



Adriane Gifford
Project Manager

Upstream Business Unit
Environmental Management Company
1500 Louisiana Street
Room 38108
Houston, Texas 77002
Tel 832-854-5620
agifford@chevron.com

March 25, 2020

Mr. Bradford Billings
Environmental Bureau
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

**Re: 2019 Annual Groundwater Monitoring Report
Cooper-Jal Unit South Injection Station
Lea County, New Mexico
Case No. 1R289, OGRID No. 4323**

Dear Mr. Billings:

Chevron Environmental Management Company (CEMC) submits herein to the New Mexico Oil Conservation Division (OCD) the *2019 Annual Groundwater Monitoring Report*, dated March 25, 2020, for the Cooper-Jal Unit South Injection Station located in Lea County, New Mexico. This report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC, to document results of groundwater monitoring activities conducted at the above referenced site in the 2019 calendar year.

If you have any questions regarding this submittal, please contact me at (832) 854-5620 or Scott Foord of Arcadis at (713) 953-4853.

Respectfully,

**Chevron Environmental Management Company
on behalf of
Chevron U.S.A. Inc.**

Adriane Gifford
Project Manager

Encl.

cc: Scott Foord, Arcadis

Chevron Environmental Management Company

2019 ANNUAL GROUNDWATER MONITORING REPORT

Cooper-Jal Unit South Injection Station
Section 24, Township 24 South, Range 36 East
Lea County, New Mexico

OGRID No. 4323
Case No. 1R289

25 March 2020



2019 ANNUAL GROUNDWATER MONITORING REPORT

Cooper-Jal Unit South Injection
Station GW Remediation
Lea County, Texas



Ryan Nanny
Project Geologist



Scott Foord
Project Manager

Prepared for:

Adriane Gifford

Project Manager
Chevron Environmental Management
Company

1500 Louisiana St. Room 38108
Houston, Texas 77002

Prepared by:

Arcadis U.S., Inc.

1004 North Big Spring Street
Suite 300

Midland

Texas 79701

Tel 432 687 5400

Fax 432 687 5401

Our Ref.:

30006540

Date:

25 March 2020

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

CONTENTS

1	Introduction	1
2	Groundwater Monitoring Results	1
	2.1 Groundwater Gauging Data	1
	2.2 Groundwater Analytical Results	2
	Chloride	2
	TDS	2
	Sulfate	3
3	Summary	3

TABLES

Table 1	2019 Potentiometric Elevation Data
Table 2	2019 Groundwater Analytical Results

FIGURES

Figure 1	Site Location Map
Figure 2	Site Details Map
Figure 3	Potentiometric Surface Maps
Figure 4	Chloride Isoconcentration Maps
Figure 5	TDS Isoconcentration Maps
Figure 6	Sulfate Isoconcentration Maps

APPENDICES

Appendix A	Site Background
Appendix B	Field Methodology and Documentation
Appendix C	Cumulative Summary of Groundwater Analytical Results
Appendix D	Analytical Reports
Appendix E	Cumulative Summary of Groundwater Potentiometric Elevation Data

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this report for Chevron Environmental Management Company (CEMC), which summarizes semi-annual groundwater monitoring activities conducted in 2019 at the Cooper-Jal Unit South Injection Station (Site). Data presented in this report was collected during two semi-annual groundwater monitoring events conducted in June 2019 and November 2019.

The Site is located on Lea County Road J7, approximately five and a half miles northwest of Jal, New Mexico, in Section 24, Township 24 South, Range 36 East, Lea County, New Mexico. The latitude and longitude coordinates of the Site are 32° 12' 7.13" N and 103° 13' 4.36" W.

Land in the vicinity of the Site is utilized primarily for livestock ranching and oil and gas production and has areas of undeveloped rangeland vegetated with indigenous grass. An injection well facility, operated by Resaca Resources, LLC (Resaca), is located adjacent to the Site. No active Chevron U.S.A. Inc. (Chevron) operations are present in the area. A Site Location Map is presented as **Figure 1**. Additional Site background information is in **Appendix A**.

2 GROUNDWATER MONITORING RESULTS

Groundwater at the Site is monitored semi-annually from a network of 18 monitoring wells and 2 recovery wells. A Site Details Map is presented as **Figure 2**. Arcadis performed semi-annual groundwater sampling events on June 20, 2019, and November 23-24, 2019. Field monitoring methodologies are detailed in **Appendix B**.

2.1 Groundwater Gauging Data

Groundwater and light non-aqueous phase liquid (LNAPL) measurements collected during the semi-annual monitoring events conducted in 2019 indicate:

- Groundwater elevations ranged from
 - o 3,181.43 feet above mean sea level (ft AMSL) (MW-11) to 3,190.61 ft AMSL (MW-12) during the June 2019 gauging event, and
 - o 3,181.52 ft AMSL (MW-11) to 3,190.68 ft AMSL (MW-12) 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 June 2019 and November 2019 are presented on **Figure 3**.
- The calculated gradient was
 - o 0.0155 feet/foot (ft/ft) for the June 2019 gauging event, and
 - o 0.00293 ft/ft for the November 2019 gauging event.
- LNAPL was not detected during either the June 2019 or the November 2019 monitoring events.

2.2 Groundwater Analytical Results

18 of the 20 wells were sampled at the Site during the June 2019 sampling event. Monitoring wells MW-8 and MW-10 were not sampled due to obstructions observed downhole by the field crew. These obstructions prevented deployment of the HydraSleeves™ for sample retrieval. The obstructions were not encountered during the November 2019 sampling event and all 20 wells were sampled. Groundwater analytical results for chloride and total dissolved solids (TDS) 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**.

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

Isoconcentration maps for chloride for the June 2019 and November 2019 sampling events are presented on **Figure 4**. The isoconcentration maps for TDS for the June 2019 and November 2019 sampling events are presented on **Figure 5**. The isoconcentration maps for sulfate for the June 2019 and November 2019 sampling events are presented on **Figure 6**. The groundwater analytical results are further summarized below.

Chloride

- Chloride concentrations detected during the June 2019 groundwater sampling event exceeded the NMWQCC standard of 250 milligrams per liter (mg/L) in
 - o 12 of the 18 wells sampled (MW-1, MW-2, MW-4, MW-4A, MW-5, MW-7, MW-9, MW-9A, RW-1, RW-2, RW-2R, and the upgradient offsite monitoring well MW-12).
 - o Chloride concentrations exceeding the NMWQCC standard of 250 mg/L ranged from 254 mg/L at monitoring well MW-12 up to 9,290 mg/L at recovery well RW-1.
- Chloride concentrations detected during the November 2019 groundwater sampling event exceeded the NMWQCC standard of 250 mg/L in
 - o 10 of the 20 wells sampled (MW-1, MW-4 through MW-5, MW-7, MW-9, RW-1 through RW-2R and the upgradient offsite monitoring well MW-12).
 - o Concentrations exceeding the NMWQCC standard of 250 mg/L ranged from 321 mg/L (MW-4A) up to 7,720 mg/L (RW-2R).

TDS

- TDS concentrations detected during the June 2019 groundwater sampling event exceeded the NMWQCC standard of 1,000 mg/L in
 - o 10 of the 18 wells sampled (MW-1, MW-4, MW-4A, MW-5, MW-7, MW-9, MW-9A, RW-1, RW-2, and RW-2R).

- o TDS concentrations exceeding the NMWQCC standard of 1,000 mg/L ranged from 1,040 mg/L (MW-4A) up to 29,400 mg/L (RW-2R).
- TDS concentrations detected during the November 2019 groundwater sampling event exceeded the NMWQCC standard of 1,000 mg/L in
 - o 9 of the 20 wells (MW-1, MW-4, MW-5, MW-7, MW-9, MW-12, and RW-1 through RW-2R) at concentrations ranging from 1,010 mg/L (MW-12) up to 21,000 mg/L (RW-2R).

Sulfate

- Groundwater samples were not analysed for sulfate during the June 2019 groundwater sampling event.
- Sulfate concentrations detected during the November 2019 semi-annual groundwater sampling event exceeded the NMWQCC standard of 600 mg/L in
 - o 2 of the 20 wells (RW-1 and RW-2R) at concentrations of 722 mg/L (RW-1) and 943 mg/L (RW-2R), respectively.

3 SUMMARY

In summary, the semi-annual monitoring activities conducted at the Site in June 2019 and November 2019 indicate the following:

- 19 of the 20 monitoring wells were gauged during the June 2019 event, and all 20 monitoring wells were gauged during the November 2019 event;
- Groundwater elevations at the Site have remained relatively consistent over the last 10 years;
- 18 of the 20 monitoring wells were sampled during the June 2019 event, and all 20 monitoring wells were sampled during November 2019 event; and
- Potentiometric surface conditions were consistent with historical results showing groundwater flow to the southeast towards Monument Draw.

Groundwater sample analytical results reported for the June 2019 and November 2019 sampling events indicate:

- Chloride exceeded the NMWQCC standard in 12 wells sampled during the June 2019 event, and concentrations exceeded in 10 wells sampled during the November 2019 event;
- TDS exceeded the NMWQCC standard in 10 wells sampled during the June 2019 event, and concentrations exceeded in 9 monitoring wells sampled during the November 2019 event;
- Sulfate exceeded the NMWQCC standard in 2 wells sampled during the November 2019 event;
- Chloride and TDS concentrations have remained relatively stable in wells MW-1, MW-2, MW-2A, MW-3, MW-4A, MW-5A, MW-6R, MW-8, MW-10, MW-11, and MW-14;
- Chloride and TDS concentrations have exhibited a downward trend in wells MW-4 and MW-5;
- Chloride and/or TDS concentrations exhibited an upward trend in wells MW-12 and RW-2R; and
- TDS increased in wells MW-7, MW-9, MW-9A, RW-1, RW-2 during the June 2019 event, however the November 2019 sampling results were consistent with the historical data trends.

Arcadis U.S., Inc.

1004 North Big Spring Street

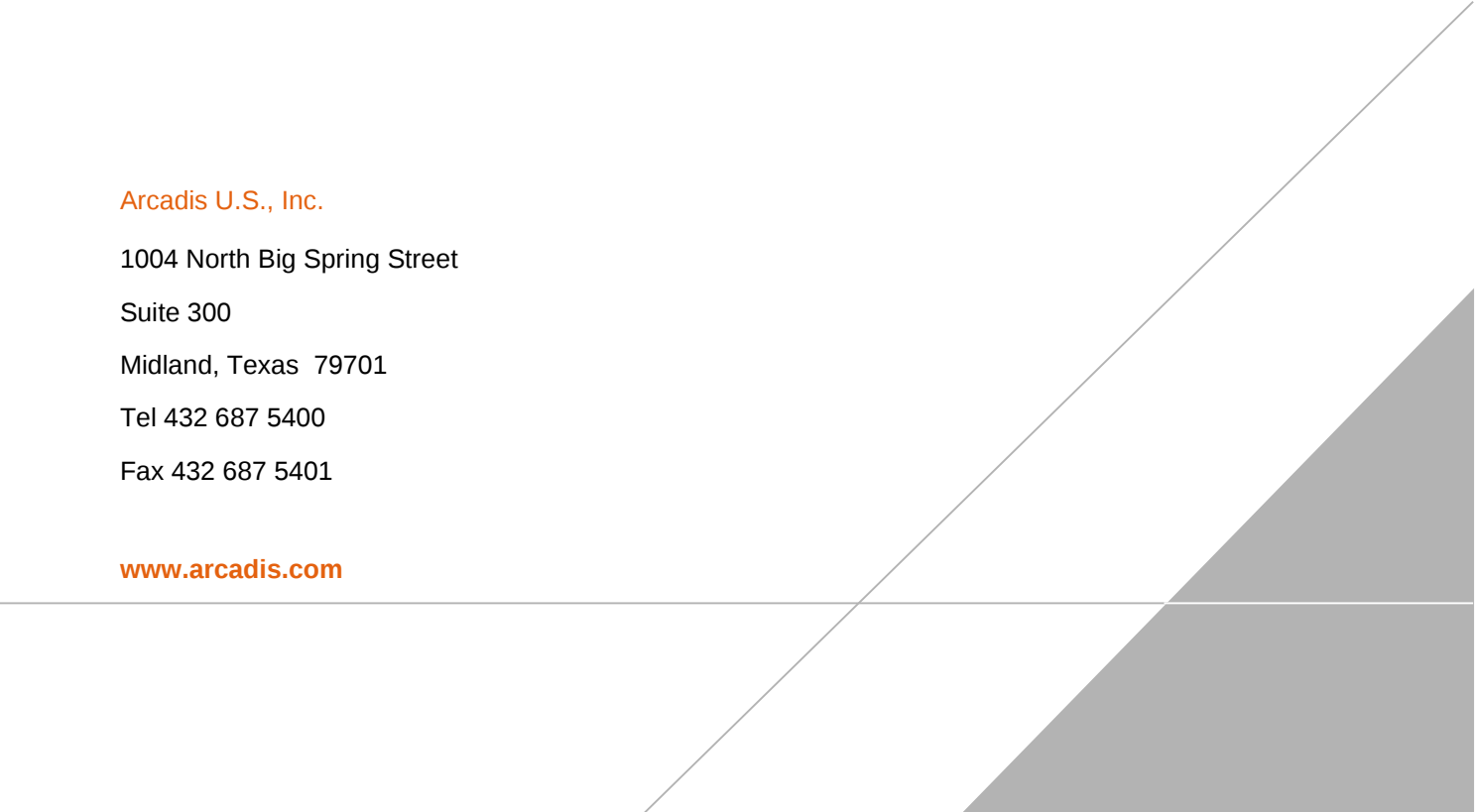
Suite 300

Midland, Texas 79701

Tel 432 687 5400

Fax 432 687 5401

www.arcadis.com



TABLES



Table 1
2019 Groundwater Potentiometric Elevation Data
Cooper-Jal Unit South Injection Station
Lea County, New Mexico

Well ID	TOC1 Elevation	Well Screen Interval (ft bgs ²)	Collection Date	Total Depth (ft below TOC ¹)	Depth to Groundwater (ft below TOC ¹)	Groundwater Elevation (ft)
MW-1	3321.94	153-173	06/20/19	171.17	134.56	3187.38
			11/20/19	174.20	134.45	3187.49
MW-2	3321.27	163-173	06/20/19	168.39	134.27	3187.00
			11/20/19	168.57	134.21	3187.06
MW-2A	3321.30	130-145	06/20/19	142.47	134.43	3186.87
			11/20/19	142.23	134.24	3187.06
MW-3	3320.08	161-171	06/20/19	171.93	132.24	3187.84
			11/19/19	175.90	132.50	3187.58
MW-4	3321.58	161-171	06/20/19	171.81	136.21	3185.37
			11/19/19	177.64	135.06	3186.52
MW-4A	3321.42	128-143	06/20/19	145.55	134.98	3186.44
			11/19/19	147.60	134.95	3186.47
MW-5	3322.98	161-171	06/20/19	173.72	136.65	3186.33
			11/19/19	177.50	136.91	3186.07
MW-5A	3321.07	126-141	06/20/19	176.71	144.05	3177.02
			11/19/19	139.98	136.46	3184.61
MW-6	3321.15		Well Plugged and Abandoned on 9/30/2013			
MW-6R	3323.04	136-176	06/20/19	----	----	----
			11/19/19	187.37	136.04	3187.00
MW-7	3320.19	151-166	06/20/19	162.60	135.48	3184.71
			11/20/19	162.58	135.50	3184.69
MW-8	3319.06	155-170	06/20/19	146.85	133.87	3185.19
			11/20/19	146.92	133.84	3185.22
MW-9	3314.68	149-164	06/20/19	161.46	131.95	3182.73
			11/20/19	162.00	131.86	3182.82
MW-9A	3314.48	127-142	06/20/19	141.72	131.69	3182.79
			11/20/19	145.66	131.63	3182.85
MW-10	3321.12	151-166	06/20/19	160.72	136.28	3184.84
			11/20/19	160.71	136.36	3184.76
MW-11	3311.56	125-140	06/20/19	165.71	130.13	3181.43
			11/20/19	172.30	130.04	3181.52
MW-12*	3330.33	157-172	06/20/19	171.02	139.72	3190.61
			11/20/19	174.57	139.65	3190.68
MW-13*	3338.49	--	Well Plugged and Abandoned on 7/11/2017			
MW-14	3318.36	131-171	06/20/19	178.74	134.78	3183.58
			11/20/19	178.42	130.48	3187.88
RW-1	3320.31	130-175	06/20/19	164.03	133.64	3186.67
			11/20/19	163.79	133.63	3186.68

Table 1
2019 Groundwater Potentiometric Elevation Data
Cooper-Jal Unit South Injection Station
Lea County, New Mexico

Well ID	TOC1 Elevation	Well Screen Interval (ft bgs ²)	Collection Date	Total Depth (ft below TOC ¹)	Depth to Groundwater (ft below TOC ¹)	Groundwater Elevation (ft)
RW-2	3320.42	135-160	06/20/19	156.50	135.23	3185.19
			11/19/19	172.60	135.08	3185.34
RW-2R	3320.68	133-173	06/20/19	176.82	136.79	3183.89
			11/19/19	188.97	136.71	3183.97

Notes:

1. TOC - Top of Casing
2. MSL - Mean Sea Level
3. ft bgs - feet below ground surface
4. in - inches
5. A - Indicates groundwater monitor well installed in shallow Uppermost Groundwater Bearing Unit.
6. * - Indicates groundwater monitor well installed off-Site and upgradient of plume.

Table 2
2019 Groundwater Analytical Results
Cooper-Jal Unit Injection Station
Lea County, New Mexico

Sample ID	Sample Date	Chloride	TDS	Sulfate
NMWQCC Groundwater Standard (mg/L)		250	1,000	600
MW-1	6/20/2019	1,110	2,510	NS
	11/24/2019	1,110	2,190	222
MW-2	6/20/2019	283	960	NS
	11/23/2019	27.7	274	42
MW-2A	6/20/2019	86.5	554	NS
	11/23/2019	88	414	76.5
MW-3	6/20/2019	40	448	NS
	11/23/2019	60	352	96.6
MW-4	6/20/2019	2,760	7,830	NS
	11/24/2019	3,050	5,960	420
MW-4A	6/20/2019	336	1,040	NS
	11/24/2019	321	824	94.5
MW-5	6/20/2019	1,700	4,280	NS
	11/23/2019	1,530	3,900	250
MW-5A	6/20/2019	118	650	NS
	11/23/2019	116	502	61.1
MW-6R Duplicate	6/20/2019	59.1	482	NS
	6/20/2019	64.4	592	NS
	11/23/2019	69.4	384	95.2
MW-7	6/20/2019	4,210	15,500	NS
	11/24/2019	2,080	6,300	272
MW-8	6/20/2019	NS	NS	NS
	11/24/2019	12.9	239	27.6
MW-9	6/20/2019	621	2,930	NS
	11/24/2019	337	1,170	80.6
MW-9A	6/20/2019	268	1,220	NS
	11/24/2019	231	838	83.2
MW-10	6/20/2019	NS	NS	NS
	11/24/2019	230	826	78
MW-11	6/20/2019	34.4	407	NS
	11/24/2019	45.8	364	113
MW-12*	6/20/2019	254	580	NS
	11/23/2019	337	1,010	140
MW-14 Duplicate	6/20/2019	42.1	481	NS
	11/24/2019	37.1	328	94.5
	11/24/2019	40.4	324	95.9
RW-1 Duplicate	6/20/2019	9,290	22,100	NS
	6/20/2019	9,200	22,800	NS
	11/24/2019	5,780	12,200	722
RW-2	6/20/2019	3,180	10,200 H	NS
	11/24/2019	3,510	9,880	464
RW-2R	6/20/2019	7,860	29,400	NS
	11/24/2019	7,720	21,000	943

Notes:

