	**74.3**
WW-1	6/6/05	<0.0001	<0.0001	<0.0001	<0.0001	**63.4**
WW-1	12/13/05	<0.005	<0.005	<0.005	<0.010	**41.1**
WW-1	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**50**
WW-1	12/19/06	<0.005	<0.005	<0.005	<0.001	**80.0**
WW-1	6/27/07	<0.0005	<0.0005	<0.0005	<0.001	**52**
WW-1	12/14/07	<0.0005	<0.0005	<0.0005	<0.001	**59.8**
WW-1	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**64.1**
DUP	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**64.4**
WW-1	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**73**
WW-1	6/17/09	<0.00037	<0.00039	<0.00042	<0.00035	**60**
WW-1	11/20/09	<0.00037	<0.00039	<0.00042	<0.00035	**64**
WW-1	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**41**
WW-1	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**77**
WW-1	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**73.6**
WW-1	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**50.2**
WW-1	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**90**
WW-1	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**69.9**
WW-1	6/14/13	<0.001	<0.002	<0.001	<0.001	**53.7**
WW-1	11/27/13	---------- not sampled ----------				
WW-1	8/1/14	<0.001	<0.002	<0.001	<0.003	**56.4**
WW-1	12/12/14	<0.001	<0.002	<0.001	<0.003	**71.6**
WW-1	6/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**64.8**
WW-1	12/9/15	<0.0001	<0.0001	<0.0001	<0.0003	**45**
WW-1	6/21/16	<0.002	<0.002	<0.002	<0.002	**37.0**
WW-1	12/8/16	<0.002	<0.002	<0.002	<0.002	**42.1**
WW-1	6/14/17	<0.002	<0.002	<0.002	<0.002	**34.0**
WW-1	11/29/17	<0.002	**0.0559**	**0.225**	**0.0411**	**49.4**
DUP	11/29/17	<0.002	**0.059**	**0.241**	**0.0456**	**49.0**
WW-1	12/21/17	<0.002	<0.002	<0.002	<0.002	**--**
WW-1	6/15/18	<0.002	<0.002	<0.002	<0.002	**42.6**
WW-1	12/18/18	<0.002	<0.002	<0.002	<0.002	**45.3**
WW-1	5/6/19	<0.002	<0.002	<0.002	<0.002	**60.4**
DUP	5/6/19	<0.002	<0.002	<0.002	<0.002	**55.5**

Appendix C
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Chevron Environmental Management Company
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Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	**1.0[1]**	**0.7[1]**	**0.62[1]**	**250[2]**
WW-2	6/12/02	<0.001	<0.001	<0.001	<0.001	**53.7**
WW-2	11/26/02	<0.001	<0.001	<0.001	<0.002	**70.9**
WW-2	6/6/03	<0.001	<0.001	<0.001	<0.001	**71.1**
WW-2	12/4/03	<0.001	<0.001	<0.001	<0.001	**52.4**
WW-2	7/2/04	<0.001	<0.001	<0.001	<0.001	**51.0**
WW-2	12/21/04	<0.005	<0.005	<0.005	<0.005	**55.6**
WW-2	6/6/05	<0.001	<0.001	<0.001	<0.001	**55.3**
WW-2	12/13/05	<0.005	<0.005	<0.005	<0.010	**75.3**
WW-2	6/27/06	<0.0005	<0.0005	<0.0005	<0.001	**69.7**
WW-2	12/19/06	<0.005	<0.005	<0.005	<0.001	**57.0**
WW-2	6/27/07	<0.0005	<0.0005	<0.0005	<0.001	**46**
WW-2	12/14/07	<0.0005	<0.0005	<0.0005	<0.001	**83.1**
WW-2	6/4/08	<0.00037	<0.00039	<0.00042	<0.00035	**65.9**
WW-2	11/14/08	<0.00037	<0.00039	<0.00042	<0.00035	**73**
WW-2	6/17/09	<0.00037	<0.00039	<0.00042	<0.00035	**60**
WW-2	11/20/09	---------- not sampled ----------				
WW-2	7/1/10	<0.0002	<0.0002	<0.0002	<0.0007	**66.3**
WW-2	11/9/10	<0.0001	<0.0001	<0.0001	<0.0003	**77.2**
WW-2	6/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**74.9**
WW-2	12/2/11	<0.0001	<0.0001	<0.0001	<0.0003	**76.5**
WW-2	6/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**63.1**
WW-2	11/26/12	<0.0001	<0.0001	<0.0001	<0.0001	**50.3**
WW-2	6/14/13	<0.001	<0.002	<0.001	<0.001	**81.1**
WW-2	11/27/13	---------- not sampled ----------				
WW-2	8/1/14	<0.001	<0.002	<0.001	<0.003	**95.5**
WW-2	12/12/14	<0.001	<0.002	<0.001	<0.003	**112**
WW-2	6/9/15	<0.001	<0.002	<0.001	<0.003	**108**
WW-2	12/9/15	<0.001	<0.002	<0.001	<0.003	**45.8**
WW-2	6/21/16	<0.002	<0.002	<0.002	<0.002	**28.9**
WW-2	12/8/16	<0.002	<0.002	<0.002	<0.002	**39.1**
WW-2	6/14/17	<0.002	<0.002	<0.002	<0.002	**29.8**
WW-2	11/29/17	<0.002	<0.002	<0.002	<0.002	**39.8**
WW-2	6/13/18	---------- not sampled ----------				
WW-2	12/14/18	<0.002	**0.00715**	<0.0020	**0.0828**	**45.9**
WW-2	2/7/19	<0.002	<0.002	<0.002	<0.002	**41.5**
WW-2	5/6/19	<0.002	<0.002	<0.002	<0.002	**97.5**
RW-1	6/5/08	**0.0119**	<0.0039	<0.0042	<0.0035	**36.2**
RW-1	6/17/09	**0.012**	**0.0055**	**0.0018**	**0.012**	**49**
RW-1	7/1/10	**0.022**	**0.00070J**	**0.0027**	**0.017**	**41.1**
RW-1	6/26/12	**0.0113**	<0.00100	**0.00514**	**0.0350**	**44.1**
RW-1	6/27/13	**0.00745**	**0.00963**	**0.0101**	**0.0549**	**33.8**
RW-1	8/1/14	**0.0172**	**0.00226**	**0.00499**	**0.0237**	**36.2**

Appendix C
Cumulative Groundwater Analytical Data
Chevron Environmental Management Company
Former New Mexico "F" State Tank Battery
Lea County, New Mexico