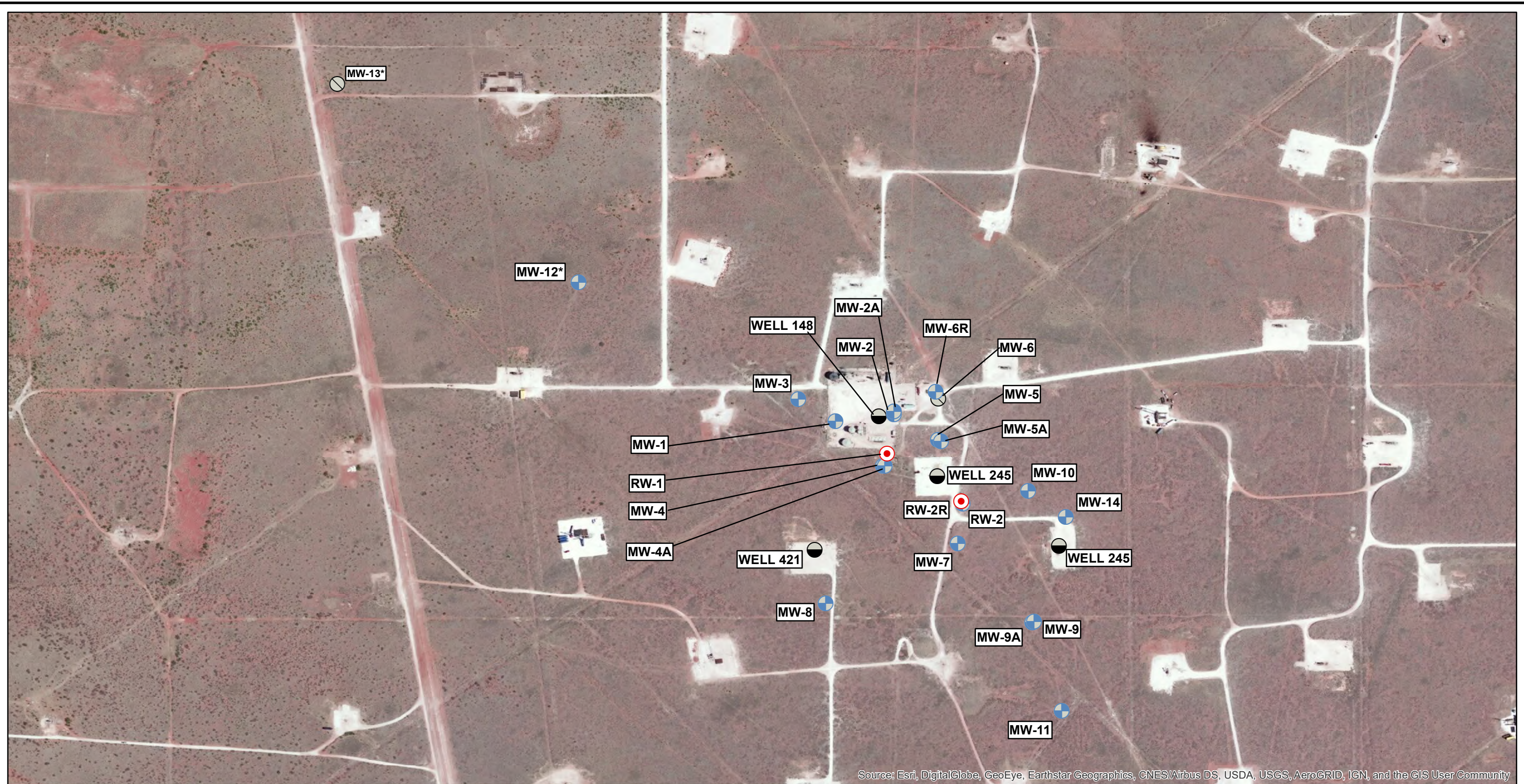
1. Bold and colored cells indicate New Mexico Water Quality Control Commission (NMWQCC) standard exceedance.
2. NS - Not Sampled
3. Results shown in milligrams/liter (mg/L).
4. < - Analyte not detected above quantitation limit
5. * - Indicates groundwater monitor well installed off-Site and upgradient of plume.
6. ** - Indicates groundwater monitor well that was sampled prior to semiannual groundwater event via low-flow purge for internal use.

FIGURES



A horizontal scale bar with tick marks at 0, 1,000, 2,000, and 4,000. The word "Feet" is written at the right end of the bar.

1

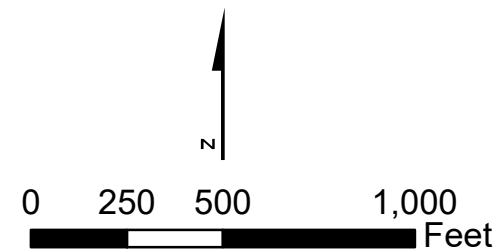


Legend

- Monitoring Well Location
- Recovery Well
- Cooper Jal Oil Well
- Plugged & Abandoned Monitoring Well

Notes:

1. Datum: D_WGS_1984
2. Cooper Jal Oil Wells were not gauged
2. Site Location: 32.19891, -103.21523

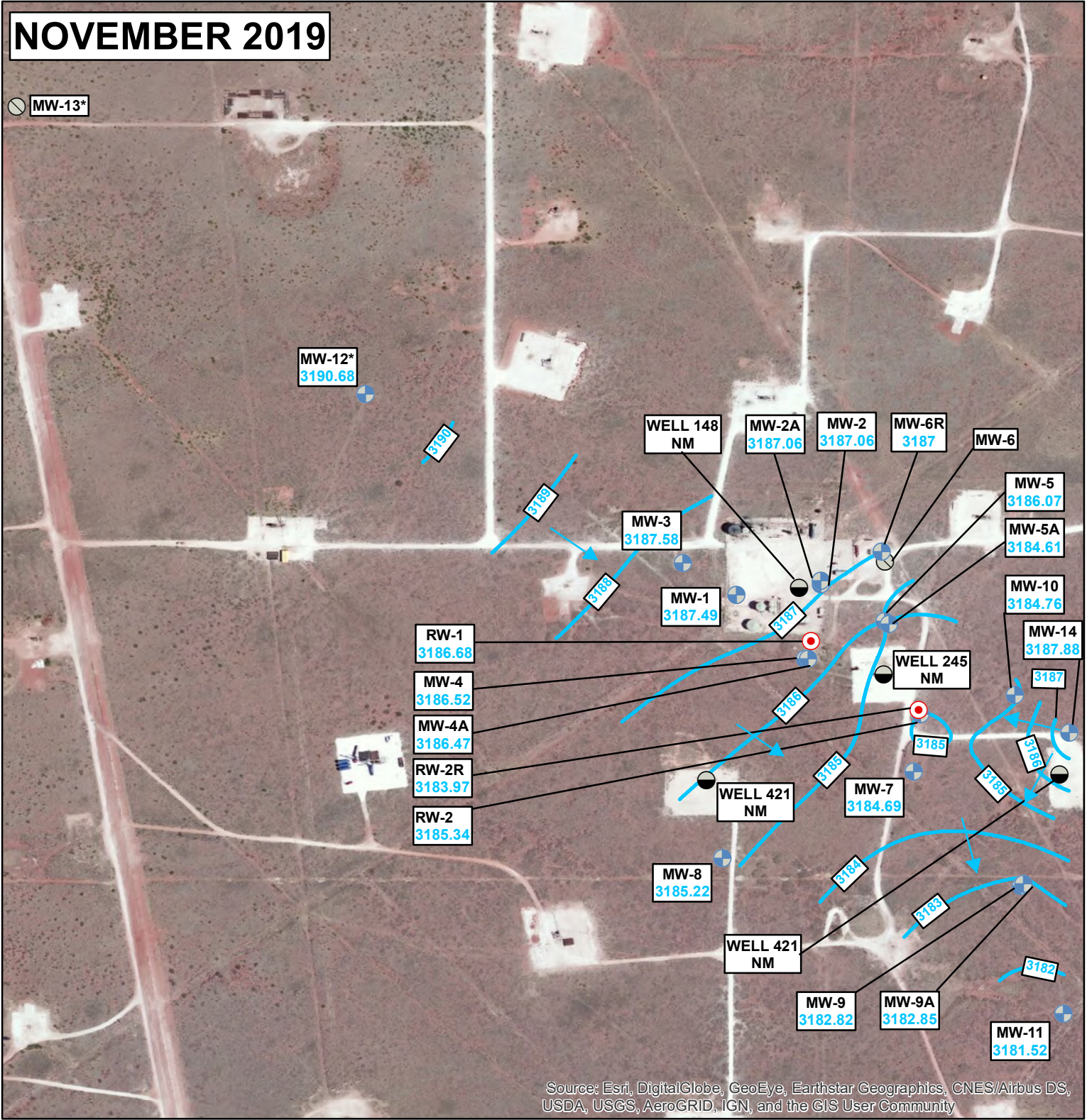
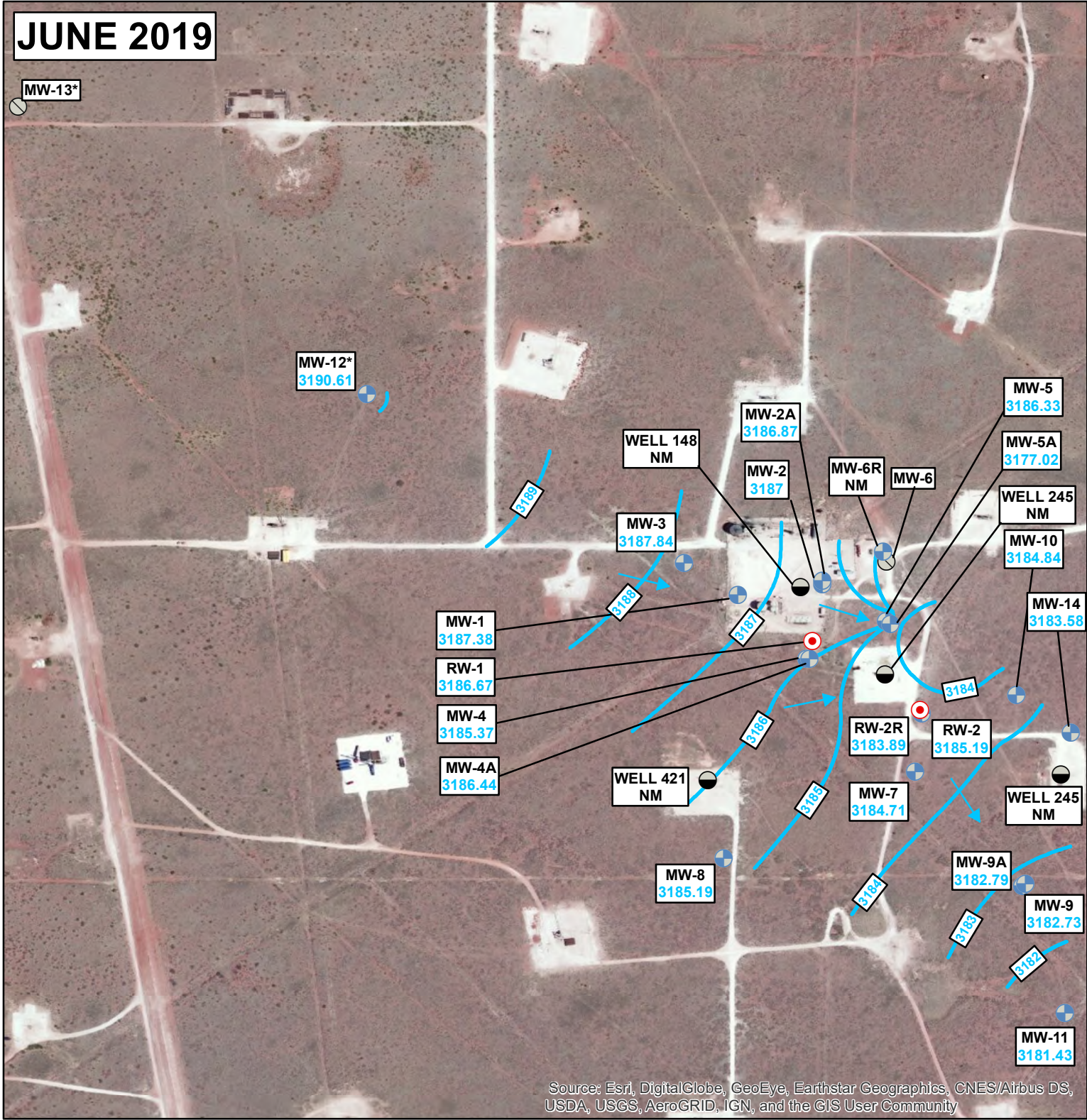


Chevron Environmental Management Company
Cooper-Jal Unit South Injection Site
Lea County, New Mexico

SITE DETAILS MAP



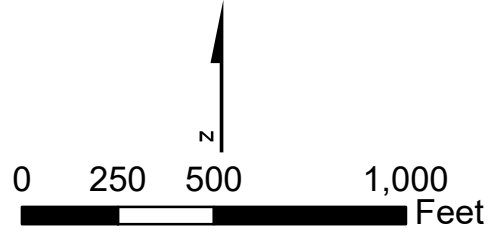
Document Path: \\arcadis-us\officedata\Houston-TX\ENV\Chevron\Texaco TX\HES Transfer\04 Field Investigations\2019\6 - Annual GWMR\Cooper Jal\GIS - Cooper Jal\Figure 3 GW Map Combined 01.07.2020



Legend

- Monitoring Well Location
- Recovery Well
- Cooper Jal Oil Well
- Plugged & Abandoned Monitoring Well
- Potentiometric Contour and Elevation
- Groundwater Elevation (ft above mean sea level)
- Approximate Groundwater Flow

Notes:
1. Datum: D_WGS_1984
2. Cooper Jal Oil Wells were not gauged
3. Site Location: 32.19891, -103.21523
4. NM: Not Measured



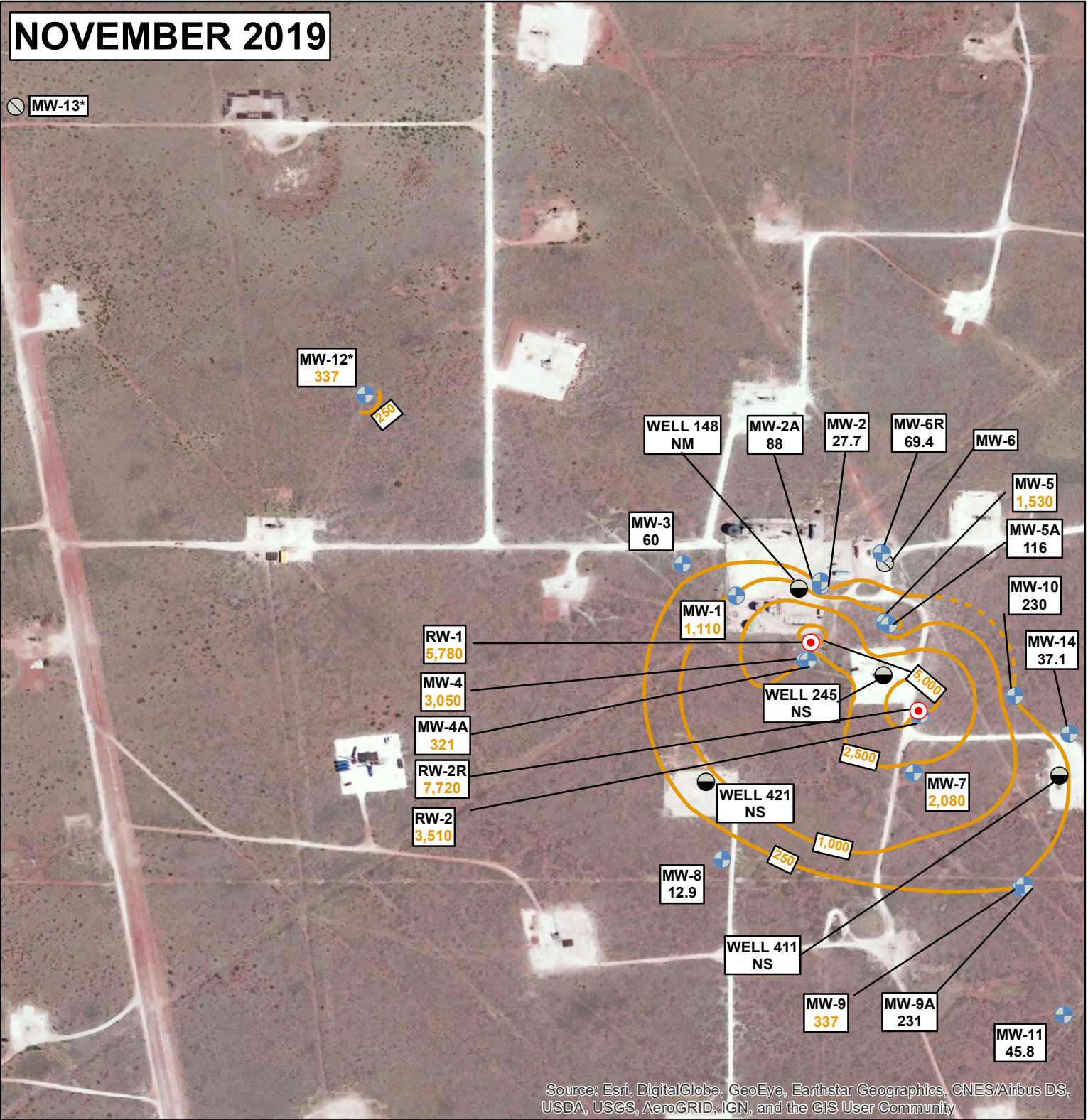
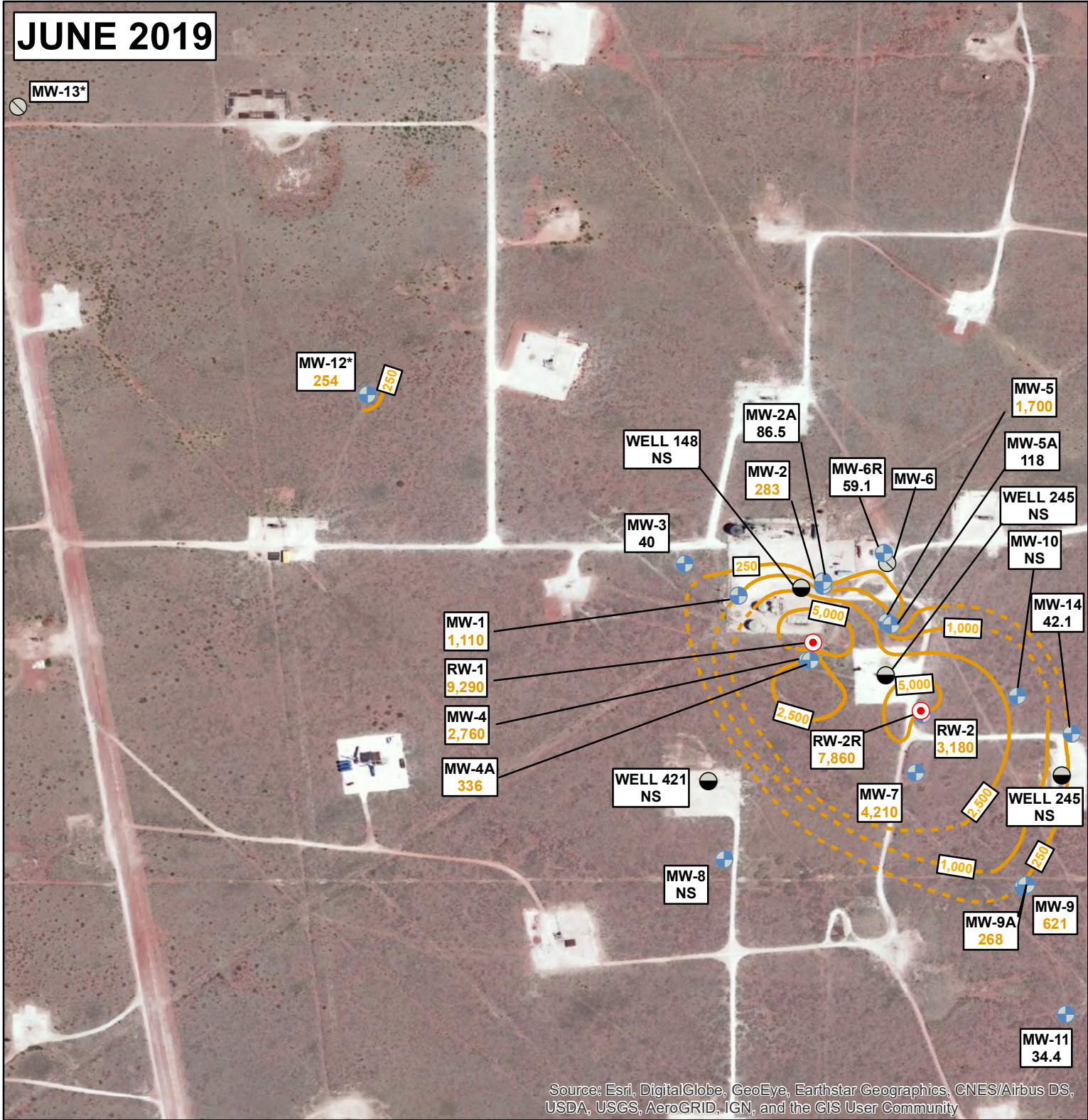
Chevron Environmental Management Company
Cooper-Jal Unit South Injection Site
Lea County, New Mexico

**POTENTIOMETRIC SURFACE MAP
2019**

ARCADIS

FIGURE 3

Document Path: \\arcadis-us\officedata\Houston-TX\ENV\Chevron\Texaco-TX\ENV\HES Transfer\04 Field Investigations\2019\6 - Annual GWMR\Cooper Jal\GIS - Cooper Jal\Figure 4 Chloride Map Combined 01.08.2020



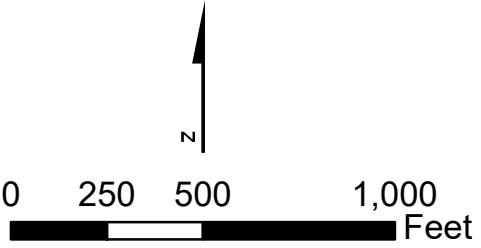
Legend

- Monitoring Well Location
- Recovery Well
- Cooper Jal Oil Well
- Plugged & Abandoned Monitoring Well
- Chloride Isoconcentration Contour
- Chloride Concentration in milligrams per liter (mg/L)
- Chloride Concentration (mg/L) Exceeds NMWQCC Other Standards for Domestic Water Supply

118

268

Notes:
1. Datum: D_WGS_1984
2. Cooper Jal Oil Wells were not gauged
3. Site Location: 32.19891, -103.21523
4. NS: Not Sampled



Chevron Environmental Management Company
Cooper-Jal Unit South Injection Site
Lea County, New Mexico

**SEMI-ANNUAL CHLORIDE
ISOCONCENTRATION MAP 2019**

ARCADIS

FIGURE
4

APPENDIX A

Site Background



REGULATORY BACKGROUND

Site assessment activities were initiated in 1993 when Environmental Spill Control, Inc. (ESCI) of Hobbs, New Mexico, performed a subsurface assessment of an unlined earthen produced water overflow pit, reportedly located adjacent to the western edge of the Site. During the investigation, five boreholes were advanced to depths ranging from 15 feet below ground surface (ft bgs) to 100 ft bgs. The investigation revealed the presence of hydrocarbon-impacted soil. In 1996, Texaco Exploration and Production, Inc. (Texaco) filed a notice of intent to close the pit with the New Mexico Oil Conservation Division (NMOCD). Approximately 1,248 cubic yards (cy) of hydrocarbon-impacted soil were removed from the pit. During the closure activities, the excavation was lined with imported clay and backfilled with imported caliche. Texaco submitted a pit closure report to the NMOCD in December 1996.

In 1997, the NMOCD requested additional assessment activities to define the vertical extent of affected soil beneath the former pit. Assessment activities performed by Highlander Environmental Corporation revealed elevated chloride concentrations in the soil. In October 1997, monitoring well MW-1 was installed near the former pit. Groundwater samples collected from the monitoring well contained chloride concentrations above the New Mexico Water Quality Control Commission (NMWQCC) Human Health Standards for Groundwater (250 milligrams per liter [mg/L]). Assessment activities performed through May 1998 included the installation of 13 additional monitoring wells. In 1998, electromagnetic (EM 34) terrain conductivity surveys were completed to identify areas of elevated chloride concentrations in soil.

REGULATORY FRAMEWORK

The NMOCD of the New Mexico Energy, Minerals, and Natural Resources Department has regulatory jurisdiction over corrective actions conducted at the Site. Corrective actions follow guidance given by the NMOCD in *Guidelines for Remediation of Leaks, Spills, and Releases* (August 13, 1993). These guidelines require remediation of four constituents of concern (COCs) in groundwater to the human health standards of the NMWQCC set forth in New Mexico Administrative Code 20.6.2.3103B as follows:

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
Total Dissolved Solids (TDS)	1,000
Fluoride	1.6
Sulfate (SO ₄)	600

Note: mg/L = milligrams per liter

The original analyte list included carbonate alkalinity, bicarbonate alkalinity, total alkalinity, nitrate-N, calcium, magnesium, potassium, sodium, chloride, TDS, fluoride, and sulfate. In a letter to the NMOCD, dated December 15, 2014, GHD, on behalf of CEMC, requested a reduction in the list of analytical parameters and a reduction in the wells included in the monitoring program. In a subsequent email, dated May 19, 2015, the NMOCD approved the reduction of the list of analyses to chloride, TDS, fluoride, and sulfate only. No wells were eliminated from the monitoring program.

GROUNDWATER SAMPLING AND ANALYSIS

Groundwater at the Site is monitored semiannually via a network of 18 monitor wells and 2 recovery wells as outlined in the *Work Plan for Plume Delineation and Modification to Proposed Groundwater Monitoring Schedule* submitted on November 18, 1998 and approved by the NMOCD on February 2, 1999. Five down gradient monitoring wells (MW-8, MW-9, MW-10, MW-11, and MW-14) were sampled during the first semi-annual monitoring event conducted on May 22, 2018. All 20 monitoring and recovery wells were sampled during the second semi-annual monitoring event performed on October 15 through 19, 2018. Semi-annual groundwater monitoring activities and annual reporting to the NMOCD for this Site have been performed by GHD (formerly Conestoga-Rovers & Associates, Inc. [CRA]) since 2005 and continued until 2018.

In June 1998, Texaco prepared a groundwater corrective action plan to mitigate chloride concentrations and to provide plume containment by extracting groundwater from the affected groundwater-bearing unit (GWBU). Between 1999 and 2013, assessment activities included the installation of wells MW-6R, MW-11 through MW-14, RW-1, RW-2, and RW-2R. Monitoring well MW-6 was plugged and abandoned in September 2013 due to a damaged well casing. Due to on-Site wells (MW-1, MW-2, MW-2A, MW-3, and MW-6) fully delineating the northern boundary of the chloride plume, monitoring well MW-13, located approximately 1,000 feet up-gradient and off-Site, was plugged and abandoned on July 11, 2017.

Historically, chloride concentrations show decreasing trends in upgradient monitor wells MW-1, MW-2, and MW-5, as shown on concentration versus date graphs in Exhibit 1A, available in the *2018 Annual Groundwater Monitoring Report*. Increasing trends have been observed since 1997 in downgradient monitor wells MW-7, MW-9, MW-9A, and MW-10, as indicated in Exhibit 1B (available in the *2018 Annual Groundwater Monitoring Report*), although more recent data indicate that these concentrations are stabilizing with some variability, with the exception of monitor well MW-7. Similar trends are apparent in TDS and sulfate concentrations. There are no strong trends in the observed historical concentrations of fluoride. Based on current and historical concentration data, the groundwater plume at the Site is fully delineated.

Soil Boring and Monitor Well Installation

The New Mexico Office of the State Engineer (NMOSE) governs water usage in the State of New Mexico. Applications for Permits to Appropriation Groundwater were submitted by Texaco in October 1999 and were approved with specific conditions in June 2008. A total of 65 acre-feet (ac-ft) per annum from the two on-Site recovery wells (RW-1 and RW-2) was granted by the NMOSE for environmental remediation purposes. Usage of groundwater was granted by the NMOSE under well permits CP-884 (RW-2; 32.5 ac-ft per annum) and CP-885 (RW-1; 32.5 ac-ft per annum).

Due to apparent damage at RW-2 that would prevent the installation of a pump, RW-2R was installed under well permit CP-884-POD2 to replace RW-2 in 2013. An application to change the designation of RW-2 from a recovery well to a monitoring well was submitted on December 16, 2016. This was done to allow the well to remain in the monitoring well network instead of being plugged and abandoned. The change was conditionally approved, pending further assessment of the well integrity, by the NMOSE in a phone conversation on January 9, 2017. On February 10, 2017, GHD further assessed RW-2 and found the annular seal to be compliant with New Mexico Administrative Code (NMAC) 19.27.4.30 Regulations and the well casing and well pad to be in good condition. These findings were documented in a letter sent

to the NMOSE on February 16, 2017. Based on GHD's reported understanding of the January 9, 2017, conversation, RW-2 is now designated as a monitoring well.

To date, neither RW-1 nor RW-2R have been equipped for groundwater recovery. Notifications to NMOSE will be submitted if these wells become equipped in the future. Until each well is permanently equipped, an Extension of Time (EOT) request will be sent to the NMOSE. An EOT was received by NMOSE on April 23, 2018. The request was approved in written correspondence and extended through April 30, 2020.

GEOLOGY/HYDROGEOLOGY ASSESSMENT

Site Setting

The Site is located on Lea County Road J7, approximately five and a half miles northwest of Jal, New Mexico, in Section 24, Township 24 South, Range 36 East, Lea County, New Mexico. The latitude and longitude coordinates of the Site are 32° 12' 7.13" N and 103° 13' 4.36" W.

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. An injection well facility, operated by Resaca Resources, LLC (Resaca), is located adjacent to the Site. No active Chevron U.S.A. Inc. (Chevron) operations are present in the area.

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").

Site Geology

The Site boring logs used to interpret the Site geology included the October 2013 GHD field work and logs from previous groundwater assessments. The locations of the soil borings and monitoring wells are shown on Figure 2. The subsurface stratigraphy typically included the following:

- A thick sand (0 to 163 feet) layer of unconsolidated fine sand containing trace caliche nodules. Sand grains gradually increasing to fine to medium grained at 140 feet,
- A fine sand layer typically ranging from 3 feet to 30 feet,
- A sandy clay layer typically ranging from 2 feet to 11 feet directly above the upper Dockum "redbeds",
- Red and gray weathered shale and mudstone "redbeds" of the Triassic Dockum Group that form the underlying confining layer.

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 lower Ogallala deposits. The depth to groundwater at the Site ranges from approximately 140 to 190 ft bgs, based on the groundwater monitoring event conducted in June/November 2019. The saturated thickness of the unconfined aquifer ranges from approximately 15 to 30 ft. The saturated thickness varies in conjunction with the elevation of the top of the Dockum shale. The thickest saturated portion of the Ogallala is to the southwest where the bedrock surface of the Dockum is the lowest. A dry borehole was encountered at BH-C, east of the property boundary of the Site.

At the Site, the local groundwater flow direction trends to the southeast with an average horizontal hydraulic gradient of approximately 0.0169 feet per foot (ft/ft), as presented in the attached figures. The southeast groundwater flow direction observed at the Site is consistent with the regional groundwater flow direction to the southeast in the Ogallala Aquifer. The deflection to the east at the eastern property boundary is likely related to the break of the slope of the land towards the Monument Draw to the east.

APPENDIX B

Field Methodology and Documentation



FIELD METHODOLOGY

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 Eurofins TestAmerica, located in Houston, Texas, for analysis of chloride and sulfate by Environmental Protection Agency (EPA) Method 300.0 and total dissolved solids (TDS) by SM 2540C.

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper Jail Chevron Fuller Project Number B0047270.0007
 Well Identification MW-1 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 171.17 Measuring Point TOL Depth to water 134.56

VISUAL INSPECTION

- | | | | |
|---|---|---|-----|
| 1) Is protective sleeve/cover in place and secure? | Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | Y | N | N/A |
| 5) Is well cap in place and in good condition? | Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | N | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.)

Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.)

Y N N/A

Does bailer/pump travel freely to and from bottom of well?

Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well?

Y N N/A

Does the bailer contain excessive amounts of silt or rust?

Y N N/A

Does water appear discolored or have an unusual odor or appearance?

Y N N/A

Is the lock on the well cover/cap clean and fully functional?

Y N N/A

NOTES AND
 OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cuper Jail Chevron Fuller Project Number B0047270.0007
 Well Identification MIS-2 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 168.39 Measuring Point TU Depth to water 134.27

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A
- Does bailer/pump travel freely to and from bottom of well? Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A
- Does the bailer contain excessive amounts of silt or rust? Y N N/A
- Does water appear discolored or have an unusual odor or appearance? Y N N/A
- Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Chevron Fuller Project Number B0047270.0007
 Well Identification MW-2A Inspection Date 06/13/19 Inspector LB
 Measured Well Depth 142.47 Measuring Point TU Depth to water 134.43

VISUAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 5) Is well cap in place and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | <u>N/A</u> |

PHYSICAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does bailer/pump travel freely to and from bottom of well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | <u>N</u> | <u>N/A</u> |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper JCH
~~Chevron Fuller~~ Project Number B0047270.0007
 Well Identification MW - 3 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 171.93 Measuring Point TOC Depth to water 132.24

VISUAL INSPECTION

- | | | | |
|--|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well?..... | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration?..... | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Copper Junction Project Number B0047270.0007
 Well Identification MW-4 Inspection Date 06/13/14 Inspector LR
 Measured Well Depth 171.21 Measuring Point TOL Depth to water 135.21

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Copper Jail Chevron Fuller Project Number B0047270.0007
 Well Identification MW-4A Inspection Date 02/13/19 Inspector LB
 Measured Well Depth 145.55 Measuring Point TOL Depth to water 134.95

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper Jail ~~Chevron Fuller~~ Project Number B0047270.0007
 Well Identification mw - 5 Inspection Date 11/13/19 Inspector LR
 Measured Well Depth 173.72 Measuring Point TL Depth to water 136.65

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Ceep of Jui Chevron Fuller Project Number B0047270.0007
Well Identification MW-5A Inspection Date 11/13/14 Inspector LB
Measured Well Depth 144.05 Measuring Point TU Depth to water 176.71

VISUAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 5) Is well cap in place and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | <u>N/A</u> |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.)

Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.)

Y N N/A

Does bailer/pump travel freely to and from bottom of well?

Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well?

Y N N/A

Does the bailer contain excessive amounts of silt or rust?

Y N N/A

Does water appear discolored or have an unusual odor or appearance?

Y N N/A

Is the lock on the well cover/cap clean and fully functional?

Y N N/A

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper Jai Project Number B0047270.0007
Well Identification MW-7 Inspection Date 06/13/19 Inspector LB
Measured Well Depth 162.60 Measuring Point TOL Depth to water 135.46

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | Y | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A
- Does bailer/pump travel freely to and from bottom of well? Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A
- Does the bailer contain excessive amounts of silt or rust? Y N N/A
- Does water appear discolored or have an unusual odor or appearance? Y N N/A
- Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS: something in well when taking conductivity profile.

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jail Chevron Fuller Project Number B0047270.0007
 Well Identification MW-8 Inspection Date 02/13/19 Inspector LB
 Measured Well Depth 146.85 Measuring Point TOL Depth to water 133.87

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | Y | <u>N</u> | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

obstruction @ 136'. Old Hydravertee was pulled
cut prior to gauging.

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper Jai Chevron Fuller Project Number B0047270.0007
 Well Identification MW-9 Inspection Date 06/13/19 Inspector LB
 Measured Well Depth 161.46 Measuring Point TOL Depth to water 131.95

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | Y | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jct Chevron Fuller Project Number B0047270.0007

Well Identification MW-4A Inspection Date 06/12/19 Inspector LB

Measured Well Depth 141.72 Measuring Point 70C Depth to water 131.49

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | <u>N</u> | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Chevron Fuller Project Number B0047270.0007
 Well Identification MW-10 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 140.72 Measuring Point TOL Depth to water 136.28

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS: something in well, can't get hydrolevel.

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jail Chevron Fuller Project Number B0047270.0007
 Well Identification mw-11 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 145.71 Measuring Point TOL Depth to water 136.13

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper Jai Chevron Fuller Project Number B0047270.0007
 Well Identification MW-12 Inspection Date 6/13/14 Inspector LB
 Measured Well Depth 171.02 Measuring Point 700 Depth to water 139.72

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|---------------------------|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | ☐ N | ☐ N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | ☐ N | ☐ N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | ☐ N | ☐ N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | ☒ N | ☐ N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | ☐ N | ☐ N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | ☐ N | ☐ N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | ☐ Y | ☒ N | ☐ N/A |

PHYSICAL INSPECTION

- | | | | |
|---|------------------------------------|-------------------------|--------------------------------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | ☒ Y | ☐ N | ☐ N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | ☒ Y | ☐ N | ☐ N/A |
| Does bailer/pump travel freely to and from bottom of well? | ☐ Y | ☐ N | ☒ N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | ☐ Y | ☐ N | ☒ N/A |
| Does the bailer contain excessive amounts of silt or rust? | ☐ Y | ☐ N | ☒ N/A |
| Does water appear discolored or have an unusual odor or appearance? | ☐ Y | ☐ N | ☒ N/A |
| Is the lock on the well cover/cap clean and fully functional? | ☒ Y | ☐ N | ☐ N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Casper J. 41 Project Number B0047270.0007
 Well Identification MW-14 Inspection Date 11/13/19 Inspector LB
 Measured Well Depth 173.74 Measuring Point TUC Depth to water 134.38

VISUAL INSPECTION

- | | | | |
|---|---|---|-----|
| 1) Is protective sleeve/cover in place and secure? | Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | Y | N | N/A |
| 5) Is well cap in place and in good condition? | Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | N | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|---|---|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | Y | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | Y | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | N/A |
| Is the lock on the well cover/cap clean and fully functional? | Y | N | N/A |

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Chevron Fuller Project Number B0047270.0007
 Well Identification RW-1 Inspection Date 06/13/19 Inspector LR
 Measured Well Depth 124.03 Measuring Point TOL Depth to water 133.64

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Chevron Fuller Project Number B0047270.0007
 Well Identification NW-2 Inspection Date 4/12/19 Inspector LB
 Measured Well Depth 156.50 Measuring Point TUC Depth to water 135.23

VISUAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 5) Is well cap in place and in good condition? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | <u>N/A</u> |

PHYSICAL INSPECTION

- | | | | |
|---|----------|----------|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does bailer/pump travel freely to and from bottom of well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | <u>Y</u> | <u>N</u> | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | <u>N</u> | <u>N/A</u> |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Ceeper Jan Chevron Fuller Project Number B0047270.0007
 Well Identification RW-2R Inspection Date 4/17/19 Inspector LB
 Measured Well Depth 174.82 Measuring Point TOL Depth to water 134.79

VISUAL INSPECTION

- | | | | |
|--|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well?..... | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration?..... | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|---|------------|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | <u>N/A</u> |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | <u>N/A</u> |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | <u>N/A</u> |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | <u>N/A</u> |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS:

Well Conductivity Profile Field data Sheet

Site Name: Casper Jail
Well Identification: mw-1
Static Water Level: 134.56
Stop Time: _____

Date: 06/17/19
 Personnel: JL/LB
 Total Depth: 171.17
 Start Time: _____

Well Conductivity Profile Field data Sheet

Site Name: Chapel Jai

Well Identification: MW-2

Static Water Level: 34.27

Stop Time: 1058

Date: 02/13/19

Personnel: JL / LB

Total Depth: 1108.39

Start Time: 1041

[illegible]

Well Conductivity Profile Field data Sheet

Site Name: CCE 4 Jul

Well Identification: MW-14A

Static Water Level: 134.43

Stop Time: 1030

Date: 02/13/19

Personnel: JL / LVB

Total Depth: 142.47

Start Time: 10:30

Well Conductivity Profile Field data Sheet

Site Name: Cooper Jai

Well Identification: MW-3

Static Water Level: 132.24

Stop Time: 1107

Date: 04/13/19

Personnel: JL | LR

Total Depth: 132, 171, 93

Start Time: 11:00

Well Conductivity Profile Field data Sheet

Site Name: Casper Jan
Well Identification: MW-4
Static Water Level: 135.21
Stop Time: 3:21 PM

Date: 06/13/19
Personnel: JL/LB
Total Depth: 171.81
Start Time: 3:15 pm

Well Conductivity Profile Field data Sheet

Site Name: Cooper Jwl
Well Identification: mw-4A
Static Water Level: 34.98
Stop Time: 3:10 pm

Date: 06/13/14

Personnel: JL/LB

Total Depth: 145.55

Start Time: 3:00 PM

Well Conductivity Profile Field data Sheet

Site Name: Cooper Hill

Well Identification: mu-5

Static Water Level: 136.405

Stop Time: 0827

Date: 06/13/19

Personnel: JL / LB

Total Depth: 15.00 ft

Start Time: 0756

Well Conductivity Profile Field data Sheet

Site Name: Copper Jail
Well Identification: MW-5F
Static Water Level: 136.74
Stop Time: 0842

Date: Oct 13/19
 Personnel: JL / LR
 Total Depth: 144.05
 Start Time: 0832

[illegible]

Well Conductivity Profile Field data Sheet

Site Name: Copper Jail
Well Identification: MW-7
Static Water Level: 135.46
Stop Time: 0118 pm

Date: 06/13/19

Personnel: JL/LB

Total Depth: 142,40

Start Time: 0044m

Well Conductivity Profile Field data Sheet

Site Name: Carter Jail
Well Identification: MW-8
Static Water Level: 133.67
Stop Time: 1128

Date: 06/13/19

Personnel: JL/LB

Total Depth: 146.85

Start Time: 1126

[illegible]