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	1.0[1]	0.7[1]	0.62[1]	250[2]
RW-1	6/9/15	**0.0109**	<0.00200	**0.00373**	**0.0182**	**43.7**
RW-1	12/9/15	---------- not sampled ----------				
RW-1	6/21/16	---------- not sampled ----------				
RW-1	12/8/16	**0.0137**	<0.002	<0.002	**0.0089**	**74.9**
RW-1	6/14/17	---------- not sampled ----------				
RW-1	11/29/17	**0.0148**	<0.002	**0.00372**	**0.0108**	**101**
RW-1	6/14/18	---------- not sampled ----------				
RW-1	12/14/18	<0.002	**0.00363**	<0.002	**0.0137**	**131**
RW-2	6/27/07	**0.00287**	<0.0025	<0.0025	**0.0303**	**60**
RW-2	6/5/08	<0.0037	<0.0039	<0.0042	<0.0035	**51.1**
RW-2	6/17/09	<0.00037	**0.0046**	<0.00042	**0.016**	**44**
RW-2	7/1/10	**0.0016**	<0.0002	<0.0002	**0.0067**	**30.1**
RW-2	6/26/12	<0.00100	<0.001	<0.001	**0.00362**	**43.9**
RW-2	6/14/13	**0.00178**	**0.00268**	**0.00171**	**0.0262**	**30**
RW-2	8/1/14	**0.00103**	**0.00106**	<0.001	**0.00788**	**41**
RW-2	12/12/14	**0.00154**	<0.002	<0.001	**0.00348**	**52.7**
RW-2	6/9/15	**0.00112**	<0.002	<0.001	<0.003	**49.5**
RW-2	12/9/15	<0.00100	<0.002	**0.00102**	**0.00725**	**48**
RW-2	6/21/16	<0.002	<0.002	<0.002	<0.002	**44**
RW-2	12/8/16	<0.002	<0.002	<0.002	<0.002	**55.8**
RW-2	6/14/17	**0.00408**	**0.00219**	<0.002	<0.002	**62.3**
RW-2	11/29/17	<0.002	<0.002	<0.002	<0.002	**65.0**
RW-2	6/15/18	**0.00306**	<0.002	<0.002	<0.002	**72.4**
RW-2	12/14/18	<0.002	<0.002	<0.002	**0.00215**	**73.4**
RW-3	6/11/02	<0.005	<0.005	<0.005	<0.005	**25.9**
RW-3	12/3/04	<0.001	<0.001	<0.001	<0.001	**36.6**
RW-3	6/27/07	**0.00855**	<0.0025	**0.0122**	**0.027**	**130**
RW-3	6/5/08	<0.0037	<0.0039	<0.0042	**0.0129**	**90.6**
RW-3	6/17/09	**0.0052**	**0.0042**	**0.011**	**0.025**	**74**
RW-3	11/20/09	<0.00037	**0.001**	**0.0027**	**0.0076**	**60**
DUP	11/20/09	<0.00037	**0.0013**	**0.003**	**0.008**	**60**
RW-3	7/1/10	**0.0065**	<0.0002	**0.0066**	**0.003**	**68.3**
RW-3	6/26/12	**0.00682**	<0.001	<0.001	<0.001	**55.4**
RW-3	6/14/13	**0.0092**	**0.0291**	**0.0253**	**0.138**	**37.3**
RW-3	8/1/14	**0.00709**	<0.002	<0.001	**0.132**	**41.5**
RW-3	12/12/14	**0.00588**	<0.002	<0.001	**0.00691**	**47.7**
RW-3	6/9/15	**0.00512**	<0.002	<0.001	**0.00309**	**40**
RW-3	12/9/15	**0.00432**	<0.002	<0.001	<0.003	**39**
RW-3	6/21/16	**0.00408**	<0.002	<0.002	<0.002	**36.3**
RW-3	12/8/16	**0.00574**	<0.002	<0.002	**0.00265**	**45.3**
RW-3	6/14/17	**0.00850**	<0.002	<0.002	<0.002	**43.4**
RW-3	11/29/17	**0.00563**	<0.002	<0.002	<0.002	**49.1**
RW-3	6/15/18	<0.002	<0.002	<0.002	<0.002	**53.1**
RW-3	12/14/18	**0.00262**	<0.002	<0.002	**0.00322**	**55.4**

Sample ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
New Mexico Water Quality Control Commission Groundwater Standard						
		0.005[1]	1.0[1]	0.7[1]	0.62[1]	250[2]
RW-4	6/26/12	**0.00221**	<0.001	**0.00410**	**0.0188**	**65.1**
RW-4	6/27/13	**0.0245**	**0.0396**	**0.0779**	**0.196**	**43.1**
RW-4	8/1/14	**0.0155**	**0.00107**	**0.00766**	**0.0286**	**34.2**
RW-4	6/9/15	**0.0127**	<0.002	**0.00752**	**0.030**	**39.5**
RW-4	12/9/15	---------- not sampled ----------				
RW-4	6/21/16	---------- not sampled ----------				
RW-4	12/8/16	**0.0139**	<0.002	**0.00758**	**0.03070**	**45.7**
RW-4	6/14/17	---------- not sampled ----------				
RW-4	11/29/17	**0.0268**	**0.00761**	**0.03040**	**0.1310**	**48.9**
RW-4	6/14/18	---------- not sampled ----------				
RW-4	12/14/18	**107**	**390**	**47.6**	**252**	<5.0

Notes:

Results shown in mg/L.

Data through June 6, 2005 provided by Larson & Associates, Inc.

Bold indicates detection above method detection limit.

Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.

[1]Human Health Standards for Groundwater.

[2]Other Standards for Domestic Water Supply.

[3]RW-1 and RW-4 were sampled by dropping a disposable PVC bailer below the level of LNAPL.

[4]MW-9R was installed May 19, 2015.

[5] Sample was analyzed as a solid instead of a water due to oily nature of sample and results are in mg/kg.

APPENDIX E

Analytical Reports

Certificate of Analysis Summary 613917

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico "F" State

Project Id: 039122
Contact: Scott Foord
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Feb-07-19 05:00 pm
Report Date: 15-FEB-19
Project Manager: Debbie Simmons

Analysis Requested									
	Lab Id:	613917-001		613917-002					
	Field Id:	MW-6-190207		WW-2-190207					
	Depth:								
	Matrix:	GROUND WATER		GROUND WATER					
	Sampled:	Feb-07-19 16:00		Feb-07-19 10:30					
BTEX by EPA 8021B	***Extracted:***	Feb-12-19 10:00		Feb-12-19 10:00					
	Analyzed:	Feb-13-19 18:10		Feb-13-19 18:29					
	Units/RL:	mg/L	RL	mg/L	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Feb-08-19 12:20		Feb-08-19 12:20					
	Analyzed:	Feb-08-19 16:49		Feb-08-19 16:57					
	Units/RL:	mg/L	RL	mg/L	RL				
Chloride		100	2.50	41.5	2.50				

Debbie Simmons
Project Manager

Analytical Report 613917

for

GHD Services, INC- Midland

Project Manager: Scott Foord

New Mexico "F" State

039122

15-FEB-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

15-FEB-19

Project Manager: **Scott Foord**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **613917**
New Mexico "F" State
Project Address: Lea County, New Mexico

Scott Foord:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 613917. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 613917 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Sample Cross Reference 613917

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6-190207	W	02-07-19 16:00		613917-001
WW-2-190207	W	02-07-19 10:30		613917-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 613917

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-6-190207**	Matrix:	Ground Water	Date Received:	02.07.19 17.00
Lab Sample Id:	613917-001	Date Collected:	02.07.19 16.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.08.19 12.20		
Seq Number:	3078625				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**100**	2.50	mg/L	02.08.19 16.49		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.12.19 10.00		
Seq Number:	3078985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	02.13.19 18.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	02.13.19 18.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	02.13.19 18.10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	02.13.19 18.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	02.13.19 18.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	02.13.19 18.10	U	1
Total BTEX		<0.00200	0.00200	mg/L	02.13.19 18.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	02.13.19 18.10	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.13.19 18.10	

Certificate of Analytical Results 613917

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**WW-2-190207**	Matrix:	Ground Water	Date Received:	02.07.19 17.00
Lab Sample Id:	613917-002	Date Collected:	02.07.19 10.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	CHE	Date Prep:	02.08.19 12.20		
Seq Number:	3078625				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.5**	2.50	mg/L	02.08.19 16.57		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.12.19 10.00		
Seq Number:	3078985				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	02.13.19 18.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	02.13.19 18.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	02.13.19 18.29	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	02.13.19 18.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	02.13.19 18.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	02.13.19 18.29	U	1
Total BTEX		<0.00200	0.00200	mg/L	02.13.19 18.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	02.13.19 18.29	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.13.19 18.29	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 613917

GHD Services, INC- Midland

New Mexico "F" State

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3078625 Matrix: Water Date Prep: 02.07.19
MB Sample Id: 7671345-1-BLK LCS Sample Id: 7671345-1-BKS LCSD Sample Id: 7671345-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.0858	25.0	24.8	99	25.4	102	90-110	2	20	mg/L	02.08.19 04:40	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3078625 Matrix: Drinking Water Date Prep: 02.07.19
Parent Sample Id: 613896-001 MS Sample Id: 613896-001 S MSD Sample Id: 613896-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.61	25.0	28.0	106	29.1	110	90-110	4	20	mg/L	02.08.19 05:03	