Well Conductivity Profile Field data Sheet

Site Name: Cooper Jct
Well Identification: mw-9
Static Water Level: 131.95
Stop Time: 1240

Date: 06/13/19

Personnel: JL/LB

Total Depth: 161.46

Start Time: 1235

Well Conductivity Profile Field data Sheet

Site Name: Cooper Jan
Well Identification: m16 - 4A
Static Water Level: 131.69
Stop Time: 1232

Date: 06/13/19

Personnel: JL/LB

Total Depth: 141.72

Start Time: 1228

Well Conductivity Profile Field data Sheet

Site Name: Cropper Jct
Well Identification: MW-10
Static Water Level: 136.28
Stop Time: 2:30 pm

Date: 06/13/19

Personnel: JL / LB

Total Depth: 160.72

Start Time: 2:34 pm

Well Conductivity Profile Field data Sheet

Site Name: Lower Jail

Well Identification: MW-11

Static Water Level: 130.13

Stop Time: 11:56

Date: 06/13/14

Personnel: JL / LB

Total Depth: 145.71

Start Time: 150

Well Conductivity Profile Field data Sheet

Site Name: Copper Jail
Well Identification: mu-12
Static Water Level: 139.92
Stop Time: 1047

Date: 05/13/19

Personnel: JL/LB

Total Depth: 171.02

Start Time: 1040

Well Conductivity Profile Field data Sheet

Site Name: Leaper Jct
Well Identification: W110-14
Static Water Level: 134.38
Stop Time: 1:33 pm

Date: 06/13/19

Personnel: JL/LB

Total Depth: 173.74

Start Time: 1:22 PM

Well Conductivity Profile Field data Sheet

Site Name: Copper Jaw
Well Identification: RW-1
Static Water Level: 123.04
Stop Time: 3:45 pm

Date: 06/13/19

Personnel: JL / LR

Total Depth: 164.03

Start Time: 3:35 pm

Well Conductivity Profile Field data Sheet

Site Name: Casper Jew
Well Identification: AAW LW 2
Static Water Level: 135.23
Stop Time: 1:51 PM

Date: 06/13/19

Personnel: JL / LB

Total Depth: 156.50

Start Time: 1:45 pm

Well Conductivity Profile Field data Sheet

Site Name: Cooper Deal
Well Identification: RW-2R
Static Water Level: 136.79
Stop Time: 2:21 pm

Date: 06/13/19

Personnel: JL / LB

Total Depth: 170, 82

Start Time: 2:15 pm

Well Conductivity Profile Field data Sheet

Site Name: Uper-Jai

Well Identification: MW-10R

Static Water Level: 136.15

Stop Time: 005

Date: 06/17/19

Personnel: CE/JL

Total Depth: 171.02

Start Time: 0936

[illegible]

ARCADIS **Micropurge Sampling Log**

Project: CVX HEU Transfer

Project No. _____

Page 1 of 1

Site Location: Leiper Dam

Date 6/20/14

Site/Well No. MW-1

Replicate No. _____

Code No. _____

Weather: H4, sunny

Sampling Time: Begin 9:35 am

End 9:36 am

Evacuation Data

Sounded Well Depth (ft bmp) 171.17

Depth to Water (ft bmp) 134.56

Gallons Pumped/Bailed Prior to Sampling Full Hydraulicleave

Sample Pump Intake Depth (ft bmp) N/A

Sample Pump controller Settings (cpm/psi) _____

Purge Time Begin _____ End _____

Pumping Rate (gpm) _____

Evacuation Method Hydraulicleave

Field Parameters

Color 1600 and not

Odor _____

Appearance sediment @ bottom, cloudy

*IRON, ferrous N/A

*SULFIDES _____

Data Frame _____

Remarks ↓

Sampling Personnel JL / LR

Time min	Water Level feet	Volume Purged	DO mg/L	ORP mv	pH su	Temp °C	COND	Turbidity NTU		
9:30	—	—	2.20	173.0	7.32	20.49	3.941	—		

Constituents Sampled

Container Description

Number

Preservative

bmp	below measuring point	ml	milliliter	S.U.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CUX HES Transfer Project No. _____ Page 1 of 1
 Site Location: Copper Jail Date 6/20/19
 Site/Well No. MW-2 Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 9:47 End 9:47

Evacuation Data

Sounded Well Depth (ft bmp) 1108.39
 Depth to Water (ft bmp) 134.27
 Gallons Pumped/Bailed Prior to Sampling Full Hydroseal
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydroseal

Field Parameters

Color Clear / Turb
 Odor _____
 Appearance Cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks ↓
 Sampling Personnel JL / LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
9:47am	—	—	2.86	146.7	7.38	21.21	1.121	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	microsiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: Cvx HCU Transfer Project No. _____ Page 1 of 1
 Site Location: Super Jail Date 06/20/19
 Site/Well No. MAW - 2A Replicate No. _____ Code No. _____
 Weather: Hot, Sunny Sampling Time: Begin 9:44 End 9:44

Evacuation Data

Sounded Well Depth (ft bmp) 142.47
 Depth to Water (ft bmp) 134.43
 Gallons Pumped/Bailed Prior to Sampling Full Hydraulic
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydraulic

Field Parameters

Color Clear / Tan
 Odor _____
 Appearance cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks ↓
 Sampling Personnel JL / LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
<u>9:44am</u>	<u>—</u>	<u>—</u>	<u>2.42</u>	<u>147.1</u>	<u>7.71</u>	<u>20.88</u>	<u>6.743</u>	<u>—</u>		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HEU Transfer Project No. _____ Page 1 of 1
 Site Location: Copper Lake Date 6/20/19
 Site/Well No. mw-3 Replicate No. _____ Code No. _____
 Weather: Hot, Sunny Sampling Time: Begin 9:32 am End 9:32 am

Evacuation Data

Sounded Well Depth (ft bmp) 171.93
 Depth to Water (ft bmp) 132.24
 Gallons Pumped/Bailed Prior to Sampling FULL HYDRAULIC
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method HYDRAULIC

Field Parameters

Color _____
 Odor _____
 Appearance clear
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
9:32am	—	—	2.43	168.0	7.69	20.60	0.633	—		

Constituents Sampled	Container Description	Number	Preservative

bmp below measuring point
 °C degrees Celsius
 ft feet
 ml/min milliliters per minute
 mg/L milligrams per liter
 ml milliliter
 mS/cm milisiemens per centimeter
 mS microsiemens
 N/A not applicable
 NR not recorded
 s.u. standard units
 mv millivolts
 NTU Nephelometric Turbidity Units
 umhos/cm Micromhos per centimeter
 VOC Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: Cvx HEU Transfer
 Site Location: Lower 1st
 Site/Well No. MW-4
 Weather: HOT, sunny

Project No. _____

Page 1 of 1

Date 06/20/19

Replicate No. 1

Code No. _____

Sampling Time: Begin 10:22 am

End 10:22

Evacuation Data

Sounded Well Depth (ft bmp) 171.81
 Depth to Water (ft bmp) 135.21
 Gallons Pumped/Bailed Prior to Sampling Full Hydraulic
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydraulic

Field Parameters

Color tan
 Odor _____
 Appearance cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL / LB

Time min	Water Level feet	Volume Purged	DO mg/L	ORP mv	pH su	Temp °C	COND	Turbidity NTU		
10:22am	—	—	1.13	108.4	7.18	21.57	9.462	—		

Constituents Sampled

Container Description

Number

Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HEU Transfer Project No. _____ Page 1 of 1
 Site Location: Cooper Lake Date 06/20/19
 Site/Well No. MW-4A Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 10:24 End 10:24

Evacuation Data

Sounded Well Depth (ft bmp) 145.55
 Depth to Water (ft bmp) 134.96
 Gallons Pumped/Bailed Prior to Sampling Full Hydrophobic
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydrophobic

Field Parameters

Color tan
 Odor _____
 Appearance cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
10:24	—	—	1.45	134.5	7.99	21.64	1.827	—		

Constituents Sampled	Container Description	Number	Preservative

bmp below measuring point
 °C degrees Celsius
 ft feet
 ml/min milliliters per minute
 mg/L milligrams per liter
 ml milliliter
 mS/cm milisiemens per centimeter
 mS microsiemens
 N/A not applicable
 NR not recorded
 s.u. standard units
 mv millivolts
 NTU Nephelometric Turbidity Units
 umhos/cm Micromhos per centimeter
 VOC Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HES Transfer Project No. _____ Page 1 of 1
 Site Location: Super Jail Date 6/20/19
 Site/Well No. mw-5 Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 10:05am End 10:05am

Evacuation Data

Sounded Well Depth (ft bmp) 173.92
 Depth to Water (ft bmp) 134.65
 Gallons Pumped/Bailed Prior to Sampling Full Hydrohelic
 Sample Pump Intake Depth (ft bmp) 141.10
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydrohelic

Field Parameters

Color clear
 Odor _____
 Appearance _____
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL / LR

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
10:05am	—	—	1.03	161.3	7.00	21.4	5.17	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HEU Transfer

Project No. _____

Page 1 of 1

Site Location: Casper, WY

Date 6/20/19

Site/Well No. MW-5A

Replicate No. _____

Code No. _____

Weather: Hot, sunny

Sampling Time: Begin 10:08

End 10:08

Evacuation Data

Sounded Well Depth (ft bmp) 144.05

Depth to Water (ft bmp) 176.71

Gallons Pumped/Bailed Prior to Sampling Full Hydrusleeve

Sample Pump Intake Depth (ft bmp) N/A

Sample Pump controller Settings (cpm/psi) _____

Purge Time Begin _____ End _____

Pumping Rate (gpm) _____

Evacuation Method Hydrusleeve

Field Parameters

Color Hot, Clear

Odor _____

Appearance Cloudy

*IRON, ferrous N/A

*SULFIDES _____

Data Frame _____

Remarks _____

Sampling Personnel JL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp °C	COND	Turbidity (NTU)		
10:08 am	—	—	2.37	146.7	7.51	21.54	0.811	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degree Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVK HES Transfer
 Site Location: Cooper 1a1
 Site/Well No. mw-7
 Weather: HOT, sunny

Project No. _____
 Replicate No. _____
 Sampling Time: Begin 11:20

Page 1 of 1
 Date 6/20/19
 Code No. _____
 End 11:20

Evacuation Data

Sounded Well Depth (ft bmp) 102.80
 Depth to Water (ft bmp) 135.48
 Gallons Pumped/Bailed Prior to Sampling Full Hydraulic Head
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydraulic

Field Parameters

Color tan
 Odor _____
 Appearance Cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel L/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
<u>11:20 AM</u>	<u>—</u>	<u>—</u>	<u>0.86</u>	<u>189.5</u>	<u>6.88</u>	<u>21.70</u>	<u>11.4</u>	<u>—</u>		

Constituents Sampled

Container Description

Number

Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HCU Transfer Project No. _____ Page 1 of 1
 Site Location: Super Sal Date 06/20/19
 Site/Well No. 11W-8 Replicate No. _____ Code No. _____
 Weather: Hot, Sunny Sampling Time: Begin _____ End _____

Evacuation Data

Sounded Well Depth (ft bmp) 144.85
 Depth to Water (ft bmp) 133.87
 Gallons Pumped/Bailed Prior to Sampling N/A
 Sample Pump Intake Depth (ft bmp) _____
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method _____

Field Parameters

Color N/A
 Odor _____
 Appearance _____
 *IRON, ferrous _____
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JK / LRB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
no sample collected, unable to lower 451 due to blockage										

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HEU Transfer Project No. _____ Page 1 of 1
 Site Location: Copper Jail Date 6/20/19
 Site/Well No. MW-9 Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 11:30am End 11:30

Evacuation Data

Sounded Well Depth (ft bmp) 161.46
 Depth to Water (ft bmp) 131.95
 Gallons Pumped/Bailed Prior to Sampling Full Hydroclave
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydroclave

Field Parameters

Color tan
 Odor —
 Appearance cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks ↓
 Sampling Personnel JL / LR

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
11:30am	—	—	1.73	169.4	7.26	22.48	2.297	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CUX HIV Transfer Project No. _____ Page 1 of 1
 Site Location: Super 101 Date: 6/20/19
 Site/Well No. MW-9A Replicate No. _____ Code No. _____
 Weather: Hot, Sunny Sampling Time: Begin 11:34 End 11:34

Evacuation Data

Sounded Well Depth (ft bmp) 141.72
 Depth to Water (ft bmp) 131.69
 Gallons Pumped/Bailed Prior to Sampling Full Hydrostatic
 Sample Pump Intake Depth (ft bmp) 1A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydrostatic

Field Parameters

Color tan
 Odor _____
 Appearance Cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL / LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
11:34am	—	—	1.68	168 u	7.33	22.74	1.297	—		

Constituents Sampled	Container Description	Number	Preservative

bmp below measuring point
 °C degrees Celsius
 ft feet
 ml/min milliliters per minute
 mg/L milligrams per liter
 ml milliliter
 mS/cm millisiemens per centimeter
 mS microsiemens
 N/A not applicable
 NR not recorded
 s.u. standard units
 mv millivolts
 NTU Nephelometric Turbidity Units
 umhos/cm Micromhos per centimeter
 VOC Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: Cvx HES Transfer Project No. _____ Page 1 of 1
 Site Location: Campy Jct Date 06/26/19
 Site/Well No. mw-10 Replicate No. _____ Code No. _____
 Weather: Hot, cloudy Sampling Time: Begin End

Evacuation Data

Sounded Well Depth (ft bmp) 120.72
 Depth to Water (ft bmp) 130.25
 Gallons Pumped/Bailed Prior to Sampling N/A
 Sample Pump Intake Depth (ft bmp)
 Sample Pump controller Settings (cpm/psi)
 Purge Time Begin End
 Pumping Rate (gpm)
 Evacuation Method

Field Parameters

Color N/A
 Odor
 Appearance
 *IRON, ferrous
 *SULFIDES
 Data Frame
 Remarks
 Sampling Personnel L/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
no sample collected, unable to lower PSI due to blockage										

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CUX HEU Transition Project No. _____ Page 1 of 1
 Site Location: Cox's Jai Date 06/20/19
 Site/Well No. MW-11 Replicate No. _____ Code No. _____
 Weather: Hot sunny Sampling Time: Begin 11:41 End 11:41

Evacuation Data

Sounded Well Depth (ft bmp) 165.71
 Depth to Water (ft bmp) 130.12
 Gallons Pumped/Bailed Prior to Sampling Full Hydroseal
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydroseal

Field Parameters

Color Clear
 Odor _____
 Appearance _____
 *IRON, ferrous N/A
 *SULFIDES N/A
 Data Frame _____
 Remarks EB-1 collected at 12:50 PM.
 Sampling Personnel JL / LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
11:41 AM	—	—	2.13	172.2	7.68	21.51	0.625	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HES Transfer

Project No. _____

Page 1 of 1

Site Location: Cooper Jct

Date 06/20/19

Site/Well No. MLW-12

Replicate No. _____

Code No. _____

Weather: H4, Windy

Sampling Time: Begin 8:52 am

End 8:52 am

Evacuation Data

Sounded Well Depth (ft bmp) 171.00

Depth to Water (ft bmp) 179.72

Gallons Pumped/Bailed Prior to Sampling Full Hydrovulve

Sample Pump Intake Depth (ft bmp) N/A

Sample Pump controller Settings (cpm/psi) _____

Purge Time Begin _____ End _____

Pumping Rate (gpm) _____

Evacuation Method Hydrovulve

Field Parameters

Color _____

Odor _____

Appearance clear

*IRON, ferrous N/A

*SULFIDES _____

Data Frame _____

Remarks _____

Sampling Personnel JL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
8:52 am	—	—	2.35	192.1	8.23	20.58	1.226	—		

Constituents Sampled

Container Description

Number

Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS
Micropurge Sampling Log

Project: CVX HEU Transfer Project No. _____ Page 1 of 1
 Site Location: COG 14F 1A1 Date 6/20/19
 Site/Well No. MW-14 Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 11:05 End 11:05 am

Evacuation Data

Sounded Well Depth (ft bmp) 178.74
 Depth to Water (ft bmp) 134.75
 Gallons Pumped/Bailed Prior to Sampling Full hydrostatic
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) N/A
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydrostatic

Field Parameters

Color clear
 Odor _____
 Appearance _____
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel JL / LR

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
11:05 am	—	—	1.46	146.2	8.21	28.24	6.714	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: 10X H2S Transfer

Project No. _____

Page 1 of 1

Site Location: 10101

Date 4/20/19

Site/Well No. 100-1

Replicate No. Dup-2

Code No. _____

Weather: Hot, sunny

Sampling Time: Begin 10:14am

End 10:14am

Evacuation Data

Sounded Well Depth (ft bmp) 164.03

Depth to Water (ft bmp) 133.64

Gallons Pumped/Bailed Prior to Sampling Full Hydruskeve

Sample Pump Intake Depth (ft bmp) N/A

Sample Pump controller Settings (cpm/psi) _____

Purge Time Begin _____ End _____

Pumping Rate (gpm) _____

Evacuation Method Hydruskeve

Field Parameters

Color 1000

Odor _____

Appearance _____

*IRON, ferrous N/A

*SULFIDES _____

Data Frame _____

Remarks Dup-2 taken at

10:16 am

Sampling Personnel JL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
10:14am	—	—	0.83	193.6	6.57	21.31	24.20	—		

Constituents Sampled

Container Description

Number

Preservative

bmp below measuring point
°C degrees Celsius
ft feet
ml/min milliliters per minute
mg/L milligrams per liter

ml milliliter
mS/cm milisiemens per centimeter
mS microsiemens
N/A not applicable
NR not recorded

s.u. standard units
mv millivolts
NTU Nephelometric Turbidity Units
umhos/cm Micromhos per centimeter
VOC Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HEC Transfer

Project No. _____

Page 1 of 1

Site Location: Super Jail

Date 6/20/19

Site/Well No. 1130-2

Replicate No. _____

Code No. _____

Weather: Hot, Sunny

Sampling Time: Begin 10:05

End 11:51

Evacuation Data

Sounded Well Depth (ft bmp) 156.50

Depth to Water (ft bmp) 138.23

Gallons Pumped/Bailed Prior to Sampling Full Hydrusleeve

Sample Pump Intake Depth (ft bmp) N/A

Sample Pump controller Settings (cpm/psi) _____

Purge Time Begin _____ End _____

Pumping Rate (gpm) _____

Evacuation Method Hydrusleeve

Field Parameters

Color clear

Odor —

Appearance clear

*IRON, ferrous N/A

*SULFIDES _____

Data Frame _____

Remarks ↓

Sampling Personnel AL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
10:51am	—	—	0.99	186.5	8.16	21.99	9.319	—		

Constituents Sampled

Container Description

Number

Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: CVX HYDRAHEUS Transfer Project No. _____ Page 1 of 1
 Site Location: Cooper-Jail Date 6/20/19
 Site/Well No. mw - 6R Replicate No. DUP - 1 Code No. _____
 Weather: Hot, Windy Sampling Time: Begin 9:53 am End 9:53

Evacuation Data

Sounded Well Depth (ft bmp) _____
 Depth to Water (ft bmp) _____
 Gallons Pumped/Bailed Prior to Sampling Full HYDRAHEUS
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydramaster

Field Parameters

Color Clear
 Odor —
 Appearance —
 *IRON, ferrous N/A
 *SULFIDES ↓
 Data Frame _____
 Remarks DUP-1 Collected @ 9:55 am
 Sampling Personnel L / LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
4:53 am	—	—	2.15	141.2	7.51	21.16	0.695	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

ARCADIS Micropurge Sampling Log

Project: LVX HCU Transfer Project No. _____ Page 1 of 1
 Site Location: Covered Date 06/20/19
 Site/Well No. RW - LOR Replicate No. _____ Code No. _____
 Weather: Hot, sunny Sampling Time: Begin 10:49 AM End 10:49 AM

Evacuation Data

Sounded Well Depth (ft bmp) _____
 Depth to Water (ft bmp) _____
 Gallons Pumped/Bailed Prior to Sampling Full Hydrostatic
 Sample Pump Intake Depth (ft bmp) N/A
 Sample Pump controller Settings (cpm/psi) _____
 Purge Time Begin _____ End _____
 Pumping Rate (gpm) _____
 Evacuation Method Hydrostatic

Field Parameters

Color clear
 Odor _____
 Appearance cloudy
 *IRON, ferrous N/A
 *SULFIDES _____
 Data Frame _____
 Remarks _____
 Sampling Personnel DL/LB

Time (min)	Water Level (feet)	Volume Purged	DO (mg/L)	ORP (mv)	pH (su)	Temp (°C)	COND	Turbidity (NTU)		
10:49 AM	—	—	0.84	185.4	6.68	23.91	20.24	—		