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3078985 Matrix: Water Date Prep: 02.12.19
MB Sample Id: 7671680-1-BLK LCS Sample Id: 7671680-1-BKS LCSD Sample Id: 7671680-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000408	0.100	0.107	107	0.122	122	70-130	13	25	mg/L	02.13.19 09:15	
Toluene	<0.000367	0.100	0.0930	93	0.104	104	70-130	11	25	mg/L	02.13.19 09:15	
Ethylbenzene	<0.000657	0.100	0.0895	90	0.0997	100	70-130	11	25	mg/L	02.13.19 09:15	
m,p-Xylenes	<0.000630	0.200	0.179	90	0.199	100	70-130	11	25	mg/L	02.13.19 09:15	
o-Xylene	<0.000642	0.100	0.0884	88	0.0969	97	70-130	9	25	mg/L	02.13.19 09:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		108		70-130	%	02.13.19 09:15
4-Bromofluorobenzene	94		97		97		70-130	%	02.13.19 09:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3078985 Matrix: Ground Water Date Prep: 02.12.19
Parent Sample Id: 613267-018 MS Sample Id: 613267-018 S MSD Sample Id: 613267-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000408	0.100	0.123	123	0.122	122	70-130	1	25	mg/L	02.13.19 09:53	
Toluene	<0.000367	0.100	0.102	102	0.0983	98	70-130	4	25	mg/L	02.13.19 09:53	
Ethylbenzene	<0.000657	0.100	0.0933	93	0.0877	88	70-130	6	25	mg/L	02.13.19 09:53	
m,p-Xylenes	<0.000630	0.200	0.185	93	0.173	87	70-130	7	25	mg/L	02.13.19 09:53	
o-Xylene	<0.000642	0.100	0.0918	92	0.0864	86	70-130	6	25	mg/L	02.13.19 09:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		111		70-130	%	02.13.19 09:53
4-Bromofluorobenzene	99		100		70-130	%	02.13.19 09:53

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 613917

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) www.xenco.com Page 1 of 1

Project Manager:	Scott Foord	Bill to: (if different)	Cynergy Partners c/o Jason Michaelson
Company Name:	GHD	Company Name:	CEMC
Address:	2135 S Loop 250 W	Address:	1400 Smith Street, Office 07084
City, State ZIP:	Midland, TX. 79703	City, State ZIP:	Houston, TX. 77002
Phone:	361-658-3126	Email:	William.Foord@ghd.com & Christopher.Knight@ghd.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☑ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	New Mexico "F" State	Turn Around	
Project Number:	039122	Routine ☑	
P.O. Number:		Rush:	
Sampler's Name:	Justin Nixon	Due Date: 2-7-19	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	3.2 3.1	Thermometer ID	
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.1
Sample Custody Seals:	Yes No N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX SW8021	Chloride
MW-6-W-190207	GW	2-7-19	1600		4	X	X
MW-2-W-190207	GW	2-7-19	1630			X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2-7-19 1700	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 10 of 11

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 02/07/2019 05:00:00 PM

Work Order #: 613917

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: BT

PH Device/Lot#: A032690

Checklist completed by: Brianna Teel Date: 02/07/2019

Brianna Teel

Checklist reviewed by: Debbie Simmons Date: 02/11/2019

Debbie Simmons

Certificate of Analysis Summary 623391

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico "F" State

Project Id: 039122
Contact: Paige Hall
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 05.07.2019 09:30
Report Date: 05.10.2019 17:55
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	623391-001		623391-002		623391-003		623391-004		623391-005		623391-006	
	Field Id:	Dup-1-W-190506		MW-6-W-190506		MW-8-W-190506		MW-3-W-190506		MW-4-W-190506		MW-7-W-190506	
	Depth:												
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER	
	Sampled:	05.06.2019 00:00		05.06.2019 12:15		05.06.2019 13:05		05.06.2019 14:00		05.06.2019 15:00		05.06.2019 15:50	
BTEX by EPA 8021B	***Extracted:***	05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30	
	Analyzed:	05.08.2019 12:39		05.08.2019 12:59		05.08.2019 13:18		05.08.2019 13:37		05.08.2019 13:57		05.08.2019 14:16	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	***Extracted:***	05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15	
	Analyzed:	05.07.2019 13:17		05.07.2019 13:33		05.07.2019 13:38		05.07.2019 13:43		05.07.2019 13:48		05.07.2019 14:04	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		55.5	2.50	108	2.50	102	2.50	53.0	2.50	54.6	2.50	58.7	2.50

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Debbie Simmons
Project Manager

Certificate of Analysis Summary 623391

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico "F" State

Project Id: 039122
Contact: Paige Hall
Project Location: Lea County, New Mexico

Date Received in Lab: Tue 05.07.2019 09:30
Report Date: 05.10.2019 17:55
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	623391-007		623391-008		623391-009		623391-010					
	Field Id:	MW-5-W-190506		MW-9-W-190506		WW-1-W-190506		WW-2-W-190506					
	Depth:												
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER					
	Sampled:	05.06.2019 16:50		05.06.2019 17:15		05.06.2019 17:35		05.06.2019 17:35					
BTEX by EPA 8021B	***Extracted:***	05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30		05.08.2019 08:30					
	Analyzed:	05.08.2019 14:35		05.08.2019 14:55		05.08.2019 15:14		05.08.2019 15:33					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200				
Inorganic Anions by EPA 300/300.1	***Extracted:***	05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15		05.07.2019 12:15					
	Analyzed:	05.07.2019 14:09		05.07.2019 14:14		05.07.2019 14:19		05.07.2019 14:24					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		114	2.50	94.1	2.50	60.4	2.50	97.5	2.50				

Debbie Simmons
Project Manager

Analytical Report 623391

for

GHD Services, INC- Midland

Project Manager: Paige Hall

New Mexico "F" State

039122

05.10.2019

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

05.10.2019

Project Manager: **Paige Hall**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **623391**
New Mexico "F" State
Project Address: Lea County, New Mexico

Paige Hall:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 623391. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 623391 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Dup-1-W-190506	W	05.06.2019 00:00		623391-001
MW-6-W-190506	W	05.06.2019 12:15		623391-002
MW-8-W-190506	W	05.06.2019 13:05		623391-003
MW-3-W-190506	W	05.06.2019 14:00		623391-004
MW-4-W-190506	W	05.06.2019 15:00		623391-005
MW-7-W-190506	W	05.06.2019 15:50		623391-006
MW-5-W-190506	W	05.06.2019 16:50		623391-007
MW-9-W-190506	W	05.06.2019 17:15		623391-008
WW-1-W-190506	W	05.06.2019 17:35		623391-009
WW-2-W-190506	W	05.06.2019 17:35		623391-010

CASE NARRATIVE

Client Name: GHD Services, INC- Midland

Project Name: New Mexico "F" State

Project ID: *039122*
Work Order Number(s): *623391*

Report Date: *05.10.2019*
Date Received: *05.07.2019*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3088365 Inorganic Anions by EPA 300/300.1

Lab Sample ID 623391-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 623391-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3088441 BTEX by EPA 8021B

Outlier/s are due to possible matrix interference.

Lab Sample ID 623391-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 623391-001, -002, -003, -004, -005, -006, -007, -008, -009, -010

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id: **Dup-1-W-190506** Matrix: Ground Water Date Received:05.07.2019 09:30

Lab Sample Id: 623391-001 Date Collected: 05.06.2019 00:00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 05.07.2019 12:15

Seq Number: 3088365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.5**	2.50	mg/L	05.07.2019 13:17		5

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: SCM % Moisture:

Analyst: SCM Date Prep: 05.08.2019 08:30

Seq Number: 3088441

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 12:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 12:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.08.2019 12:39	
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.08.2019 12:39	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-6-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-002	Date Collected:	05.06.2019 12:15		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**108**	2.50	mg/L	05.07.2019 13:33		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 12:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 12:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.08.2019 12:59	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.08.2019 12:59	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-8-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-003	Date Collected:	05.06.2019 13:05		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	2.50	mg/L	05.07.2019 13:38		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 13:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 13:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.08.2019 13:18	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.08.2019 13:18	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-3-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-004	Date Collected:	05.06.2019 14:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.0**	2.50	mg/L	05.07.2019 13:43		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 13:37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 13:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.08.2019 13:37	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.08.2019 13:37	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-4-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-005	Date Collected:	05.06.2019 15:00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**54.6**	2.50	mg/L	05.07.2019 13:48		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 13:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 13:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.08.2019 13:57	
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.08.2019 13:57	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-7-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-006	Date Collected:	05.06.2019 15:50		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.7**	2.50	mg/L	05.07.2019 14:04		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 14:16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 14:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.08.2019 14:16	
4-Bromofluorobenzene	460-00-4	98	%	70-130	05.08.2019 14:16	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-5-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-007	Date Collected:	05.06.2019 16:50		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**114**	2.50	mg/L	05.07.2019 14:09		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 14:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 14:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	05.08.2019 14:35	
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.08.2019 14:35	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-9-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-008	Date Collected:	05.06.2019 17:15		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**94.1**	2.50	mg/L	05.07.2019 14:14		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 14:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 14:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.08.2019 14:55	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.08.2019 14:55	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**WW-1-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-009	Date Collected:	05.06.2019 17:35		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**60.4**	2.50	mg/L	05.07.2019 14:19		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 15:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 15:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.08.2019 15:14	
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.08.2019 15:14	

Certificate of Analytical Results 623391

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**WW-2-W-190506**	Matrix:	Ground Water	Date Received:	05.07.2019 09:30
Lab Sample Id:	623391-010	Date Collected:	05.06.2019 17:35		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.07.2019 12:15		
Seq Number:	3088365				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**97.5**	2.50	mg/L	05.07.2019 14:24		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.2019 08:30		
Seq Number:	3088441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	05.08.2019 15:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1
Total BTEX		<0.00200	0.00200	mg/L	05.08.2019 15:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.08.2019 15:33	
4-Bromofluorobenzene	460-00-4	96	%	70-130	05.08.2019 15:33	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 623391

GHD Services, INC- Midland

New Mexico "F" State

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3088365 Matrix: Water Date Prep: 05.07.2019
MB Sample Id: 7677318-1-BLK LCS Sample Id: 7677318-1-BKS LCSD Sample Id: 7677318-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.0858	25.0	24.5	98	24.6	98	90-110	0	20	mg/L	05.07.2019 13:07	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3088365 Matrix: Ground Water Date Prep: 05.07.2019
Parent Sample Id: 623391-001 MS Sample Id: 623391-001 S MSD Sample Id: 623391-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	55.5	125	168	90	191	108	90-110	13	20	mg/L	05.07.2019 13:22	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3088365 Matrix: Ground Water Date Prep: 05.07.2019
Parent Sample Id: 623391-010 MS Sample Id: 623391-010 S MSD Sample Id: 623391-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	97.5	125	171	59	171	59	90-110	0	20	mg/L	05.07.2019 15:23	X

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3088441 Matrix: Water Date Prep: 05.08.2019
MB Sample Id: 7677495-1-BLK LCS Sample Id: 7677495-1-BKS LCSD Sample Id: 7677495-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.102	102	70-130	1	25	mg/L	05.08.2019 10:46	
Toluene	<0.00200	0.100	0.103	103	0.102	102	70-130	1	25	mg/L	05.08.2019 10:46	
Ethylbenzene	<0.00200	0.100	0.115	115	0.112	112	70-130	3	25	mg/L	05.08.2019 10:46	
m,p-Xylenes	<0.00400	0.200	0.242	121	0.237	119	70-130	2	25	mg/L	05.08.2019 10:46	
o-Xylene	<0.00200	0.100	0.116	116	0.114	114	70-130	2	25	mg/L	05.08.2019 10:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		91		92		70-130	%	05.08.2019 10:46
4-Bromofluorobenzene	104		102		103		70-130	%	05.08.2019 10:46

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 623391

GHD Services, INC- Midland

New Mexico "F" State

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3088441 Matrix: Ground Water Date Prep: 05.08.2019

Parent Sample Id: 623391-001 MS Sample Id: 623391-001 S MSD Sample Id: 623391-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.0815	82	70-130	28	25	mg/L	05.08.2019 11:24	F
Toluene	<0.00200	0.100	0.107	107	0.0839	84	70-130	24	25	mg/L	05.08.2019 11:24	
Ethylbenzene	<0.00200	0.100	0.118	118	0.0961	96	70-130	20	25	mg/L	05.08.2019 11:24	
m,p-Xylenes	<0.00400	0.200	0.249	125	0.200	100	70-130	22	25	mg/L	05.08.2019 11:24	
o-Xylene	<0.00200	0.100	0.120	120	0.0997	100	70-130	18	25	mg/L	05.08.2019 11:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		93		70-130	%	05.08.2019 11:24
4-Bromofluorobenzene	104		102		70-130	%	05.08.2019 11:24

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 623391

www.xenco.com Page 1 of 1

Project Manager:	Paige Hall	Bill to: (if different)	Jason Michaelson
Company Name:	GHD	Company Name:	CEMC (Cenergy Partners)
Address:	2135 S Loop 250 W	Address:	1400 Smith Street, Office 07084
City, State ZIP:	Midland, TX. 79703	City, State ZIP:	Houston, Texas 77002
Phone:	361-658-3126 Email:		Christopher.Knight@ghd.com ; Paige.Hall@ghd.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	New Mexico "F" State	Turn Around	
Project Number:	SSOW: 039122	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Justin Nixon	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	3.5/3.4	Thermometer ID		
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes ~~No~~ N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes ~~No~~ N/A	Total Containers:		

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX SW8021	Chloride	Sample Comments
Dup-1-w-190506	GW	5-6-19	-	NA	4	X	X	
mw-6-w-190506			1215					
mw-8-w-190506			1305					
mw-3-w-190506			1400					
mw-4-w-190506			1500					
mw-7-w-190506			1550					
mw-5-w-190506			1650					
mw-9-w-190506			1715					
ww-1-w-190506			1725					
ww-2-w-190506			1735					

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		5-7-19 930	2		
3			4		
5			6		

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 05.07.2019 09.30.00 AM

Work Order #: 623391

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: BT

PH Device/Lot#: A032690

Checklist completed by: Brianna Teel Date: 05.07.2019

Brianna Teel

Checklist reviewed by: Debbie Simmons Date: 05.10.2019

Debbie Simmons

Certificate of Analysis Summary 632880

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico "F" State

Project Id: 039122
Contact: Paige Hall
Project Location: Lea County, New Mexico

Date Received in Lab: Fri Aug-02-19 02:50 pm
Report Date: 14-AUG-19
Project Manager: Debbie Simmons

Analysis Requested								
	Lab Id:	632880-001		632880-002				
	Field Id:	MW-6-W-190802		MW-6-WD-190802				
	Depth:							
	Matrix:	GROUND WATER		GROUND WATER				
	Sampled:	Aug-02-19 12:30		Aug-02-19 00:00				
BTEX by EPA 8021B	***Extracted:***	Aug-03-19 16:15		Aug-03-19 16:15				
	Analyzed:	Aug-06-19 01:11		Aug-06-19 01:34				
	Units/RL:	mg/L	RL	mg/L	RL			
Benzene		<0.00200	0.00200	<0.00200	0.00200			
Toluene		<0.00200	0.00200	<0.00200	0.00200			
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200			
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400			
o-Xylene		<0.00200	0.00200	<0.00200	0.00200			
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200			
Total BTEX		<0.00200	0.00200	<0.00200	0.00200			
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-05-19 17:00		Aug-05-19 17:00				
	Analyzed:	Aug-05-19 20:09		Aug-05-19 20:16				
	Units/RL:	mg/L	RL	mg/L	RL			
Chloride		112	2.50	115	2.50			

Debbie Simmons
Project Manager

Analytical Report 632880

for

GHD Services, INC- Midland

Project Manager: Paige Hall

New Mexico "F" State

039122

14-AUG-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

14-AUG-19

Project Manager: **Paige Hall**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **632880**
New Mexico "F" State
Project Address: Lea County, New Mexico

Paige Hall:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 632880. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 632880 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Sample Cross Reference 632880

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6-W-190802	W	08-02-19 12:30		632880-001
MW-6-WD-190802	W	08-02-19 00:00		632880-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3097664 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 632536-012 SD.