Constituents Sampled	Container Description	Number	Preservative

bmp	below measuring point	ml	milliliter	s.u.	standard units
°C	degrees Celsius	mS/cm	millisiemens per centimeter	mv	millivolts
ft	feet	mS	microsiemens	NTU	Nephelometric Turbidity Units
ml/min	milliliters per minute	N/A	not applicable	umhos/cm	Micromhos per centimeter
mg/L	milligrams per liter	NR	not recorded	VOC	Volatile Organic Compounds

Monitoring Well ID	Date Gauged	DTW (ft btoc)	Total Dep'n (ft btoc)	Notes
MW-1	11/20/19	134.45	174.2	
MW-2	11/20/19	134.21	168.57	
MW-2A	11/20/19	134.24	142.23	
MW-3	11/19/19	132.50	175.9	
MW-4	11/19/19	134.95	177.64	
MW-4A	11/19/19	136.91	147.60	
MW-5	11/20/19	136.46	177.50	
MW-5A	11/20/19	136.46	139.18	
MW-6	—	—	—	No bar exists (s.d. to Jero L.)
MW-6R	11/19/19	136.04	157.37	
MW-7	11/20/19	135.5	162.58	
MW-8	11/20/19	133.34	146.92	
MW-9	11/20/19	131.86	162.0	
MW-9A	11/20/19	131.63	145.66	
MW-10	11/20/19	135.36	160.71	
MW-11	11/20/19	130.04	72.3	
MW-12	11/20/19	139.65	174.57	
MW-14	11/20/19	125.08	128.12	
RW-1	11/20/19	133.63	13.79	
RW-2	11/19/19	125.08	177.60	
RW-2R	11/19/19	136.71	188.97	

Well Conductivity Profile Field data Sheet

Site Name: Casper Tail
Well Identification: MW-3
Static Water Level: 132.5
Stop Time: 1347

Date: 11/17/19
Personnel: CF, CHL
Total Depth: 175.90
Start Time: 1333

[illegible]

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification RLW-3 Inspection Date 11/19/19 Inspector B. C. H.
 Measured Well Depth 175.9 Measuring Point 171 Depth to water 132.5

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|---------------------------|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | ☐ N | ☐ N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | ☐ N | ☐ N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | ☐ N | ☐ N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☐ Y | ☒ N | ☐ N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | ☐ N | ☐ N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | ☐ N | ☐ N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | ☐ Y | ☒ N | ☐ N/A |

← added name w/ paint pen

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) ☒ Y ☐ N ☐ N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y ☐ N ☐ N/A

Does bailer/pump travel freely to and from bottom of well? ☒ Y ☐ N ☐ N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N ☐ N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N ☐ N/A

Does water appear discolored or have an unusual odor or appearance? Y ☒ N ☐ N/A

Is the lock on the well cover/cap clean and fully functional? ☒ Y ☐ N ☐ N/A

NOTES AND

OBSERVATIONS: added name to well w/ paint pen

Well Conductivity Profile Field data Sheet

Site Name:

Well Identification:

Static Water Level:

Stop Time:

Date:

Personnel:

Total Depth:

Start Time:

[illegible]

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jail Project Number _____
 Well Identification MW-ER Inspection Date 11/19/19 Inspector CE/CM
 Measured Well Depth 187.37 Measuring Point 183 Depth to water 136.04

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | N | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | <u>Y</u> | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | <u>N</u> | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | <u>N</u> | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | <u>N</u> | N/A |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jail Project Number _____
 Well Identification MW-5A Inspection Date 11/19/19 Inspector CF CM
 Measured Well Depth 139.98 Measuring Point 137 Depth to water 136.46

VISUAL INSPECTION

- | | | | |
|---|---|---|-----|
| 1) Is protective sleeve/cover in place and secure? | Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | Y | N | N/A |
| 5) Is well cap in place and in good condition? | Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | N | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|---|---|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | Y | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | Y | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | Y | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | N | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | N | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | N | N/A |
| Is the lock on the well cover/cap clean and fully functional? | Y | N | N/A |

NOTES AND

OBSERVATIONS:

Did not deploy hydrostatic due to lock of
Water volume.
Distribution of water was to provide a small amount of silt

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper J-4 Project Number _____
 Well Identification MW-5 Inspection Date 11/19/17 Inspector CL, CM
 Measured Well Depth 177.50 Measuring Point 176 Depth to water 136.91

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ N | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | ☒ Y | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | ☒ Y | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | ☒ Y | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | ☒ N | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | ☒ N | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | ☒ N | N/A |
| Is the lock on the well cover/cap clean and fully functional? | ☒ Y | N | N/A |

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location See 3a Project Number _____
 Well Identification MW-4A Inspection Date 11/19/19 Inspector JM
 Measured Well Depth 147.60 Measuring Point 145 Depth to water 13.95

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ N | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) ☒ Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y N N/A

Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A

Does water appear discolored or have an unusual odor or appearance? ☒ Y N N/A

Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND

OBSERVATIONS: No slight discoloration due to small amount of silt
present in sample

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-4 Inspection Date 11/9/17 Inspector DE CM
 Measured Well Depth 177.64 Measuring Point 170 Depth to water 135.06

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | ☒ N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | ☒ Y | ☒ N | N/A |

added on w/ point pen

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) ☒ Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y N N/A

Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A

Does water appear discolored or have an unusual odor or appearance? Y ☒ N N/A

Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification RW-28 Inspection Date 11/19/19 Inspector EF, LTB
 Measured Well Depth 188.97 Measuring Point 151 Depth to water 134.71

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ N | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) ☒ Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y N N/A

Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A

Does water appear discolored or have an unusual odor or appearance? Y ☒ N N/A

Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification W-2 Inspection Date 11/19/19 Inspector CF/CA
 Measured Well Depth 172.60 Measuring Point 164 Depth to water 135.08

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ N | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing? ☒ Y N N/A
(Enter depth to water in the space provided above.)

Does water-level indicator/measuring device travel to bottom of well? ☒ Y N N/A
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.)

Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A

Does water appear discolored or have an unusual odor or appearance? Y ☒ N N/A

Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND

OBSERVATIONS: Minor chips on top of casing

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-1 Inspection Date 11/25/19 Inspector CF/AM
 Measured Well Depth 124.2 Measuring Point 171 Depth to water 34.45

VISUAL INSPECTION

- | | | | |
|---|-------------------------------------|-------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | ☒ | ☒ | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) ☒ N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ N N/A

Does bailer/pump travel freely to and from bottom of well? ☒ N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N/A

Does the bailer contain excessive amounts of silt or rust? Y ☒ N/A

Does water appear discolored or have an unusual odor or appearance? ☒ N N/A

Is the lock on the well cover/cap clean and fully functional? ☒ N N/A

NOTES AND

OBSERVATIONS: Slight discoloration due to presence of a small amount of silt

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-12 Inspection Date 11/20/19 Inspector CF, CM
 Measured Well Depth 174.57 Measuring Point 171 Depth to water 139.65

VISUAL INSPECTION

- | | | | |
|---|----------------------------------|----------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.)

Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.)

Y N N/A

Does bailer/pump travel freely to and from bottom of well?

Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well?

Y N N/A

Does the bailer contain excessive amounts of silt or rust?

Y N N/A

Does water appear discolored or have an unusual odor or appearance?

Y N N/A

Is the lock on the well cover/cap clean and fully functional?

Y N N/A

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jct Project Number _____
 Well Identification 11W-2A Inspection Date 11/29/19 Inspector CM
 Measured Well Depth 112.23 Measuring Point 139 Depth to water 0921

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | N | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A

Does bailer/pump travel freely to and from bottom of well? Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A

Does the bailer contain excessive amounts of silt or rust? Y N N/A

Does water appear discolored or have an unusual odor or appearance? Y N N/A

Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS:

Well Conductivity Profile Field data Sheet

Site Name: Super 70
Well Identification: H-2
Static Water Level: 134.21
Stop Time: 0947

Date: 11/20/19
Personnel: C.F. CM
Total Depth: 168.87
Start Time: 0928

[illegible]

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-2 Inspection Date 11/20/19 Inspector RF CM
 Measured Well Depth 168.57 Measuring Point 114 Depth to water 134.21

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|---|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y ☒ | N | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|------------------------------------|---|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | ☒ | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | ☒ | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | ☒ | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y ☒ | N | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y ☒ | N | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y ☒ | N | N/A |
| Is the lock on the well cover/cap clean and fully functional? | ☒ | N | N/A |

NOTES AND

OBSERVATIONS: crack on top of casing

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jnl Project Number _____

Well Identification MW-10 Inspection Date 11/20/19 Inspector CEM

Measured Well Depth 160.71 Measuring Point 156 Depth to water 136.36

VISUAL INSPECTION

- | | | | |
|---|-------------------------------------|-------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|-------------------------------------|-------------------------------------|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | ☒ | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | ☒ | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | ☒ | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | ☒ | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | ☒ | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | ☒ | N/A |
| Is the lock on the well cover/cap clean and fully functional? | ☒ | N | N/A |

NOTES AND

OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jail Project Number _____
Well Identification MW-14 Inspection Date 11/20/14 Inspector DE CM
Measured Well Depth 170.92 Measuring Point 1.4 Depth to water 170.48

VISUAL INSPECTION

- | | | | |
|---|---------------------------------------|---|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y ☒ | N | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) ☒ Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y N N/A
- Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A
- Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A
- Does water appear discolored or have an unusual odor or appearance? Y ☒ N N/A
- Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Superior Project Number
 Well Identification 1485-7 Inspection Date 11/20/19 Inspector CF CM
 Measured Well Depth 162.58 Measuring Point 160 Depth to water 135.5

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | N | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A

Does bailer/pump travel freely to and from bottom of well? Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A

Does the bailer contain excessive amounts of silt or rust? Y N N/A

Does water appear discolored or have an unusual odor or appearance? Y N N/A

Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND
OBSERVATIONS:

Well Inspection Checklist and Reporting Form

Site Name/ Location Looper - a Project Number _____

Well Identification M62-B Inspection Date 11/20/19 Inspector CM

Measured Well Depth 146.92 Measuring Point 136 Depth to water 133.84

VISUAL INSPECTION

- | | | | |
|---|------------------------------------|------------------------------------|-----|
| 1) Is protective sleeve/cover in place and secure? | ☒ Y | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | ☒ Y | N | N/A |
| 3) Is concrete pad in satisfactory condition? | ☒ Y | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | ☒ Y | N | N/A |
| 5) Is well cap in place and in good condition? | ☒ Y | N | N/A |
| 6) Is measuring point marked or readily recognized? | ☒ Y | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | ☒ N | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) ☒ Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) ☒ Y N N/A
- Does bailer/pump travel freely to and from bottom of well? ☒ Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y ☒ N N/A
- Does the bailer contain excessive amounts of silt or rust? Y ☒ N N/A
- Does water appear discolored or have an unusual odor or appearance? Y ☒ N N/A
- Is the lock on the well cover/cap clean and fully functional? ☒ Y N N/A

NOTES AND

OBSERVATIONS: minor chips present on top of casing

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-9 Inspection Date 11/20/2019 Inspector F. CM
 Measured Well Depth 162 Measuring Point 131.86 Depth to water 131.86

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | N | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A
- Does bailer/pump travel freely to and from bottom of well? Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A
- Does the bailer contain excessive amounts of silt or rust? Y N N/A
- Does water appear discolored or have an unusual odor or appearance? Y N N/A
- Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS: minor leaks present on top of casing.

Well Conductivity Profile Field data Sheet

Site Name: Copper Jar
Well Identification: MW-9A
Static Water Level: 131.63
Stop Time: 1220

Date: 11/20/2019
 Personnel: F CM
 Total Depth: 15.66
 Start Time: 1214

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification MW-9A Inspection Date 1/20/19 Inspector CF, OW
 Measured Well Depth 145.66 Measuring Point 142 Depth to water 131.63

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | N | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | Y | <u>N</u> | N/A |

PHYSICAL INSPECTION

Does water-level indicator/measuring device travel freely down well casing?
 (Enter depth to water in the space provided above.) Y N N/A

Does water-level indicator/measuring device travel to bottom of well?
 (Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A

Does bailer/pump travel freely to and from bottom of well? Y N N/A

Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A

Does the bailer contain excessive amounts of silt or rust? Y N N/A

Does water appear discolored or have an unusual odor or appearance? Y N N/A

Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS:

Minor drips on top of casing

Well Conductivity Profile Field data Sheet

Site Name:

Well Identification:

Static Water Level:

Stop Time:

Date:

Personnel:

Total Depth:

Start Time:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____

Well Identification MW-11 Inspection Date 11/20/19 Inspector CFM

Measured Well Depth 172.3 Measuring Point 168 Depth to water 130.04

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | N | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) Y N N/A
- Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) Y N N/A
- Does bailer/pump travel freely to and from bottom of well? Y N N/A
- Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? Y N N/A
- Does the bailer contain excessive amounts of silt or rust? Y N N/A
- Does water appear discolored or have an unusual odor or appearance? Y N N/A
- Is the lock on the well cover/cap clean and fully functional? Y N N/A

NOTES AND

OBSERVATIONS:

marked well stick up with guide post

Well Conductivity Profile Field data Sheet

Site Name:

Well Identification:

Static Water Level:

Stop Time:

Date:

Personnel:

Total Depth:

Start Time:

Well Inspection Checklist and Reporting Form

Site Name/ Location Cooper Jal Project Number _____
 Well Identification AW-1 Inspection Date 11/20/19 Inspector G. CM
 Measured Well Depth 63.79 Measuring Point 68 Depth to water 133.63

VISUAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| 1) Is protective sleeve/cover in place and secure? | <u>Y</u> | N | N/A |
| 2) Are hinges, latches, or locks functional and in good condition? | <u>Y</u> | N | N/A |
| 3) Is concrete pad in satisfactory condition? | <u>Y</u> | N | N/A |
| 4) Is well name or other identification marked clearly on or near the well? | <u>Y</u> | <u>N</u> | N/A |
| 5) Is well cap in place and in good condition? | <u>Y</u> | N | N/A |
| 6) Is measuring point marked or readily recognized? | <u>Y</u> | <u>N</u> | N/A |
| 7) Does well opening/stickup show signs of damage or deterioration? | <u>Y</u> | <u>N</u> | N/A |

PHYSICAL INSPECTION

- | | | | |
|---|----------|----------|-----|
| Does water-level indicator/measuring device travel freely down well casing?
(Enter depth to water in the space provided above.) | <u>Y</u> | N | N/A |
| Does water-level indicator/measuring device travel to bottom of well?
(Total depth may be found on drilling logs, well completion diagrams, or previous well inspection forms. Enter total depth in the space provided above.) | <u>Y</u> | N | N/A |
| Does bailer/pump travel freely to and from bottom of well? | <u>Y</u> | N | N/A |
| Upon removal from well, does bailer show evidence of damage (gouges, cuts, scrapes) suggestive of well damage from foreign objects in the well? | Y | <u>N</u> | N/A |
| Does the bailer contain excessive amounts of silt or rust? | Y | <u>N</u> | N/A |
| Does water appear discolored or have an unusual odor or appearance? | Y | <u>N</u> | N/A |
| Is the lock on the well cover/cap clean and fully functional? | <u>Y</u> | N | N/A |

NOTES AND

OBSERVATIONS: added well markings onto well stickup

APPENDIX C

Cumulative Summary of Groundwater Analytical Results



Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride ¹	Fluoride ²	Nitrate - N ²	Sulfate ¹	Calcium	Magnesium	Potassium	Sodium	TDS ¹
NMWQCC Groundwater Standard					250	1.60	10	600.00					1,000
Dup	10/18/18	--	--	--	8,060.00	<0.10	--	815.00	--	--	--	--	13,300.00
	6/20/19	--	--	--	7,860.00	--	--	--	--	--	--	--	29,400.00
	11/24/19	--	--	--	7,720.00	--	--	943.00	--	--	--	--	21,000.00

- Notes:
1. Bold value indicates a laboratory detection and New Mexico Water Quality Control Commission (NMWQCC) exceedance.
 2. Results shown in mg/L.
 3. NS - Not Sampled
 4. D1 - The analysis was performed at a dilution due to the high analyte concentration.
 5. H - The analysis was performed past holding time.
 6. C - Elevated detection limit due to matrix effect.
 7. J - Estimated Concentration
 8. < - Analyte detected below quantitation limit
 9. ¹ Human Health Standards for Groundwater.
 10. ² Other Standards for Domestic Water Supply.
 11. * - Indicates groundwater monitor well installed off-Site and upgradient of plume.
 12. ** - Reported TDS concentration includes a low bias. Not used in trend comparison.
 13. *** - Indicates groundwater monitor well that was sampled prior to semiannual groundwater event via low-flow purge for internal use.

APPENDIX D

Analytical Reports



ANALYTICAL REPORT

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

Laboratory Job ID: 600-187419-1

Client Project/Site: Midland - Chevron Kegan Boyer

For:

ARCADIS U.S., Inc.
1004 North Big Spring
Suite 121
Midland, Texas 79701

Attn: Mr. Brett Krehbiel



Authorized for release by:
7/15/2019 1:40:31 PM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	4
Sample Summary	5
Client Sample Results	6
Definitions/Glossary	11
QC Sample Results	12
Default Detection Limits	15
QC Association Summary	16
Lab Chronicle	18
Certification Summary	22
Chain of Custody	23
Receipt Checklists	27



Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Job ID: 600-187419-1

Laboratory: Eurofins TestAmerica, Houston

Narrative

Job Narrative
600-187419-1

Comments

No additional comments.

Receipt

The samples were received on 6/21/2019 10:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.7° C.

All applicable analytical narratives can be found in the TRRP Checklist section of this report.

Method Summary

Client: ARCADIS U.S., Inc.

Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL HOU

Protocol References:

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

SM = "Standard Methods For The Examination Of Water And Wastewater"

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: 600-187419-1

Project/Site: Midland - Chevron Kegan Boyer

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-187419-1	MW - 12	Water	06/20/19 08:52	06/21/19 10:19	
600-187419-2	MW - 3	Water	06/20/19 09:32	06/21/19 10:19	
600-187419-3	MW - 1	Water	06/20/19 09:38	06/21/19 10:19	
600-187419-4	MW - 2A	Water	06/20/19 09:44	06/21/19 10:19	
600-187419-5	MW - 2	Water	06/20/19 09:47	06/21/19 10:19	
600-187419-6	MW - 6R	Water	06/20/19 09:53	06/21/19 10:19	
600-187419-7	DUP - 1	Water	06/20/19 00:00	06/21/19 10:19	
600-187419-8	MW - 5	Water	06/20/19 10:05	06/21/19 10:19	
600-187419-9	MW - 5A	Water	06/20/19 10:08	06/21/19 10:19	
600-187419-10	RW - 1	Water	06/20/19 10:14	06/21/19 10:19	
600-187419-11	DUP -2	Water	06/20/19 00:00	06/21/19 10:19	
600-187419-12	MW - 4	Water	06/20/19 10:22	06/21/19 10:19	
600-187419-13	MW - 4A	Water	06/20/19 10:24	06/21/19 10:19	
600-187419-14	RW - 6R	Water	06/20/19 10:49	06/21/19 10:19	
600-187419-15	RW - 2	Water	06/20/19 10:51	06/21/19 10:19	
600-187419-16	MW - 14	Water	06/20/19 11:05	06/21/19 10:19	
600-187419-17	MW - 7	Water	06/20/19 11:20	06/21/19 10:19	
600-187419-18	MW - 9	Water	06/20/19 11:30	06/21/19 10:19	
600-187419-19	MW - 9A	Water	06/20/19 11:34	06/21/19 10:19	
600-187419-20	MW - 11	Water	06/20/19 11:41	06/21/19 10:19	
600-187419-21	EB - 1	Water	06/20/19 12:50	06/21/19 10:19	

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 12

Lab Sample ID: 600-187419-1

Date Collected: 06/20/19 08:52

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	254		0.400	0.0534	mg/L			06/28/19 22:18	20

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	580		10.0	10.0	mg/L			06/26/19 15:14	1

Client Sample ID: MW - 3

Lab Sample ID: 600-187419-2

Date Collected: 06/20/19 09:32

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.0		0.400	0.0534	mg/L			06/28/19 22:38	5

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	448		10.0	10.0	mg/L			06/26/19 15:14	1

Client Sample ID: MW - 1

Lab Sample ID: 600-187419-3

Date Collected: 06/20/19 09:38

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1110		0.400	0.0534	mg/L			06/28/19 22:58	100

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2510		10.0	10.0	mg/L			06/26/19 15:14	1

Client Sample ID: MW - 2A

Lab Sample ID: 600-187419-4

Date Collected: 06/20/19 09:44

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	86.5		0.400	0.0534	mg/L			06/28/19 23:58	10

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	554		10.0	10.0	mg/L			06/26/19 15:14	1

Client Sample ID: MW - 2

Lab Sample ID: 600-187419-5

Date Collected: 06/20/19 09:47

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	283		0.400	0.0534	mg/L			06/29/19 00:58	20

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10.0	10.0	mg/L			06/26/19 15:14	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 6R

Lab Sample ID: 600-187419-6

Date Collected: 06/20/19 09:53

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.1		0.400	0.0534	mg/L			06/29/19 01:58	10

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	482		10.0	10.0	mg/L			06/26/19 15:14	1

Client Sample ID: DUP - 1

Lab Sample ID: 600-187419-7

Date Collected: 06/20/19 00:00

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.4		0.400	0.0534	mg/L			06/29/19 02:18	2

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	592		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 5

Lab Sample ID: 600-187419-8

Date Collected: 06/20/19 10:05

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		0.400	0.0534	mg/L			06/29/19 02:38	100

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4280		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 5A

Lab Sample ID: 600-187419-9

Date Collected: 06/20/19 10:08

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	118		0.400	0.0534	mg/L			06/29/19 02:58	5

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	650		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: RW - 1

Lab Sample ID: 600-187419-10

Date Collected: 06/20/19 10:14

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9290		0.400	0.0534	mg/L			06/29/19 03:18	500

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	22100		10.0	10.0	mg/L			06/27/19 12:49	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: DUP -2

Lab Sample ID: 600-187419-11

Date Collected: 06/20/19 00:00

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9200		0.400	0.0534	mg/L	-		06/29/19 03:38	500

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	22800		10.0	10.0	mg/L	-		06/27/19 12:49	1

Client Sample ID: MW - 4

Lab Sample ID: 600-187419-12

Date Collected: 06/20/19 10:22

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2760		0.400	0.0534	mg/L	-		06/29/19 03:58	200

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7830		10.0	10.0	mg/L	-		06/27/19 12:49	1

Client Sample ID: MW - 4A

Lab Sample ID: 600-187419-13

Date Collected: 06/20/19 10:24

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	336		0.400	0.0534	mg/L	-		06/29/19 04:58	10

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1040		10.0	10.0	mg/L	-		06/27/19 12:49	1

Client Sample ID: RW - 6R

Lab Sample ID: 600-187419-14

Date Collected: 06/20/19 10:49

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7860		0.400	0.0534	mg/L	-		06/29/19 05:18	500

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	29400		10.0	10.0	mg/L	-		06/27/19 12:49	1

Client Sample ID: RW - 2

Lab Sample ID: 600-187419-15

Date Collected: 06/20/19 10:51

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3180		0.400	0.0534	mg/L	-		06/29/19 06:18	200

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10200	H	10.0	10.0	mg/L	-		07/01/19 11:28	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 14

Lab Sample ID: 600-187419-16

Date Collected: 06/20/19 11:05

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.1		0.400	0.0534	mg/L			06/29/19 06:38	2

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	481		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 7

Lab Sample ID: 600-187419-17

Date Collected: 06/20/19 11:20

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4210		0.400	0.0534	mg/L			06/29/19 06:58	200

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15500		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 9

Lab Sample ID: 600-187419-18

Date Collected: 06/20/19 11:30

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	621		0.400	0.0534	mg/L			06/29/19 07:18	50

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2930		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 9A

Lab Sample ID: 600-187419-19

Date Collected: 06/20/19 11:34

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	268		0.400	0.0534	mg/L			06/29/19 07:38	10

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1220		10.0	10.0	mg/L			06/27/19 12:49	1

Client Sample ID: MW - 11

Lab Sample ID: 600-187419-20

Date Collected: 06/20/19 11:41

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34.4		0.400	0.0534	mg/L			06/29/19 07:58	2

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	407		10.0	10.0	mg/L			06/27/19 12:49	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: EB - 1

Lab Sample ID: 600-187419-21

Date Collected: 06/20/19 12:50

Matrix: Water

Date Received: 06/21/19 10:19

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L	—		07/01/19 16:21	1

General Chemistry

Analyte	Result	Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	70.0		10.0	10.0	mg/L	—		06/27/19 12:49	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.

Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
-----------	-----------------------

N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
-----------	-----------------------

H	Sample was prepped or analyzed beyond the specified holding time
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
--------------	---

α	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)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-268268/35

Matrix: Water

Analysis Batch: 268268

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			06/28/19 23:18	1

Lab Sample ID: MB 600-268268/4

Matrix: Water

Analysis Batch: 268268

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			06/28/19 12:57	1

Lab Sample ID: LCS 600-268268/36

Matrix: Water

Analysis Batch: 268268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.05		mg/L		95	90 - 110

Lab Sample ID: LCS 600-268268/5

Matrix: Water

Analysis Batch: 268268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.60		mg/L		98	90 - 110

Lab Sample ID: 600-187419-5 MS

Matrix: Water

Analysis Batch: 268268

Client Sample ID: MW - 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	283		200	439.7	N1	mg/L		79	80 - 120

Lab Sample ID: 600-187419-5 MSD

Matrix: Water

Analysis Batch: 268268

Client Sample ID: MW - 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	283		200	444.5		mg/L		81	80 - 120	1	20

Lab Sample ID: 600-187419-14 MS

Matrix: Water

Analysis Batch: 268268

Client Sample ID: RW - 6R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7860		5000	11760	N1	mg/L		78	80 - 120

Lab Sample ID: 600-187419-14 MSD

Matrix: Water

Analysis Batch: 268268

Client Sample ID: RW - 6R

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7860		5000	11760	N1	mg/L		78	80 - 120	0	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-268404/4

Matrix: Water

Analysis Batch: 268404

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			07/01/19 14:01	1

Lab Sample ID: LCS 600-268404/5

Matrix: Water

Analysis Batch: 268404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.30		mg/L		96	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 600-268092/1

Matrix: Water

Analysis Batch: 268092

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			06/26/19 15:14	1

Lab Sample ID: LCS 600-268092/2

Matrix: Water

Analysis Batch: 268092

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1789		mg/L		99	90 - 110

Lab Sample ID: 600-187419-5 DU

Matrix: Water

Analysis Batch: 268092

Client Sample ID: MW - 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	960		934.0		mg/L		3	10

Lab Sample ID: MB 600-268191/1

Matrix: Water

Analysis Batch: 268191

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			06/27/19 12:49	1

Lab Sample ID: LCS 600-268191/2

Matrix: Water

Analysis Batch: 268191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1834		mg/L		102	90 - 110

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 600-187419-13 DU

Matrix: Water

Analysis Batch: 268191

Client Sample ID: MW - 4A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1040		1072		mg/L		3	10

Lab Sample ID: 600-187419-18 DU

Matrix: Water

Analysis Batch: 268191

Client Sample ID: MW - 9

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2930		2976		mg/L		2	10

Lab Sample ID: MB 600-268421/1

Matrix: Water

Analysis Batch: 268421

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			07/01/19 11:28	1

Lab Sample ID: LCS 600-268421/2

Matrix: Water

Analysis Batch: 268421

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1721		mg/L		96	90 - 110

Default Detection Limits

Client: ARCADIS U.S., Inc.

Job ID: 600-187419-1

Project/Site: Midland - Chevron Kegan Boyer

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units
Chloride	0.400	0.0534	mg/L

General Chemistry

Analyte	MQL	MDL	Units
Total Dissolved Solids	10.0	10.0	mg/L

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

HPLC/IC

Analysis Batch: 268268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187419-1	MW - 12	Total/NA	Water	300.0	
600-187419-2	MW - 3	Total/NA	Water	300.0	
600-187419-3	MW - 1	Total/NA	Water	300.0	
600-187419-4	MW - 2A	Total/NA	Water	300.0	
600-187419-5	MW - 2	Total/NA	Water	300.0	
600-187419-6	MW - 6R	Total/NA	Water	300.0	
600-187419-7	DUP - 1	Total/NA	Water	300.0	
600-187419-8	MW - 5	Total/NA	Water	300.0	
600-187419-9	MW - 5A	Total/NA	Water	300.0	
600-187419-10	RW - 1	Total/NA	Water	300.0	
600-187419-11	DUP -2	Total/NA	Water	300.0	
600-187419-12	MW - 4	Total/NA	Water	300.0	
600-187419-13	MW - 4A	Total/NA	Water	300.0	
600-187419-14	RW - 6R	Total/NA	Water	300.0	
600-187419-15	RW - 2	Total/NA	Water	300.0	
600-187419-16	MW - 14	Total/NA	Water	300.0	
600-187419-17	MW - 7	Total/NA	Water	300.0	
600-187419-18	MW - 9	Total/NA	Water	300.0	
600-187419-19	MW - 9A	Total/NA	Water	300.0	
600-187419-20	MW - 11	Total/NA	Water	300.0	
MB 600-268268/35	Method Blank	Total/NA	Water	300.0	
MB 600-268268/4	Method Blank	Total/NA	Water	300.0	
LCS 600-268268/36	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-268268/5	Lab Control Sample	Total/NA	Water	300.0	
600-187419-5 MS	MW - 2	Total/NA	Water	300.0	
600-187419-5 MSD	MW - 2	Total/NA	Water	300.0	
600-187419-14 MS	RW - 6R	Total/NA	Water	300.0	
600-187419-14 MSD	RW - 6R	Total/NA	Water	300.0	

Analysis Batch: 268404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187419-21	EB - 1	Total/NA	Water	300.0	
MB 600-268404/4	Method Blank	Total/NA	Water	300.0	
LCS 600-268404/5	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 268092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187419-1	MW - 12	Total/NA	Water	SM 2540C	
600-187419-2	MW - 3	Total/NA	Water	SM 2540C	
600-187419-3	MW - 1	Total/NA	Water	SM 2540C	
600-187419-4	MW - 2A	Total/NA	Water	SM 2540C	
600-187419-5	MW - 2	Total/NA	Water	SM 2540C	
600-187419-6	MW - 6R	Total/NA	Water	SM 2540C	
MB 600-268092/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-268092/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-187419-5 DU	MW - 2	Total/NA	Water	SM 2540C	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

General Chemistry

Analysis Batch: 268191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187419-7	DUP - 1	Total/NA	Water	SM 2540C	
600-187419-8	MW - 5	Total/NA	Water	SM 2540C	
600-187419-9	MW - 5A	Total/NA	Water	SM 2540C	
600-187419-10	RW - 1	Total/NA	Water	SM 2540C	
600-187419-11	DUP - 2	Total/NA	Water	SM 2540C	
600-187419-12	MW - 4	Total/NA	Water	SM 2540C	
600-187419-13	MW - 4A	Total/NA	Water	SM 2540C	
600-187419-14	RW - 6R	Total/NA	Water	SM 2540C	
600-187419-16	MW - 14	Total/NA	Water	SM 2540C	
600-187419-17	MW - 7	Total/NA	Water	SM 2540C	
600-187419-18	MW - 9	Total/NA	Water	SM 2540C	
600-187419-19	MW - 9A	Total/NA	Water	SM 2540C	
600-187419-20	MW - 11	Total/NA	Water	SM 2540C	
600-187419-21	EB - 1	Total/NA	Water	SM 2540C	
MB 600-268191/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-268191/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-187419-13 DU	MW - 4A	Total/NA	Water	SM 2540C	
600-187419-18 DU	MW - 9	Total/NA	Water	SM 2540C	

Analysis Batch: 268421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187419-15	RW - 2	Total/NA	Water	SM 2540C	
MB 600-268421/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-268421/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 12

Date Collected: 06/20/19 08:52

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			268268	06/28/19 22:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Client Sample ID: MW - 3

Date Collected: 06/20/19 09:32

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			268268	06/28/19 22:38	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Client Sample ID: MW - 1

Date Collected: 06/20/19 09:38

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			268268	06/28/19 22:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Client Sample ID: MW - 2A

Date Collected: 06/20/19 09:44

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			268268	06/28/19 23:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Client Sample ID: MW - 2

Date Collected: 06/20/19 09:47

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			268268	06/29/19 00:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Client Sample ID: MW - 6R

Date Collected: 06/20/19 09:53

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			268268	06/29/19 01:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268092	06/26/19 15:14	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: DUP - 1

Date Collected: 06/20/19 00:00

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			268268	06/29/19 02:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 5

Date Collected: 06/20/19 10:05

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			268268	06/29/19 02:38	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 5A

Date Collected: 06/20/19 10:08

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5			268268	06/29/19 02:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: RW - 1

Date Collected: 06/20/19 10:14

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			268268	06/29/19 03:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: DUP -2

Date Collected: 06/20/19 00:00

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			268268	06/29/19 03:38	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 4

Date Collected: 06/20/19 10:22

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			268268	06/29/19 03:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 4A

Lab Sample ID: 600-187419-13

Date Collected: 06/20/19 10:24

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			268268	06/29/19 04:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: RW - 6R

Lab Sample ID: 600-187419-14

Date Collected: 06/20/19 10:49

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			268268	06/29/19 05:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: RW - 2

Lab Sample ID: 600-187419-15

Date Collected: 06/20/19 10:51

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			268268	06/29/19 06:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	268421	07/01/19 11:28	DTN	TAL HOU

Client Sample ID: MW - 14

Lab Sample ID: 600-187419-16

Date Collected: 06/20/19 11:05

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			268268	06/29/19 06:38	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 7

Lab Sample ID: 600-187419-17

Date Collected: 06/20/19 11:20

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			268268	06/29/19 06:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 9

Lab Sample ID: 600-187419-18

Date Collected: 06/20/19 11:30

Matrix: Water

Date Received: 06/21/19 10:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			268268	06/29/19 07:18	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Midland - Chevron Kegan Boyer

Job ID: 600-187419-1

Client Sample ID: MW - 9A

Date Collected: 06/20/19 11:34

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			268268	06/29/19 07:38	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: MW - 11

Date Collected: 06/20/19 11:41

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			268268	06/29/19 07:58	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	268191	06/27/19 12:49	DTN	TAL HOU

Client Sample ID: EB - 1

Date Collected: 06/20/19 12:50

Date Received: 06/21/19 10:19

Lab Sample ID: 600-187419-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			268404	07/01/19 16:21	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	268191	06/27/19 12:49	DTN	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: 600-187419-1

Project/Site: Midland - Chevron Kegan Boyer

Laboratory: Eurofins TestAmerica, Houston

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Oklahoma	State Program	6	2018-052	08-31-19
Texas	NELAP	6	T104704223-18-23	10-31-19
USDA	Federal		P330-18-00130	04-30-21

Midland #264

Chain of Custody Record

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

Client Information		Sampler: <u>JAL / LB</u>		Lab PM: <u>Kudchadkar, Sachin G</u>	Carrier Tracking No(s): <u>600-68943-18804,1</u>
Client Contact: <u>Mr. Brett Krehbiel</u>		Phone: _____		E-Mail: <u>sachin.kudchadkar@testamerica.com</u>	Page: <u>Page 1 of 3</u>
Company: <u>ARCADIS U.S., Inc.</u>		Job #: _____			
Address: <u>1004 North Big Spring Suite 121</u>		Analysis Requested			
City: <u>Midland</u>					
State, Zip: <u>TX, 79701</u>					
Phone: <u>916-786-5382(Tel)</u>					
Email: <u>brett.krehbiel@arcadis.com</u>					
Project Name: <u>Midland - Chevron</u>					
Site: <u>Cooper, Jai</u>					
PO #: _____	Due Date Requested: _____				
WO #: _____	TAT Requested (days): _____				
Project #: <u>60003622</u>	Purchase Order not required				
SSOW#: _____					

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Soil, Dredge, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C Calcd. 300_ORGFM_280	Total Number of Containers	Special Instructions/Note:
MW-12	06/20/19	0857	G	Water					
MW-3	06/20/19	0932	G	Water					
MW-1	06/20/19	0938	G	Water					
MW-2A	06/20/19	0944	G	Water					
MW-2	06/20/19	0947	G	Water					
MW-4R	06/20/19	0953	G	Water					
Dup-1	06/20/19	—	G	Water					
MW-5	06/20/19	1005	G	Water					
MW-SA	06/20/19	1008	G	Water					
RW-1	06/20/19	1014	G	Water					
Dup-2	06/20/19	—	G	Water					

600-187419 Chain of Custody

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

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

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: W. S. Longmire Date/Time: 06/20/19 / 1311 Company: ARCADIS

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: ☐ Yes ☐ No

Custody Seal No.: _____

Cooler Temperature(s) °C and Other Remarks: _____

Special Instructions/OC Requirements: _____

Return To Client _____ Disposal By Lab _____ Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Chain of Custody Record

Midland
#264

Client Information		Lab PM		Carrier Tracking No(s)		COC No:		
Mr. Brett Krehbiel		Kudchadkar, Sachin G		600-68943-18804.1		Page 2 of 3		
Company: ARCADIS U.S., Inc.		E-Mail: sachin.kudchadkar@testamercainc.com		Job #:				
Address: 1004 North Big Spring Suite 121		Due Date Requested:		Analysis Requested		Preservation Codes:		
City: Midland		TAT Requested (days):				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO ₄ F - MeOH G - Ascorbic Acid H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
State, Zip: TX, 79701		PO #:				M - Hexane N - None O - AsNaO ₂ P - Na ₂ O ₄ S Q - Na ₂ SO ₃ R - Na ₂ SO ₃ S - H ₂ SO ₄ T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		
Phone: 916-786-5382(Tel)		Purchase Order not required						
Email: brett.krehbiel@arcadis.com		WO #:						
Project Name: Midland - Chevron		Project #:						
Site: Cooper Jal		SSOW#:						
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note:
MW-4	06/20/19	1022	G	Water				
MW-4A	06/20/19	1024	G	Water				
RW-4R	06/20/19	1049	G	Water				
RW-2	06/20/19	1051	G	Water				
MW-14	06/20/19	1105	G	Water				
MW-7	06/20/19	1120	G	Water				
MW-9	06/20/19	1130	G	Water				
MW-9A	06/20/19	1134	G	Water				
MW-11	06/20/19	1141	G	Water				
EB-1	06/20/19	1250	G	Water				
EB-1	06/20/19	1250	G	Water				
Possible Hazard Identification								
Non-Hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐								
Deliverable Requested: I, II, III, IV, Other (specify)								
Empty Kit Relinquished by: <i>Samir Singh</i> Date: <i>06/20/19</i> Time: <i>1311</i> Company: <i>ARCADIS</i>								
Relinquished by: <i>Samir Singh</i> Date: <i>06/20/19</i> Time: <i>1311</i> Company: <i>ARCADIS</i>								
Relinquished by: <i>Samir Singh</i> Date: <i>06/20/19</i> Time: <i>1311</i> Company: <i>ARCADIS</i>								
Relinquished by: <i>Samir Singh</i> Date: <i>06/20/19</i> Time: <i>1311</i> Company: <i>ARCADIS</i>								
Custody Seal No.: <i>1311</i> Cooler Temperature(s) °C and Other Remarks:								

ORIGIN ID MAF4 (432) 215-3695
JOSH FUNKERBURG
1308 S. MIDKIFF
SUITE 133
MIDLAND, TX 79703
UNITED STATES US

SHIP DATE: 07 JUN19
ACTWGT: 30.00 LB
CAD: 113247836/NET4100
DIMS: 26x14x14 IN
BILL SENDER

TO
TESTAMERICA
TESTAMERICA
6310 ROTHWAY

HOUSTON TX 77040
(713) 690-4444
REF: ARCADIS COOPER J/L

DEPT



SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7753 8658 4523
0201

77040
IAH
TX-US

X0 LKSA



After printing this label

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Sample Receipt Checklist

19 JUN 21 10:19

JOB NUMBER: _____

Date/Time Received: _____

CLIENT: _____

UNPACKED BY: JR

CARRIER/DRIVER: _____

Custody Seal Present: ☒ YES ☐ NONumber of Coolers Received: 2

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
GRAY	Y / N	Y / N	1.9	606	-0.2	1.7
GRAY	Y / N	Y / N	1.7			1.5
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YESBase samples are > pH 12: ☐ YES ☐ NO Acid preserved are < pH 2: ☐ YES ☐ NO

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:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-187419-1

Login Number: 187419

List Source: Eurofins TestAmerica, Houston

List Number: 1

Creator: Rubio, Yuri

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	1.7, 1.5
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 $<6\text{mm}$ (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.