Certificate of Analytical Results 632880

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-6-W-190802**	Matrix:	Ground Water	Date Received:	08.02.19 14.50
Lab Sample Id:	632880-001	Date Collected:	08.02.19 12.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.05.19 17.00		
Seq Number:	3097579				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**112**	2.50	mg/L	08.05.19 20.09		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	ALG	Date Prep:	08.03.19 16.15		
Seq Number:	3097664				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	08.06.19 01.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	08.06.19 01.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	08.06.19 01.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	08.06.19 01.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	08.06.19 01.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	08.06.19 01.11	U	1
Total BTEX		<0.00200	0.00200	mg/L	08.06.19 01.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	08.06.19 01.11	
4-Bromofluorobenzene	460-00-4	125	%	70-130	08.06.19 01.11	

Certificate of Analytical Results 632880

GHD Services, INC- Midland, Midland, TX

New Mexico "F" State

Sample Id:	**MW-6-WD-190802**	Matrix:	Ground Water	Date Received:	08.02.19 14.50
Lab Sample Id:	632880-002	Date Collected:	08.02.19 00.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	08.05.19 17.00		
Seq Number:	3097579				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**115**	2.50	mg/L	08.05.19 20.16		5

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	ALG	Date Prep:	08.03.19 16.15		
Seq Number:	3097664				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	08.06.19 01.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	08.06.19 01.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	08.06.19 01.34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	08.06.19 01.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	08.06.19 01.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	08.06.19 01.34	U	1
Total BTEX		<0.00200	0.00200	mg/L	08.06.19 01.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.06.19 01.34	
4-Bromofluorobenzene	460-00-4	126	%	70-130	08.06.19 01.34	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 632880

GHD Services, INC- Midland

New Mexico "F" State

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3097579 Matrix: Water Date Prep: 08.05.19
MB Sample Id: 7683560-1-BLK LCS Sample Id: 7683560-1-BKS LCSD Sample Id: 7683560-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	25.8	103	25.8	103	90-110	0	20	mg/L	08.05.19 19:06	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3097579 Matrix: Drinking Water Date Prep: 08.05.19
Parent Sample Id: 633026-001 MS Sample Id: 633026-001 S MSD Sample Id: 633026-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	18.0	25.0	43.7	103	43.9	104	90-110	0	20	mg/L	08.05.19 19:30	

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3097664 Matrix: Water Date Prep: 08.03.19
MB Sample Id: 7683434-1-BLK LCS Sample Id: 7683434-1-BKS LCSD Sample Id: 7683434-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.107	107	70-130	1	25	mg/L	08.06.19 04:34	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	25	mg/L	08.06.19 04:34	
Ethylbenzene	<0.00200	0.100	0.118	118	0.117	117	70-130	1	25	mg/L	08.06.19 04:34	
m,p-Xylenes	<0.00400	0.200	0.240	120	0.237	119	70-130	1	25	mg/L	08.06.19 04:34	
o-Xylene	<0.00200	0.100	0.115	115	0.119	119	70-130	3	25	mg/L	08.06.19 04:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		102		70-130	%	08.06.19 04:34
4-Bromofluorobenzene	96		108		113		70-130	%	08.06.19 04:34

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3097664 Matrix: Ground Water Date Prep: 08.03.19
Parent Sample Id: 632536-012 MS Sample Id: 632536-012 S MSD Sample Id: 632536-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.0927	93	70-130	12	25	mg/L	08.06.19 05:15	
Toluene	<0.00200	0.100	0.103	103	0.0943	94	70-130	9	25	mg/L	08.06.19 05:15	
Ethylbenzene	<0.00200	0.100	0.116	116	0.111	111	70-130	4	25	mg/L	08.06.19 05:15	
m,p-Xylenes	<0.00400	0.200	0.236	118	0.222	111	70-130	6	25	mg/L	08.06.19 05:15	
o-Xylene	<0.00200	0.100	0.116	116	0.0980	98	70-130	17	25	mg/L	08.06.19 05:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		78		70-130	%	08.06.19 05:15
4-Bromofluorobenzene	115		59	**	70-130	%	08.06.19 05:15

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000) www.xenco.com Page _____ of _____

Work Order No: 403400

Project Manager:	Paige Hall	Bill to: (if different)	Jason Michaelson
Company Name:	GHD	Company Name:	CEMC (Cenergy Partners)
Address:	2135 S Loop 250 W	Address:	1400 Smith Street, Office 07084
City, State ZIP:	Midland, TX. 79703	City, State ZIP:	Houston, Texas 77002
Phone:	361-658-3126	Email:	Christopher.Knight@ghd.com ; Paige.Hall@ghd.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	New Mexico "F" State	Turn Around	
Project Number:	SSOW: 039122	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:		Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	0.3 | 0.1	Thermometer ID		
Received Intact:	(Yes) No		RE	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX SW8021	Chloride
MW-6-W-190802	GW	08/02/19	1230	—	4	X	X
MW-6-WD-190802	GW	08/02/19	—	—	4	X	X

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		08/02/19 1450	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 08/02/2019 02:50:00 PM

Work Order #: 632880

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**Yes**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: BT

PH Device/Lot#: A032690

Checklist completed by: Brianna Teel Date: 08/02/2019

Brianna Teel

Checklist reviewed by: Holly Taylor Date: 08/07/2019

Holly Taylor

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

Laboratory Job ID: 600-196201-1
Client Project/Site: New Mexico F State Tank Battery 11/19/19

For:
ARCADIS U.S., Inc.
10205 Westheimer Rd
Suite 800
Houston, Texas 77042

Attn: Scott Foord

Authorized for release by:
12/4/2019 10:56:30 AM
Tiffany Fleming, Project Management Assistant I
(361)289-2673
tiffany.fleming@testamericainc.com

Designee for

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
sachin.kudchadkar@testamericainc.com

Table of Contents

Case Narrative

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Job ID: 600-196201-1

Laboratory: Eurofins TestAmerica, Houston

Narrative

Job Narrative
600-196201-1

Comments
No additional comments.

Receipt
The samples were received on 11/20/2019 10:42 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6º C.

GC/MS VOA
Method 8260B: The following sample was diluted due to the nature of the sample matrix: RW1-LNAPL-191119 (600-196201-10). Elevated reporting limits (RLs) are provided.

Method 8260B: The following sample was diluted due to the nature of the sample matrix: oily sample. RW4-LNAPL-191119 (600-196201-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 300.0: The method blank for analytical batch 600-281597 contained chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 300.0: The method blank for analytical batch 600-281791 contained chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
5030B	Purge and Trap	SW846	TAL HOU
5030B	Purge and Trap for Methanol Extractions	SW846	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-196201-2	RW4-LNAPL-191119	Water	11/19/19 09:20	11/20/19 10:42	
600-196201-3	MW4-W-191119	Water	11/19/19 11:15	11/20/19 10:42	
600-196201-4	MW5-W-191119	Water	11/19/19 12:50	11/20/19 10:42	
600-196201-5	MW7-W-191119	Water	11/19/19 13:01	11/20/19 10:42	
600-196201-6	MW9R-W-191119	Water	11/19/19 13:15	11/20/19 10:42	
600-196201-7	MW6-W-191119	Water	11/19/19 13:35	11/20/19 10:42	
600-196201-8	MW3-W-191119	Water	11/19/19 13:50	11/20/19 10:42	
600-196201-9	MW8-W-191119	Water	11/19/19 14:01	11/20/19 10:42	
600-196201-10	RW1-LNAPL-191119	Waste	11/19/19 09:40	11/20/19 10:42	

Detection Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Client Sample ID: RW4-LNAPL-191119
Lab Sample ID: 600-196201-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14	J	25	4.4	ug/L	25		8260B	Total/NA
Ethylbenzene	13	J	25	5.3	ug/L	25		8260B	Total/NA
Xylenes, Total	49	J	50	9.2	ug/L	25		8260B	Total/NA