ANALYTICAL REPORT

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

Laboratory Job ID: 600-196675-1
Client Project/Site: Cooper Jal

For:

ARCADIS U.S., Inc.
1004 North Big Spring
Suite 121
Midland, Texas 79701

Attn: Mr. Russell Grant



Authorized for release by:

12/19/2019 4:18:13 PM

Jasmine Turner, Project Management Assistant I
(713)690-4444

jasmine.turner@testamericainc.com

Designee for

Sachin Kudchadkar, Senior Project Manager
(713)690-4444

sachin.kudchadkar@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1

Table of Contents 2

TRRP Checklists & DCSs 3

Case Narrative 9

Method Summary 10

Sample Summary 11

Client Sample Results 12

Definitions/Glossary 18

QC Sample Results 19

Default Detection Limits 23

QC Association Summary 24

Lab Chronicle 26

Certification Summary 30

Chain of Custody 31

Receipt Checklists 34



Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

This data package is for Eurofins TestAmerica, Houston job number 600-196675-1 and consists of:

- ☒ R1 - Field chain-of-custody documentation;
- ☒ R2 - Sample identification cross-reference;
- ☒ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
 - a. Items consistent with NELAC Chapter 5,
 - b. dilution factors,
 - c. preparation methods,
 - d. cleanup methods, and
 - e. if required for the project, tentatively identified compounds (TICs).
- ☐ R4 - Surrogate recovery data including:
 - a. Calculated recovery (%R), and
 - b. The laboratory's surrogate QC limits.
- ☒ R5 - Test reports/summary forms for blank samples;
- ☒ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
 - a. LCS spiking amounts,
 - b. Calculated %R for each analyte, and
 - c. The laboratory's LCS QC limits.
- ☒ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a. Samples associated with the MS/MSD clearly identified,
 - b. MS/MSD spiking amounts,
 - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d. Calculated %Rs and relative percent differences (RPDs), and
 - e. The laboratory's MS/MSD QC limits
- ☒ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
 - a. The amount of analyte measured in the duplicate,
 - b. The calculated RPD, and
 - c. The laboratory's QC limits for analytical duplicates.
- ☒ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- ☒ R10 - Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Jasmine Turner, for Sachin Kudchadkar

Name (printed)



Signature

12/19/2019

Date

Senior Project Manager

Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	12/19/2019
Project Name:	Cooper Jal	Laboratory Job Number:	600-196675-1
Reviewer Name:	Jasmine Turner, for Sachin Kudchadkar		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			R03A
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				R05D
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	12/19/2019
Project Name:	Cooper Jal	Laboratory Job Number:	600-196675-1
Reviewer Name:	Jasmine Turner, for Sachin Kudchadkar		

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSS?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed?	X				
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).							

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	Eurofins TestAmerica, Houston	LRC Date:	12/19/2019
Project Name:	Cooper Jal	Laboratory Job Number:	600-196675-1
Reviewer Name:	Jasmine Turner, for Sachin Kudchadkar		

ER # ¹	Description
R03A	Method SM 2540C: The following samples were received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-12 (600-196675-1), MW-3 (600-196675-2), MW-2 (600-196675-3), MW-2A (600-196675-4), MW-6R (600-196675-5), MW-5 (600-196675-6), MW-5A (600-196675-7), MW-1 (600-196675-8), MW-4 (600-196675-9), MW-4A (600-196675-10), RW-1 (600-196675-11), RW-2R (600-196675-12), RW-2 (600-196675-13), MW-14 (600-196675-14), DUP-1 (600-196675-15), MW-10 (600-196675-16), MW-7 (600-196675-17), MW-8 (600-196675-18), MW-9 (600-196675-19), MW-9A (600-196675-20) and MW-11 (600-196675-21).
R05D	Method 300.0: The method blank for analytical batch 600-283030 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 600-283045 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 600-283211 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.
- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. - O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); - NA = Not applicable; - NR = Not reviewed; - ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).	

Matrix: Water
Method: SW-846 9056 / EPA 300
Date Analyzed: 8/23/2019
Job #: 600-188237
TALS Batch: 272774
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Bromide	CHWC16	0.101	0.200	0.306	0.4
Chloride	CHWC16	0.053	0.200	0.305	0.4
Fluoride	CHWC16	0.060	0.200	0.296	0.2
Nitrate as N	CHWC16	0.025	0.200	0.306	0.2
Nitrite as N	CHWC16	0.030	0.400	0.384	0.2
Sulfate	CHWC16	0.096	0.400	0.482	0.5

Matrix: Water
Method: SM 2540C
Date Analyzed: 8/20/2019
Job #: 600-188237
TALS Batch: 272376
Units: mg/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Total Dissolved Solids	NOEQUIP	10.000	29.880	86.000	10

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Job ID: 600-196675-1

Laboratory: Eurofins TestAmerica, Houston

Narrative

Job Narrative
600-196675-1

Comments

No additional comments.

Receipt

The samples were received on 11/27/2019 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

All applicable analytical narratives can be found in the TRRP Checklist section of this report.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL HOU

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-196675-1	MW-12	Water	11/23/19 15:10	11/27/19 10:15	
600-196675-2	MW-3	Water	11/23/19 15:22	11/27/19 10:15	
600-196675-3	MW-2	Water	11/23/19 15:32	11/27/19 10:15	
600-196675-4	MW-2A	Water	11/23/19 15:37	11/27/19 10:15	
600-196675-5	MW-6R	Water	11/23/19 15:46	11/27/19 10:15	
600-196675-6	MW-5	Water	11/23/19 15:54	11/27/19 10:15	
600-196675-7	MW-5A	Water	11/23/19 16:04	11/27/19 10:15	
600-196675-8	MW-1	Water	11/24/19 08:26	11/27/19 10:15	
600-196675-9	MW-4	Water	11/24/19 08:44	11/27/19 10:15	
600-196675-10	MW-4A	Water	11/24/19 08:49	11/27/19 10:15	
600-196675-11	RW-1	Water	11/24/19 09:08	11/27/19 10:15	
600-196675-12	RW-2R	Water	11/24/19 09:21	11/27/19 10:15	
600-196675-13	RW-2	Water	11/24/19 09:25	11/27/19 10:15	
600-196675-14	MW-14	Water	11/24/19 09:31	11/27/19 10:15	
600-196675-15	DUP-1	Water	11/24/19 00:00	11/27/19 10:15	
600-196675-16	MW-10	Water	11/24/19 09:52	11/27/19 10:15	
600-196675-17	MW-7	Water	11/24/19 10:11	11/27/19 10:15	
600-196675-18	MW-8	Water	11/24/19 10:22	11/27/19 10:15	
600-196675-19	MW-9	Water	11/24/19 10:32	11/27/19 10:15	
600-196675-20	MW-9A	Water	11/24/19 10:41	11/27/19 10:15	
600-196675-21	MW-11	Water	11/24/19 10:51	11/27/19 10:15	

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-12

Date Collected: 11/23/19 15:10

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	337	b	100	13.4	mg/L			12/14/19 06:51	250
Sulfate	140		125	23.9	mg/L			12/14/19 06:51	250

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1010	H	20.0	20.0	mg/L			12/04/19 15:38	1

Client Sample ID: MW-3

Date Collected: 11/23/19 15:22

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-2

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60.0	b	20.0	2.67	mg/L			12/14/19 07:02	50
Sulfate	96.6		25.0	4.79	mg/L			12/14/19 07:02	50

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	352	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-2

Date Collected: 11/23/19 15:32

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.7	b	8.00	1.07	mg/L			12/14/19 07:13	20
Sulfate	42.0		10.0	1.91	mg/L			12/14/19 07:13	20

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	274	H	10.0	10.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-2A

Date Collected: 11/23/19 15:37

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-4

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	88.0	b	20.0	2.67	mg/L			12/14/19 07:23	50
Sulfate	76.5		25.0	4.79	mg/L			12/14/19 07:23	50

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	414	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-6R

Date Collected: 11/23/19 15:46

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-5

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.4	b	20.0	2.67	mg/L			12/14/19 07:34	50
Sulfate	95.2		25.0	4.79	mg/L			12/14/19 07:34	50

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	384	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-5

Date Collected: 11/23/19 15:54

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-6

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1530	b	80.0	10.7	mg/L			12/14/19 08:06	200
Sulfate	250		100	19.1	mg/L			12/14/19 08:06	200

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3900	H	100	100	mg/L			12/04/19 13:21	1

Client Sample ID: MW-5A

Date Collected: 11/23/19 16:04

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-7

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	116	b	20.0	2.67	mg/L			12/14/19 08:17	50
Sulfate	61.1		25.0	4.79	mg/L			12/14/19 08:17	50

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	502	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-1

Date Collected: 11/24/19 08:26

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1110	b	80.0	10.7	mg/L			12/14/19 08:28	200
Sulfate	222		100	19.1	mg/L			12/14/19 08:28	200

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2190	H	40.0	40.0	mg/L			12/04/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-4

Date Collected: 11/24/19 08:44

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-9

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3050	b	200	26.7	mg/L			12/14/19 09:00	500
Sulfate	420		250	47.9	mg/L			12/14/19 09:00	500

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5960	H	100	100	mg/L			12/04/19 13:21	1

Client Sample ID: MW-4A

Date Collected: 11/24/19 08:49

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-10

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	321	b	40.0	5.34	mg/L			12/14/19 09:11	100
Sulfate	94.5		50.0	9.57	mg/L			12/14/19 09:11	100

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	824	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: RW-1

Date Collected: 11/24/19 09:08

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-11

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5780	b	400	53.4	mg/L			12/14/19 09:43	1000
Sulfate	722		500	95.7	mg/L			12/14/19 09:43	1000

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12200	H	200	200	mg/L			12/04/19 13:21	1

Client Sample ID: RW-2R

Date Collected: 11/24/19 09:21

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-12

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7720	b	400	53.4	mg/L			12/14/19 09:54	1000
Sulfate	943		500	95.7	mg/L			12/14/19 09:54	1000

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21000	H	200	200	mg/L			12/04/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: RW-2

Date Collected: 11/24/19 09:25

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-13

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3510	b	200	26.7	mg/L			12/18/19 01:23	500
Sulfate	464		250	47.9	mg/L			12/18/19 01:23	500

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	9880	H	200	200	mg/L			12/04/19 13:21	1

Client Sample ID: MW-14

Date Collected: 11/24/19 09:31

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-14

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.1	b	8.00	1.07	mg/L			12/14/19 10:24	20
Sulfate	94.5		10.0	1.91	mg/L			12/14/19 10:24	20

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	328	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: DUP-1

Date Collected: 11/24/19 00:00

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-15

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.4	b	8.00	1.07	mg/L			12/14/19 11:25	20
Sulfate	95.9		10.0	1.91	mg/L			12/14/19 11:25	20

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	324	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-10

Date Collected: 11/24/19 09:52

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-16

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	230	b	40.0	5.34	mg/L			12/14/19 11:46	100
Sulfate	78.0		50.0	9.57	mg/L			12/14/19 11:46	100

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	826	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-7

Date Collected: 11/24/19 10:11

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-17

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2080	b	200	26.7	mg/L			12/14/19 12:06	500
Sulfate	272		250	47.9	mg/L			12/14/19 12:06	500

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6300	H	100	100	mg/L			12/04/19 13:21	1

Client Sample ID: MW-8

Date Collected: 11/24/19 10:22

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-18

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.9	b	10.0	1.34	mg/L			12/14/19 12:27	25
Sulfate	27.6		12.5	2.39	mg/L			12/14/19 12:27	25

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	239	H	10.0	10.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-9

Date Collected: 11/24/19 10:32

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-19

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	337	b	40.0	5.34	mg/L			12/14/19 12:47	100
Sulfate	80.6		50.0	9.57	mg/L			12/14/19 12:47	100

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1170	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample ID: MW-9A

Date Collected: 11/24/19 10:41

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-20

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	231	b	40.0	5.34	mg/L			12/14/19 13:48	100
Sulfate	83.2		50.0	9.57	mg/L			12/14/19 13:48	100

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	838	H	20.0	20.0	mg/L			12/04/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-11

Lab Sample ID: 600-196675-21

Date Collected: 11/24/19 10:51

Matrix: Water

Date Received: 11/27/19 10:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.8	b	20.0	2.67	mg/L			12/14/19 14:50	50
Sulfate	113		25.0	4.79	mg/L			12/14/19 14:50	50

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	364	H	20.0	20.0	mg/L			12/04/19 13:21	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
b	The compound was found in the blank and sample
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-283030/34

Matrix: Water

Analysis Batch: 283030

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3130	J	0.400	0.0534	mg/L			12/14/19 07:45	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			12/14/19 07:45	1

Lab Sample ID: MB 600-283030/6

Matrix: Water

Analysis Batch: 283030

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.3105	J	0.400	0.0534	mg/L			12/14/19 02:43	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			12/14/19 02:43	1

Lab Sample ID: LCS 600-283030/35

Matrix: Water

Analysis Batch: 283030

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.45		mg/L		97	90 - 110
Sulfate	20.0	19.18		mg/L		96	90 - 110

Lab Sample ID: LCS 600-283030/7

Matrix: Water

Analysis Batch: 283030

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.37		mg/L		97	90 - 110
Sulfate	20.0	19.14		mg/L		96	90 - 110

Lab Sample ID: 600-196675-10 MS

Matrix: Water

Analysis Batch: 283030

Client Sample ID: MW-4A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	321	b	1000	1285		mg/L		96	80 - 120
Sulfate	94.5		1000	1026		mg/L		93	80 - 120

Lab Sample ID: 600-196675-10 MSD

Matrix: Water

Analysis Batch: 283030

Client Sample ID: MW-4A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	321	b	1000	1296		mg/L		97	80 - 120	1	20
Sulfate	94.5		1000	1046		mg/L		95	80 - 120	2	20

Lab Sample ID: MB 600-283045/4

Matrix: Water

Analysis Batch: 283045

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.1909	J	0.400	0.0534	mg/L			12/14/19 09:43	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			12/14/19 09:43	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 600-283045/5

Matrix: Water

Analysis Batch: 283045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.20		mg/L		101	90 - 110
Sulfate	20.0	19.48		mg/L		97	90 - 110

Lab Sample ID: 600-196675-14 MS

Matrix: Water

Analysis Batch: 283045

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	37.1	b	200	243.4		mg/L		103	80 - 120
Sulfate	94.5		200	294.4		mg/L		100	80 - 120

Lab Sample ID: 600-196675-14 MSD

Matrix: Water

Analysis Batch: 283045

Client Sample ID: MW-14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	37.1	b	200	243.4		mg/L		103	80 - 120	0	20
Sulfate	94.5		200	293.7		mg/L		100	80 - 120	0	20

Lab Sample ID: 600-196675-20 MS

Matrix: Water

Analysis Batch: 283045

Client Sample ID: MW-9A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	231	b	1000	1255		mg/L		102	80 - 120
Sulfate	83.2		1000	1041		mg/L		96	80 - 120

Lab Sample ID: 600-196675-20 MSD

Matrix: Water

Analysis Batch: 283045

Client Sample ID: MW-9A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	231	b	1000	1261		mg/L		103	80 - 120	1	20
Sulfate	83.2		1000	1045		mg/L		96	80 - 120	0	20

Lab Sample ID: MB 600-283211/35

Matrix: Water

Analysis Batch: 283211

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.1862	J	0.400	0.0534	mg/L			12/17/19 22:19	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			12/17/19 22:19	1

Lab Sample ID: MB 600-283211/4

Matrix: Water

Analysis Batch: 283211

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.1863	J	0.400	0.0534	mg/L			12/17/19 11:46	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			12/17/19 11:46	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 600-283211/36

Matrix: Water

Analysis Batch: 283211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1000	1017		mg/L		102	90 - 110
Sulfate	1000	980.3		mg/L		98	90 - 110

Lab Sample ID: LCS 600-283211/5

Matrix: Water

Analysis Batch: 283211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.14		mg/L		101	90 - 110
Sulfate	20.0	19.34		mg/L		97	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 600-282061/1

Matrix: Water

Analysis Batch: 282061

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			12/04/19 13:21	1

Lab Sample ID: LCS 600-282061/2

Matrix: Water

Analysis Batch: 282061

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1726		mg/L		96	90 - 110

Lab Sample ID: 600-196675-10 DU

Matrix: Water

Analysis Batch: 282061

Client Sample ID: MW-4A

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	824	H	806.0		mg/L		2	10

Lab Sample ID: 600-196675-21 DU

Matrix: Water

Analysis Batch: 282061

Client Sample ID: MW-11

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	364	H	340.0		mg/L		7	10

Lab Sample ID: MB 600-282105/1

Matrix: Water

Analysis Batch: 282105

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			12/04/19 15:38	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 600-282105/2

Matrix: Water

Analysis Batch: 282105

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1800	1726		mg/L		96	90 - 110

Lab Sample ID: 600-196675-1 DU

Matrix: Water

Analysis Batch: 282105

Client Sample ID: MW-12

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1010	H	1032		mg/L		2	10

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units
Chloride	0.400	0.0534	mg/L
Sulfate	0.500	0.0957	mg/L

General Chemistry

Analyte	MQL	MDL	Units
Total Dissolved Solids	10.0	10.0	mg/L

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

HPLC/IC

Analysis Batch: 283030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-1	MW-12	Total/NA	Water	300.0	
600-196675-2	MW-3	Total/NA	Water	300.0	
600-196675-3	MW-2	Total/NA	Water	300.0	
600-196675-4	MW-2A	Total/NA	Water	300.0	
600-196675-5	MW-6R	Total/NA	Water	300.0	
600-196675-6	MW-5	Total/NA	Water	300.0	
600-196675-7	MW-5A	Total/NA	Water	300.0	
600-196675-8	MW-1	Total/NA	Water	300.0	
600-196675-9	MW-4	Total/NA	Water	300.0	
600-196675-10	MW-4A	Total/NA	Water	300.0	
600-196675-11	RW-1	Total/NA	Water	300.0	
600-196675-12	RW-2R	Total/NA	Water	300.0	
MB 600-283030/34	Method Blank	Total/NA	Water	300.0	
MB 600-283030/6	Method Blank	Total/NA	Water	300.0	
LCS 600-283030/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-283030/7	Lab Control Sample	Total/NA	Water	300.0	
600-196675-10 MS	MW-4A	Total/NA	Water	300.0	
600-196675-10 MSD	MW-4A	Total/NA	Water	300.0	

Analysis Batch: 283045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-14	MW-14	Total/NA	Water	300.0	
600-196675-15	DUP-1	Total/NA	Water	300.0	
600-196675-16	MW-10	Total/NA	Water	300.0	
600-196675-17	MW-7	Total/NA	Water	300.0	
600-196675-18	MW-8	Total/NA	Water	300.0	
600-196675-19	MW-9	Total/NA	Water	300.0	
600-196675-20	MW-9A	Total/NA	Water	300.0	
600-196675-21	MW-11	Total/NA	Water	300.0	
MB 600-283045/4	Method Blank	Total/NA	Water	300.0	
LCS 600-283045/5	Lab Control Sample	Total/NA	Water	300.0	
600-196675-14 MS	MW-14	Total/NA	Water	300.0	
600-196675-14 MSD	MW-14	Total/NA	Water	300.0	
600-196675-20 MS	MW-9A	Total/NA	Water	300.0	
600-196675-20 MSD	MW-9A	Total/NA	Water	300.0	

Analysis Batch: 283211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-13	RW-2	Total/NA	Water	300.0	
MB 600-283211/35	Method Blank	Total/NA	Water	300.0	
MB 600-283211/4	Method Blank	Total/NA	Water	300.0	
LCS 600-283211/36	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-283211/5	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 282061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-2	MW-3	Total/NA	Water	SM 2540C	
600-196675-3	MW-2	Total/NA	Water	SM 2540C	
600-196675-4	MW-2A	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

General Chemistry (Continued)

Analysis Batch: 282061 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-5	MW-6R	Total/NA	Water	SM 2540C	
600-196675-6	MW-5	Total/NA	Water	SM 2540C	
600-196675-7	MW-5A	Total/NA	Water	SM 2540C	
600-196675-8	MW-1	Total/NA	Water	SM 2540C	
600-196675-9	MW-4	Total/NA	Water	SM 2540C	
600-196675-10	MW-4A	Total/NA	Water	SM 2540C	
600-196675-11	RW-1	Total/NA	Water	SM 2540C	
600-196675-12	RW-2R	Total/NA	Water	SM 2540C	
600-196675-13	RW-2	Total/NA	Water	SM 2540C	
600-196675-14	MW-14	Total/NA	Water	SM 2540C	
600-196675-15	DUP-1	Total/NA	Water	SM 2540C	
600-196675-16	MW-10	Total/NA	Water	SM 2540C	
600-196675-17	MW-7	Total/NA	Water	SM 2540C	
600-196675-18	MW-8	Total/NA	Water	SM 2540C	
600-196675-19	MW-9	Total/NA	Water	SM 2540C	
600-196675-20	MW-9A	Total/NA	Water	SM 2540C	
600-196675-21	MW-11	Total/NA	Water	SM 2540C	
MB 600-282061/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-282061/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-196675-10 DU	MW-4A	Total/NA	Water	SM 2540C	
600-196675-21 DU	MW-11	Total/NA	Water	SM 2540C	