Client Sample ID: MW4-W-191119
Lab Sample ID: 600-196201-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	99	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW5-W-191119
Lab Sample ID: 600-196201-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	49	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW7-W-191119
Lab Sample ID: 600-196201-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	50	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW9R-W-191119
Lab Sample ID: 600-196201-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110	F1 B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW6-W-191119
Lab Sample ID: 600-196201-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	80	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW3-W-191119
Lab Sample ID: 600-196201-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	59	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: MW8-W-191119
Lab Sample ID: 600-196201-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	65	B	8.0	1.1	mg/L	20		300.0	Total/NA

Client Sample ID: RW1-LNAPL-191119
Lab Sample ID: 600-196201-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6000	J	10000	1300	ug/Kg	4		8260B	Total/NA
Ethylbenzene	25000		10000	2000	ug/Kg	4		8260B	Total/NA
Xylenes, Total	100000		10000	2300	ug/Kg	4		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: RW4-LNAPL-191119 — Lab Sample ID: 600-196201-2

Date Collected: 11/19/19 09:20 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14	J	25	4.4	ug/L			11/25/19 19:16	25
Ethylbenzene	13	J	25	5.3	ug/L			11/25/19 19:16	25
Toluene	5.0	U	25	5.0	ug/L			11/25/19 19:16	25
Xylenes, Total	49	J	50	9.2	ug/L			11/25/19 19:16	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*50 - 134*		*11/25/19 19:16*	*25*
Dibromofluoromethane	*85*		*62 - 130*		*11/25/19 19:16*	*25*
Toluene-d8 (Surr)	*106*		*70 - 130*		*11/25/19 19:16*	*25*
4-Bromofluorobenzene	*114*		*67 - 139*		*11/25/19 19:16*	*25*

Client Sample ID: MW4-W-191119 — Lab Sample ID: 600-196201-3

Date Collected: 11/19/19 11:15 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 17:52	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 17:52	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 17:52	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 17:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*70*		*50 - 134*		*11/24/19 17:52*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*11/24/19 17:52*	*1*
Toluene-d8 (Surr)	*111*		*70 - 130*		*11/24/19 17:52*	*1*
4-Bromofluorobenzene	*114*		*67 - 139*		*11/24/19 17:52*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99	B	8.0	1.1	mg/L			12/03/19 01:58	20

Client Sample ID: MW5-W-191119 — Lab Sample ID: 600-196201-4

Date Collected: 11/19/19 12:50 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 18:19	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 18:19	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 18:19	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*75*		*50 - 134*		*11/24/19 18:19*	*1*
Dibromofluoromethane	*84*		*62 - 130*		*11/24/19 18:19*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*11/24/19 18:19*	*1*
4-Bromofluorobenzene	*121*		*67 - 139*		*11/24/19 18:19*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49	B	8.0	1.1	mg/L			12/03/19 02:18	20

Client Sample ID: MW7-W-191119
Lab Sample ID: 600-196201-5

Date Collected: 11/19/19 13:01
Matrix: Water
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 18:45	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 18:45	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 18:45	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*72*		*50 - 134*		*11/24/19 18:45*	*1*
Dibromofluoromethane	*82*		*62 - 130*		*11/24/19 18:45*	*1*
Toluene-d8 (Surr)	*115*		*70 - 130*		*11/24/19 18:45*	*1*
4-Bromofluorobenzene	*110*		*67 - 139*		*11/24/19 18:45*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**50**	**B**	8.0	1.1	mg/L			12/03/19 03:20	20

Client Sample ID: MW9R-W-191119
Lab Sample ID: 600-196201-6

Date Collected: 11/19/19 13:15
Matrix: Water
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 19:11	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 19:11	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 19:11	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*70*		*50 - 134*		*11/24/19 19:11*	*1*
Dibromofluoromethane	*81*		*62 - 130*		*11/24/19 19:11*	*1*
Toluene-d8 (Surr)	*115*		*70 - 130*		*11/24/19 19:11*	*1*
4-Bromofluorobenzene	*115*		*67 - 139*		*11/24/19 19:11*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**	**F1 B**	8.0	1.1	mg/L			12/03/19 04:21	20

Client Sample ID: MW6-W-191119
Lab Sample ID: 600-196201-7

Date Collected: 11/19/19 13:35
Matrix: Water
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 19:37	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 19:37	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 19:37	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*65*		*50 - 134*		*11/24/19 19:37*	*1*
Dibromofluoromethane	*78*		*62 - 130*		*11/24/19 19:37*	*1*
Toluene-d8 (Surr)	*118*		*70 - 130*		*11/24/19 19:37*	*1*
4-Bromofluorobenzene	*115*		*67 - 139*		*11/24/19 19:37*	*1*

Client Sample ID: MW6-W-191119 — Lab Sample ID: 600-196201-7

Date Collected: 11/19/19 13:35 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**80**	**B**	8.0	1.1	mg/L			11/29/19 09:14	20

Client Sample ID: MW3-W-191119 — Lab Sample ID: 600-196201-8

Date Collected: 11/19/19 13:50 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 20:04	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 20:04	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 20:04	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*61*		*50 - 134*		*11/24/19 20:04*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*11/24/19 20:04*	*1*
Toluene-d8 (Surr)	*115*		*70 - 130*		*11/24/19 20:04*	*1*
4-Bromofluorobenzene	*116*		*67 - 139*		*11/24/19 20:04*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**59**	**B**	8.0	1.1	mg/L			11/29/19 09:47	20

Client Sample ID: MW8-W-191119 — Lab Sample ID: 600-196201-9

Date Collected: 11/19/19 14:01 — **Matrix: Water**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 20:30	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 20:30	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 20:30	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 20:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*68*		*50 - 134*		*11/24/19 20:30*	*1*
Dibromofluoromethane	*79*		*62 - 130*		*11/24/19 20:30*	*1*
Toluene-d8 (Surr)	*118*		*70 - 130*		*11/24/19 20:30*	*1*
4-Bromofluorobenzene	*116*		*67 - 139*		*11/24/19 20:30*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65**	**B**	8.0	1.1	mg/L			11/29/19 10:19	20

Client Sample ID: RW1-LNAPL-191119 — Lab Sample ID: 600-196201-10

Date Collected: 11/19/19 09:40 — **Matrix: Waste**
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**6000**	**J**	10000	1300	ug/Kg		11/26/19 10:50	11/29/19 19:53	4
Ethylbenzene	**25000**		10000	2000	ug/Kg		11/26/19 10:50	11/29/19 19:53	4

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Client Sample ID: RW1-LNAPL-191119
Lab Sample ID: 600-196201-10
Date Collected: 11/19/19 09:40
Matrix: Waste
Date Received: 11/20/19 10:42

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	2800	U	10000	2800	ug/Kg		11/26/19 10:50	11/29/19 19:53	4
Xylenes, Total	**100000**		10000	2300	ug/Kg		11/26/19 10:50	11/29/19 19:53	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*61 - 130*	*11/26/19 10:50*	*11/29/19 19:53*	*4*
Dibromofluoromethane	*82*		*68 - 140*	*11/26/19 10:50*	*11/29/19 19:53*	*4*
Toluene-d8 (Surr)	*79*		*50 - 130*	*11/26/19 10:50*	*11/29/19 19:53*	*4*
4-Bromofluorobenzene	*86*		*57 - 140*	*11/26/19 10:50*	*11/29/19 19:53*	*4*

Definitions/Glossary

Client: ARCADIS U.S., Inc. Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Waste
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(61-130)	(68-140)	(50-130)	(57-140)
600-196201-10	RW1-LNAPL-191119	83	82	79	86
LCS 600-281385/1-A	Lab Control Sample	87	93	95	99
LCSD 600-281385/2-A	Lab Control Sample Dup	82	90	88	91
MB 600-281385/3-A	Method Blank	84	90	97	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	DBFM	TOL	BFB
Lab Sample ID	Client Sample ID	(50-134)	(62-130)	(70-130)	(67-139)
600-196201-2	RW4-LNAPL-191119	81	85	106	114
600-196201-3	MW4-W-191119	70	80	111	114
600-196201-4	MW5-W-191119	75	84	105	121
600-196201-5	MW7-W-191119	72	82	115	110
600-196201-6	MW9R-W-191119	70	81	115	115
600-196201-7	MW6-W-191119	65	78	118	115
600-196201-8	MW3-W-191119	61	80	115	116
600-196201-9	MW8-W-191119	68	79	118	116
LCS 600-281181/3	Lab Control Sample	73	73	88	113
LCS 600-281250/3	Lab Control Sample	76	84	98	108
LCSD 600-281181/4	Lab Control Sample Dup	86	81	86	105
LCSD 600-281250/4	Lab Control Sample Dup	79	84	97	106
MB 600-281181/6	Method Blank	78	80	110	109
MB 600-281250/6	Method Blank	71	81	106	110

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-281181/6
Matrix: Water
Analysis Batch: 281181

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/24/19 15:12	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/24/19 15:12	1
Toluene	0.20	U	1.0	0.20	ug/L			11/24/19 15:12	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/24/19 15:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*50 - 134*		*11/24/19 15:12*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*11/24/19 15:12*	*1*
Toluene-d8 (Surr)	*110*		*70 - 130*		*11/24/19 15:12*	*1*
4-Bromofluorobenzene	*109*		*67 - 139*		*11/24/19 15:12*	*1*

Lab Sample ID: LCS 600-281181/3
Matrix: Water
Analysis Batch: 281181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.6		ug/L		106	70 - 130
Ethylbenzene	10.0	12.0		ug/L		120	70 - 130
Toluene	10.0	11.0		ug/L		110	70 - 130
Xylenes, Total	20.0	22.9		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*73*		*50 - 134*
Dibromofluoromethane	*73*		*62 - 130*
Toluene-d8 (Surr)	*88*		*70 - 130*
4-Bromofluorobenzene	*113*		*67 - 139*

Lab Sample ID: LCSD 600-281181/4
Matrix: Water
Analysis Batch: 281181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	10.7		ug/L		107	70 - 130	1	20
Ethylbenzene	10.0	11.8		ug/L		118	70 - 130	2	20
Toluene	10.0	10.6		ug/L		106	70 - 130	3	20
Xylenes, Total	20.0	22.7		ug/L		114	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*50 - 134*
Dibromofluoromethane	*81*		*62 - 130*
Toluene-d8 (Surr)	*86*		*70 - 130*
4-Bromofluorobenzene	*105*		*67 - 139*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-281250/6
Matrix: Water
Analysis Batch: 281250

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.18	U	1.0	0.18	ug/L			11/25/19 16:25	1
Ethylbenzene	0.21	U	1.0	0.21	ug/L			11/25/19 16:25	1
Toluene	0.20	U	1.0	0.20	ug/L			11/25/19 16:25	1
Xylenes, Total	0.37	U	2.0	0.37	ug/L			11/25/19 16:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*71*		*50 - 134*		*11/25/19 16:25*	*1*
Dibromofluoromethane	*81*		*62 - 130*		*11/25/19 16:25*	*1*
Toluene-d8 (Surr)	*106*		*70 - 130*		*11/25/19 16:25*	*1*
4-Bromofluorobenzene	*110*		*67 - 139*		*11/25/19 16:25*	*1*

Lab Sample ID: LCS 600-281250/3
Matrix: Water
Analysis Batch: 281250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	9.76		ug/L		98	70 - 130
Ethylbenzene	10.0	11.4		ug/L		114	70 - 130
Toluene	10.0	10.4		ug/L		104	70 - 130
Xylenes, Total	20.0	22.0		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*76*		*50 - 134*
Dibromofluoromethane	*84*		*62 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene	*108*		*67 - 139*

Lab Sample ID: LCSD 600-281250/4
Matrix: Water
Analysis Batch: 281250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	10.0	9.24		ug/L		92	70 - 130	5	20
Ethylbenzene	10.0	10.8		ug/L		108	70 - 130	6	20
Toluene	10.0	9.77		ug/L		98	70 - 130	6	20
Xylenes, Total	20.0	21.0		ug/L		105	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*79*		*50 - 134*
Dibromofluoromethane	*84*		*62 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene	*106*		*67 - 139*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-281385/3-A
Matrix: Waste
Analysis Batch: 281464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 281385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	79	U	630	79	ug/Kg		11/26/19 10:50	11/27/19 00:26	1
Ethylbenzene	130	U	630	130	ug/Kg		11/26/19 10:50	11/27/19 00:26	1
Toluene	170	U	630	170	ug/Kg		11/26/19 10:50	11/27/19 00:26	1
Xylenes, Total	140	U	630	140	ug/Kg		11/26/19 10:50	11/27/19 00:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*61 - 130*	*11/26/19 10:50*	*11/27/19 00:26*	*1*
Dibromofluoromethane	*90*		*68 - 140*	*11/26/19 10:50*	*11/27/19 00:26*	*1*
Toluene-d8 (Surr)	*97*		*50 - 130*	*11/26/19 10:50*	*11/27/19 00:26*	*1*
4-Bromofluorobenzene	*93*		*57 - 140*	*11/26/19 10:50*	*11/27/19 00:26*	*1*

Lab Sample ID: LCS 600-281385/1-A
Matrix: Waste
Analysis Batch: 281464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 281385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	6250	5560		ug/Kg		89	70 - 131
Ethylbenzene	6250	5690		ug/Kg		91	66 - 130
Toluene	6250	5750		ug/Kg		92	67 - 130
Xylenes, Total	12500	11500		ug/Kg		92	63 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*61 - 130*
Dibromofluoromethane	*93*		*68 - 140*
Toluene-d8 (Surr)	*95*		*50 - 130*
4-Bromofluorobenzene	*99*		*57 - 140*

Lab Sample ID: LCSD 600-281385/2-A
Matrix: Waste
Analysis Batch: 281464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 281385

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	6250	5750		ug/Kg		92	70 - 131	3	30
Ethylbenzene	6250	5900		ug/Kg		94	66 - 130	4	30
Toluene	6250	5870		ug/Kg		94	67 - 130	2	30
Xylenes, Total	12500	11600		ug/Kg		92	63 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*82*		*61 - 130*
Dibromofluoromethane	*90*		*68 - 140*
Toluene-d8 (Surr)	*88*		*50 - 130*
4-Bromofluorobenzene	*91*		*57 - 140*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-281597/37
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.214	J	0.40	0.053	mg/L			11/29/19 08:53	1

Lab Sample ID: LCS 600-281597/38
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	18.0		mg/L		90	90 - 110

Lab Sample ID: 600-196201-8 MS
Client Sample ID: MW3-W-191119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281597

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	59	B	200	243		mg/L		92	80 - 120

Lab Sample ID: 600-196201-8 MSD
Client Sample ID: MW3-W-191119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281597

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	59	B	200	247		mg/L		94	80 - 120	1	20

Lab Sample ID: MB 600-281791/35
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.146	J	0.40	0.053	mg/L			12/03/19 02:39	1

Lab Sample ID: MB 600-281791/4
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.148	J	0.40	0.053	mg/L			12/02/19 15:55	1

Lab Sample ID: LCS 600-281791/36
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.1		mg/L		100	90 - 110

Lab Sample ID: LCS 600-281791/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.3		mg/L		96	90 - 110

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 600-196201-6 MS
Client Sample ID: MW9R-W-191119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	110	F1 B	200000	307	F1	mg/L		0.1	80 - 120		

Lab Sample ID: 600-196201-6 MSD
Client Sample ID: MW9R-W-191119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 281791

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110	F1 B	200000	304	F1	mg/L		0.1	80 - 120	1	20

GC/MS VOA

Analysis Batch: 281181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-3	MW4-W-191119	Total/NA	Water	8260B	
600-196201-4	MW5-W-191119	Total/NA	Water	8260B	
600-196201-5	MW7-W-191119	Total/NA	Water	8260B	
600-196201-6	MW9R-W-191119	Total/NA	Water	8260B	
600-196201-7	MW6-W-191119	Total/NA	Water	8260B	
600-196201-8	MW3-W-191119	Total/NA	Water	8260B	
600-196201-9	MW8-W-191119	Total/NA	Water	8260B	
MB 600-281181/6	Method Blank	Total/NA	Water	8260B	
LCS 600-281181/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-281181/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 281250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-2	RW4-LNAPL-191119	Total/NA	Water	8260B	
MB 600-281250/6	Method Blank	Total/NA	Water	8260B	
LCS 600-281250/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-281250/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Prep Batch: 281385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-10	RW1-LNAPL-191119	Total/NA	Waste	5030B	
MB 600-281385/3-A	Method Blank	Total/NA	Waste	5030B	
LCS 600-281385/1-A	Lab Control Sample	Total/NA	Waste	5030B	
LCSD 600-281385/2-A	Lab Control Sample Dup	Total/NA	Waste	5030B	

Analysis Batch: 281464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-281385/3-A	Method Blank	Total/NA	Waste	8260B	281385
LCS 600-281385/1-A	Lab Control Sample	Total/NA	Waste	8260B	281385
LCSD 600-281385/2-A	Lab Control Sample Dup	Total/NA	Waste	8260B	281385

Analysis Batch: 281655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-10	RW1-LNAPL-191119	Total/NA	Waste	8260B	281385

HPLC/IC

Analysis Batch: 281597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-7	MW6-W-191119	Total/NA	Water	300.0	
600-196201-8	MW3-W-191119	Total/NA	Water	300.0	
600-196201-9	MW8-W-191119	Total/NA	Water	300.0	
MB 600-281597/37	Method Blank	Total/NA	Water	300.0	
LCS 600-281597/38	Lab Control Sample	Total/NA	Water	300.0	
600-196201-8 MS	MW3-W-191119	Total/NA	Water	300.0	
600-196201-8 MSD	MW3-W-191119	Total/NA	Water	300.0	

Analysis Batch: 281791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-3	MW4-W-191119	Total/NA	Water	300.0	
600-196201-4	MW5-W-191119	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 281791 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196201-5	MW7-W-191119	Total/NA	Water	300.0	
600-196201-6	MW9R-W-191119	Total/NA	Water	300.0	
MB 600-281791/35	Method Blank	Total/NA	Water	300.0	
MB 600-281791/4	Method Blank	Total/NA	Water	300.0	
LCS 600-281791/36	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-281791/5	Lab Control Sample	Total/NA	Water	300.0	
600-196201-6 MS	MW9R-W-191119	Total/NA	Water	300.0	
600-196201-6 MSD	MW9R-W-191119	Total/NA	Water	300.0	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Client Sample ID: RW4-LNAPL-191119
Lab Sample ID: 600-196201-2
Date Collected: 11/19/19 09:20
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	20 mL	20 mL	281250	11/25/19 19:16	RP	TAL HOU

Client Sample ID: MW4-W-191119
Lab Sample ID: 600-196201-3
Date Collected: 11/19/19 11:15
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 17:52	KLV	TAL HOU
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	281791	12/03/19 01:58	SKR	TAL HOU

Client Sample ID: MW5-W-191119
Lab Sample ID: 600-196201-4
Date Collected: 11/19/19 12:50
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 18:19	KLV	TAL HOU
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	281791	12/03/19 02:18	SKR	TAL HOU

Client Sample ID: MW7-W-191119
Lab Sample ID: 600-196201-5
Date Collected: 11/19/19 13:01
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 18:45	KLV	TAL HOU
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	281791	12/03/19 03:20	SKR	TAL HOU

Client Sample ID: MW9R-W-191119
Lab Sample ID: 600-196201-6
Date Collected: 11/19/19 13:15
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 19:11	KLV	TAL HOU
Total/NA	Analysis	300.0		20	5 mL	1.0 mL	281791	12/03/19 04:21	SKR	TAL HOU

Client Sample ID: MW6-W-191119
Lab Sample ID: 600-196201-7
Date Collected: 11/19/19 13:35
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 19:37	KLV	TAL HOU
Total/NA	Analysis	300.0		20			281597	11/29/19 09:14	W1N	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Client Sample ID: MW3-W-191119
Lab Sample ID: 600-196201-8

Date Collected: 11/19/19 13:50
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 20:04	KLV	TAL HOU
Total/NA	Analysis	300.0		20			281597	11/29/19 09:47	W1N	TAL HOU

Client Sample ID: MW8-W-191119
Lab Sample ID: 600-196201-9

Date Collected: 11/19/19 14:01
Matrix: Water
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	281181	11/24/19 20:30	KLV	TAL HOU
Total/NA	Analysis	300.0		20			281597	11/29/19 10:19	W1N	TAL HOU

Client Sample ID: RW1-LNAPL-191119
Lab Sample ID: 600-196201-10

Date Collected: 11/19/19 09:40
Matrix: Waste
Date Received: 11/20/19 10:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			1 g	10 mL	281385	11/26/19 10:50	KLV	TAL HOU
Total/NA	Analysis	8260B		4	100 uL	5 mL	281655	11/29/19 19:53	KLV	TAL HOU

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc. Job ID: 600-196201-1
Project/Site: New Mexico F State Tank Battery 11/19/19

Laboratory: Eurofins TestAmerica, Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0759	08-04-20
Louisiana	NELAP	01967	06-30-20
Oklahoma	State	2019-073	09-01-20
Texas	NELAP	T104704223-19-25	10-31-20
USDA	US Federal Programs	P330-18-00130	04-30-21
Utah	NELAP	TX000832019-5	07-31-20

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Chas Holder	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-72225-19820.2
Client Contact: Scott Foord/ Douglas Jordan	Phone: 806-831-9801	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 1
Company: ARCADIS U.S. Inc				Job #:
Address: 10205 Westheimer Rd Suite 800	Due Date Requested:			
City: Houston	TAT Requested (days): Standard			
State, Zip: TX, 77042				
Phone:	PO #:			
Email: william.foord@arcadis.com/ douglas.jordan@arcadis.com	WO #:			
Project Name: New Mexica F State Tank Battery	Project #: 60011649			
Site: New Mexica F State Tank Battery	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B_LL - BTEX Only	300_ORGFM_28D - Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N		
RW1 - LNAPL - 191119	11-19-19	9:40	G	Water	N		3			
RW4 - LNAPL - 191119	11-19-19	9:20	G	Water	N		3			
MW4 - W - 191119	11-19-19	11:15	G	Water	N		3	1		
MW5 - W - 191119	11-19-19	12:50	G	Water	N		3	1		
MW7 - W - 191119	11-19-19	13:01	G	Water	N		3	1		
MW9R - W - 191119	11-19-19	13:15	G	Water	N		3	1		
MW6 - W - 191119	11-19-19	13:35	G	Water	N		3	1		
MW3 - W - 191119	11-19-19	13:50	G	Water	N		3	1		
MW8 - W - 191119	11-19-19	14:01	G	Water	N		3	1		
				Water						
				Water						

600-196201 Chain of Custody

C17

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Chas Holder	11-14-A/1530	Arcadis	[signature]	11/20/19 1042	TAH
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Houston

Loc: 600
196201

eurofins | Environment Testing TestAmerica

Sample Receipt Checklist

'19 NOV 20 10:42

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: Arcadis

UNPACKED BY: YR CARRIER/DRIVER: Fed Ex

Custody Seal Present: ☑YES ☐NO Number of Coolers Received:

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
6464	~~Y~~ / N	Y / ~~N~~	1.5	676	+0.1	1.6
	Y / N	Y / N				
	Y / N	Y / N				
	~~Y~~ / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

YR 11/20/19

CF = correction factor

Samples received on ice? ☑YES ☐NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☑NO ☐YES

Base samples are>pH 12: ☐YES ☐NO Acid preserved are<pH 2: ☐YES ☐NO

TX1005 samples frozen upon receipt: ☐ YES DATE & TIME PUT IN FREEZER: _____

pH paper Lot #_____ VOA headspace acceptable (5-6mm): ☑YES ☐NO ☐NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☑YES	☐ NO

COMMENTS:

YR 11/20/19

HS-SA-WI-013 Rev. 4A: 08/26/2019

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-196201-1

Login Number: 196201

List Source: Eurofins TestAmerica, Houston

List Number: 1

Creator: Rubio, Yuri

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Arcadis U.S., Inc.

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Suite 800

Houston, Texas 77042

Tel 713 953 4800

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