Analysis Batch: 282105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-196675-1	MW-12	Total/NA	Water	SM 2540C	
MB 600-282105/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 600-282105/2	Lab Control Sample	Total/NA	Water	SM 2540C	
600-196675-1 DU	MW-12	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-12

Date Collected: 11/23/19 15:10

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		250			283030	12/14/19 06:51	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282105	12/04/19 15:38	TNL	TAL HOU

Client Sample ID: MW-3

Date Collected: 11/23/19 15:22

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			283030	12/14/19 07:02	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-2

Date Collected: 11/23/19 15:32

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			283030	12/14/19 07:13	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-2A

Date Collected: 11/23/19 15:37

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			283030	12/14/19 07:23	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-6R

Date Collected: 11/23/19 15:46

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			283030	12/14/19 07:34	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-5

Date Collected: 11/23/19 15:54

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			283030	12/14/19 08:06	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-5A

Date Collected: 11/23/19 16:04

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			283030	12/14/19 08:17	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-1

Date Collected: 11/24/19 08:26

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200			283030	12/14/19 08:28	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-4

Date Collected: 11/24/19 08:44

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			283030	12/14/19 09:00	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-4A

Date Collected: 11/24/19 08:49

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			283030	12/14/19 09:11	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: RW-1

Date Collected: 11/24/19 09:08

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000			283030	12/14/19 09:43	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: RW-2R

Date Collected: 11/24/19 09:21

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000			283030	12/14/19 09:54	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: RW-2

Date Collected: 11/24/19 09:25

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			283211	12/18/19 01:23	SKR	TAL HOU
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-14

Date Collected: 11/24/19 09:31

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			283045	12/14/19 10:24	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: DUP-1

Date Collected: 11/24/19 00:00

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20			283045	12/14/19 11:25	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-10

Date Collected: 11/24/19 09:52

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			283045	12/14/19 11:46	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-7

Date Collected: 11/24/19 10:11

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500			283045	12/14/19 12:06	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-8

Date Collected: 11/24/19 10:22

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		25			283045	12/14/19 12:27	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Cooper Jal

Job ID: 600-196675-1

Client Sample ID: MW-9

Date Collected: 11/24/19 10:32

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			283045	12/14/19 12:47	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-9A

Date Collected: 11/24/19 10:41

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			283045	12/14/19 13:48	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	TAL HOU

Client Sample ID: MW-11

Date Collected: 11/24/19 10:51

Date Received: 11/27/19 10:15

Lab Sample ID: 600-196675-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50			283045	12/14/19 14:50	W1N	TAL HOU
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	282061	12/04/19 13:21	TNL	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.
Project/Site: Cooper Jal

Job ID: 600-196675-1

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	08-31-20
Texas	NELAP	T104704223-19-25	10-31-19 *
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

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Houston

Chain of Custody Record

Client Information		Sampler: <i>Charles Martin</i>		Lab PM: Kudchadkar, Sachin G		Carrier Tracking No(s):		COC No: 600-72356-19860.3	
Client Contact: Mr. Russell Grant		Phone: 361-701-0369		E-Mail: sachin.kudchadkar@testamericainc.com		Page:		Page:	
Company: ARCADIS U.S., Inc.		Address: 1004 North Big Spring Suite 121		City: Midland		State: TX		Zip: 79701	
Phone: 916-786-5382(Tel)		PO #: 30006543 Mark Owen		WO #:		Project #: 60003622		SSOW#:	
Email: russell.grant@arcadis-us.com		Project Name: <i>Cooper Tail</i>		Site:		Due Date Requested:		TAT Requested (days):	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=Water, S=Solid, O=Other)	
MW-12	11/23/19	1510	G	Water					
MW-3	11/23/19	1522	G	Water					
MW-2	11/23/19	1532	G	Water					
MW-2A	11/23/19	1537	G	Water					
MW-6R	11/23/19	1546	G	Water					
MW-5	11/23/19	1554	G	Water					
MW-5A	11/23/19	1604	G	Water					
MW-1	11/24/19	0826	G	Water					
MW-4	11/24/19	0844	G	Water					
MW-4A	11/24/19	0849	G	Water					
RW-1	11/24/19	0908	G	Water					
Possible Hazard Identification		Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐		Deliverable Requested 1, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☐ Archive For Months	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Special Instructions/Note:	
Relinquished by: <i>Charles Martin</i>		Date/Time: 11/26/19 1800		Company: ARCADIS		Relinquished by: <i>Charles Martin</i>		Date/Time: 11/27/19 1005	
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Company:		Company:	

Chain of Custody Record

Client Information		Company: ARCADIS U.S., Inc.		Lab P/N: Kuchadkar, Sachin G		Catcher Tracking No(s):		COC No: 600-72356-19860 3	
Client Contact: Mr. Russell Grant		Address: 1004 North Big Spring Suite 121		E-Mail: sachin.kuchadkar@testamerica.com		Page:		Page:	
City: Midland		State, Zip: TX, 79701		Phone: 916-786-5382(Tel)		Job #:			
Email: russell.grant@arcadis-us.com		PO # 30006543 Mark Owen		WO #					
Project Name: MARK-OWEN Cooper Jail		Project # 80003622		SSOW#					
Site:									

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Sealed, On-site, etc.)	Analysis Requested		Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C, TDS	300-Cl, SO4	Total Number of Containers	Special Instructions/Note:
					Due Date Requested:	TAT Requested (days):						
RW-2R	11/24/19	0921	G	Water								
RW-2	11/24/19	0925	G	Water								
MW-14	11/24/19	0931	G	Water								
D4P-1	11/24/19	-	G	Water								
MW-10	11/24/19	0952	G	Water								
MW-7	11/24/19	1011	G	Water								
MW-B	11/24/19	1022	G	Water								
MW-9	11/24/19	1032	G	Water								
MW-9A	11/24/19	1041	G	Water								
MW-11	11/24/19	1051	G	Water								

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) _____ Empty Kit Relinquished by: _____ Date: _____ Time: _____		Special Instructions/QC Requirements: _____ Method of Shipment: _____	

Relinquished by: <i>Charles Martinez</i>	Company: ARCADIS	Received by: <i>JARLO</i>	Company: TPAH
Date/Time: 11/26/19 / 1800	Date/Time: 11/27/19 1015	Date/Time: 11/27/19 1015	Date/Time: 11/27/19 1015
Relinquished by:	Company:	Relinquished by:	Company:
Relinquished by:	Company:	Relinquished by:	Company:
Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	

Eurofins TestAmerica Houston

Loc: 600
196675Environment Testing
TestAmerica

Sample Receipt Checklist

19 NOV 27 10:15

JOB NUMBER: _____

Date/Time Received: _____

CLIENT: _____

UNPACKED BY: JP

CARRIER/DRIVER: _____

Custody Seal Present: ☒ YES ☐ NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
133	Y / N	Y / N	2.1	676	+0.1	2.2
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YESBase samples are >pH 12: ☐ YES ☐ NOAcid preserved are <pH 2: ☐ YES ☐ NOTX1005 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:

JP 11/29/19

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-196675-1

Login Number: 196675

List Source: Eurofins TestAmerica, Houston

List Number: 1

Creator: Rubio, Yuri

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	2.2
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 $<6\text{mm}$ (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.

APPENDIX E

Cumulative Summary of Groundwater Potentiometric Elevation Data



Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-1 3320.00	05/18/98	135.05	3184.95	173.00	2.00	153-173
	05/25/99	134.93	3185.07	---	---	---
	02/08/01	134.80	3185.20	---	---	---
	05/10/02	134.77	3185.23	---	---	---
	10/22/02	134.89	3185.11	---	---	---
	05/20/03	135.17	3184.83	---	---	---
	11/24/03	134.70	3185.30	---	---	---
	05/11/04	134.75	3185.25	---	---	---
	11/15/04	134.76	3185.24	---	---	---
	05/17/05	134.29	3185.71	---	---	---
	11/15/05	134.93	3185.07	---	---	---
	05/08/06	134.68	3185.32	---	---	---
	11/13/06	134.62	3185.38	---	---	---
	05/29/07	134.71	3185.29	---	---	---
	11/16/07	134.70	3185.30	---	---	---
	05/14/08	134.73	3185.27	---	---	---
	11/03/08	134.69	3185.31	---	---	---
	05/19/09	134.64	3185.36	---	---	---
	11/02/09	134.71	3185.29	---	---	---
	05/05/10	134.90	3185.10	---	---	---
	11/08/10	134.50	3185.50	---	---	---
	05/11/11	134.60	3185.40	---	---	---
	11/08/11	134.64	3185.36	---	---	---
	05/16/12	134.60	3185.40	---	---	---
	10/10/12	134.73	3185.27	---	---	---
	05/16/13	134.58	3185.42	---	---	---
	10/08/13	134.53	3185.47	---	---	---
	05/01/14	134.70	3185.30	---	---	---
	10/05/14	134.49	3185.51	---	---	---
	05/21/15	134.56	3185.44	---	---	---
	10/19/15	134.80	3185.20	---	---	---
	05/25/16	134.69	3185.31	---	---	---
	10/17/16	134.35	3185.65	---	---	---
	05/10/17	134.44	3185.56	---	---	---
	10/24/17	134.63	3187.31	---	---	---
	05/22/18	134.45	3187.49	---	---	---
	10/17/18	134.54	3187.40	---	---	---
	06/20/19	134.56	3187.38	171.17	---	---
	11/20/19	134.45	3187.49	174.20	---	---
MW-2 3319.86	05/18/98	135.00	3184.86	173.00	2.00	163-173
	05/25/99	134.79	3185.07	---	---	---
	02/08/01	134.63	3185.23	---	---	---
	05/10/02	134.65	3185.21	---	---	---
	10/22/02	134.72	3185.14	---	---	---
	05/20/03	134.95	3184.91	---	---	---
	11/24/03	134.56	3185.30	---	---	---
	05/11/04	134.55	3185.31	---	---	---
	11/15/04	134.53	3185.33	---	---	---
	05/17/05	134.39	3185.47	---	---	---
	11/15/05	134.77	3185.09	---	---	---
	05/08/06	134.52	3185.34	---	---	---
	11/13/06	134.44	3185.42	---	---	---
	05/29/07	134.54	3185.32	---	---	---
	11/14/07	134.52	3185.34	---	---	---
	05/14/08	134.53	3185.33	---	---	---
	11/03/08	134.44	3185.42	---	---	---
	05/19/09	134.46	3185.40	---	---	---
	11/16/09	134.51	3185.35	---	---	---
	05/05/10	134.62	3185.24	---	---	---
	11/08/10	134.25	3185.61	---	---	---
	05/11/11	134.31	3185.55	---	---	---
	11/08/11	134.36	3185.50	---	---	---
	05/16/12	134.31	3185.55	---	---	---
	10/10/12	134.51	3185.35	---	---	---
	05/16/13	134.33	3185.53	---	---	---
	10/07/13	142.85	3177.01	---	---	---
	05/01/14	134.37	3185.49	---	---	---
	10/05/14	134.14	3185.72	---	---	---
	05/21/15	134.21	3185.65	---	---	---
	10/19/15	134.20	3185.66	---	---	---
	05/25/16	134.38	3185.48	---	---	---
	10/17/16	134.00	3185.86	---	---	---
	05/10/17	134.13	3185.73	---	---	---
	10/25/17	134.32	3186.95	---	---	---
	05/22/18	134.11	3187.16	---	---	---
	10/17/18	134.21	3187.06	---	---	---
	06/20/19	134.27	3187.00	168.39	---	---
	11/20/19	134.21	3187.06	168.57	---	---
MW-2 3321.27	05/18/98	135.00	3184.86	173.00	2.00	163-173
	05/25/99	134.79	3185.07	---	---	---
	02/08/01	134.63	3185.23	---	---	---
	05/10/02	134.65	3185.21	---	---	---
	10/22/02	134.72	3185.14	---	---	---
	05/20/03	134.95	3184.91	---	---	---
	11/24/03	134.56	3185.30	---	---	---
	05/11/04	134.55	3185.31	---	---	---
	11/15/04	134.53	3185.33	---	---	---
	05/17/05	134.39	3185.47	---	---	---
	11/15/05	134.77	3185.09	---	---	---
	05/08/06	134.52	3185.34	---	---	---
	11/13/06	134.44	3185.42	---	---	---
	05/29/07	134.54	3185.32	---	---	---
	11/14/07	134.52	3185.34	---	---	---
	05/14/08	134.53	3185.33	---	---	---
	11/03/08	134.44	3185.42	---	---	---
	05/19/09	134.46	3185.40	---	---	---
	11/16/09	134.51	3185.35	---	---	---
	05/05/10	134.62	3185.24	---	---	---
	11/08/10	134.25	3185.61	---	---	---
	05/11/11	134.31	3185.55	---	---	---
	11/08/11	134.36	3185.50	---	---	---
	05/16/12	134.31	3185.55	---	---	---
	10/10/12	134.51	3185.35	---	---	---
	05/16/13	134.33	3185.53	---	---	---
	10/07/13	142.85	3177.01	---	---	---
	05/01/14	134.37	3185.49	---	---	---
	10/05/14	134.14	3185.72	---	---	---
	05/21/15	134.21	3185.65	---	---	---
	10/19/15	134.20	3185.66	---	---	---
	05/25/16	134.38	3185.48	---	---	---
	10/17/16	134.00	3185.86	---	---	---
	05/10/17	134.13	3185.73	---	---	---
	10/25/17	134.32	3186.95	---	---	---
	05/22/18	134.11	3187.16	---	---	---
	10/17/18	134.21	3187.06	---	---	---
	06/20/19	134.27	3187.00	168.39	---	---
	11/20/19	134.21	3187.06	168.57	---	---

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-2A 3319.86	05/18/98	134.80	3185.06	145.00	2.00	130-145
	05/25/99	134.73	3185.13	---	---	---
	02/08/01	134.58	3185.28	---	---	---
	05/10/02	134.50	3185.36	---	---	---
	10/22/02	134.66	3185.20	---	---	---
	05/20/03	135.80	3184.06	---	---	---
	11/24/03	134.60	3185.26	---	---	---
	05/11/04	134.53	3185.33	---	---	---
	11/15/04	134.58	3185.28	---	---	---
	05/17/05	134.47	3185.39	---	---	---
	11/15/05	134.74	3185.12	---	---	---
	05/08/06	134.46	3185.40	---	---	---
	11/13/06	134.39	3185.47	---	---	---
	05/29/07	134.50	3185.36	---	---	---
	11/14/07	134.48	3185.38	---	---	---
	05/14/08	134.49	3185.37	---	---	---
	11/03/08	134.46	3185.40	---	---	---
	05/19/09	134.42	3185.44	---	---	---
	11/02/09	134.45	3185.41	---	---	---
	05/05/10	134.52	3185.34	---	---	---
	11/08/10	134.30	3185.56	---	---	---
	05/11/11	134.38	3185.48	---	---	---
	11/08/11	134.42	3185.44	---	---	---
	05/16/12	134.43	3185.43	---	---	---
	10/10/12	134.65	3185.21	---	---	---
	05/16/13	134.35	3185.51	---	---	---
	10/07/13	134.20	3185.66	---	---	---
	05/01/14	134.45	3185.41	---	---	---
	10/05/14	134.15	3185.71	---	---	---
	05/21/15	134.32	3185.54	---	---	---
	10/19/15	134.40	3185.46	---	---	---
	05/25/16	134.49	3185.37	---	---	---
	10/17/16	134.10	3185.76	---	---	---
	05/10/17	134.29	3185.57	---	---	---
	10/25/17	134.40	3186.90	---	---	---
	05/22/18	134.31	3186.99	---	---	---
	10/17/18	134.31	3186.99	---	---	---
	06/20/19	134.43	3186.87	142.47	---	---
	11/20/19	134.24	3187.06	142.23	---	---
MW-3 3318.21	05/18/98	132.65	3185.56	171.00	2.00	161-171
	05/25/99	132.52	3185.69	---	---	---
	02/08/01	132.40	3185.81	---	---	---
	05/10/02	132.40	3185.81	---	---	---
	10/22/02	132.49	3185.72	---	---	---
	05/20/03	132.75	3185.46	---	---	---
	11/24/03	132.29	3185.92	---	---	---
	05/11/04	132.38	3185.83	---	---	---
	11/15/04	132.46	3185.75	---	---	---
	05/17/05	132.32	3185.89	---	---	---
	11/15/05	132.55	3185.66	---	---	---
	05/08/06	132.32	3185.89	---	---	---
	11/13/06	132.27	3185.94	---	---	---
	05/29/07	132.36	3185.85	---	---	---
	11/16/07	132.34	3185.87	---	---	---
	05/14/08	132.36	3185.85	---	---	---
	11/03/08	132.31	3185.90	---	---	---
	05/19/09	132.25	3185.96	---	---	---
	11/02/09	132.37	3185.84	---	---	---
	05/05/10	132.48	3185.73	---	---	---
	11/08/10	132.14	3186.07	---	---	---
	05/11/11	132.24	3185.97	---	---	---
	11/08/11	132.30	3185.91	---	---	---
	05/16/12	132.25	3185.96	---	---	---
	10/10/12	132.54	3185.67	---	---	---
	05/16/13	132.25	3185.96	---	---	---
	10/08/13	132.14	3186.07	---	---	---
	05/01/14	132.10	3186.11	---	---	---
	10/05/14	132.58	3185.63	---	---	---
	05/21/15	132.25	3185.96	---	---	---
	10/19/15	132.25	3185.96	---	---	---
	05/25/16	132.34	3185.87	---	---	---
	10/17/16	132.00	3186.21	---	---	---
	05/10/17	132.21	3186.00	---	---	---
	10/24/17	132.30	3187.78	---	---	---
	05/22/18	132.15	3187.93	---	---	---
	10/17/18	132.21	3187.87	---	---	---
	06/20/19	132.24	3187.84	171.93	---	---
	11/19/19	132.50	3187.58	175.90	---	---
MW-3 3320.08	05/18/98	132.65	3185.56	171.00	2.00	161-171
	05/25/99	132.52	3185.69	---	---	---
	02/08/01	132.40	3185.81	---	---	---
	05/10/02	132.40	3185.81	---	---	---
	10/22/02	132.49	3185.72	---	---	---
	05/20/03	132.75	3185.46	---	---	---
	11/24/03	132.29	3185.92	---	---	---
	05/11/04	132.38	3185.83	---	---	---
	11/15/04	132.46	3185.75	---	---	---
	05/17/05	132.32	3185.89	---	---	---
	11/15/05	132.55	3185.66	---	---	---
	05/08/06	132.32	3185.89	---	---	---
	11/13/06	132.27	3185.94	---	---	---
	05/29/07	132.36	3185.85	---	---	---
	11/16/07	132.34	3185.87	---	---	---
	05/14/08	132.36	3185.85	---	---	---
	11/03/08	132.31	3185.90	---	---	---
	05/19/09	132.25	3185.96	---	---	---
	11/02/09	132.37	3185.84	---	---	---
	05/05/10	132.48	3185.73	---	---	---
	11/08/10	132.14	3186.07	---	---	---
	05/11/11	132.24	3185.97	---	---	---
	11/08/11	132.30	3185.91	---	---	---
	05/16/12	132.25	3185.96	---	---	---
	10/10/12	132.54	3185.67	---	---	---
	05/16/13	132.25	3185.96	---	---	---
	10/08/13	132.14	3186.07	---	---	---
	05/01/14	132.10	3186.11	---	---	---
	10/05/14	132.58	3185.63	---	---	---
	05/21/15	132.25	3185.96	---	---	---
	10/19/15	132.25	3185.96	---	---	---
	05/25/16	132.34	3185.87	---	---	---
	10/17/16	132.00	3186.21	---	---	---
	05/10/17	132.21	3186.00	---	---	---
	10/24/17	132.30	3187.78	---	---	---
	05/22/18	132.15	3187.93	---	---	---
	10/17/18	132.21	3187.87	---	---	---
	06/20/19	132.24	3187.84	171.93	---	---
	11/19/19	132.50	3187.58	175.90	---	---

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-4 3319.74	05/18/98	136.01	3183.73	171.00	2.00	161-171
	05/25/99	135.57	3184.17	---	---	---
	02/08/01	135.87	3183.87	---	---	---
	05/10/02	135.67	3184.07	---	---	---
	10/22/02	135.90	3183.84	---	---	---
	05/20/03	136.00	3183.74	---	---	---
	11/24/03	135.70	3184.04	---	---	---
	05/11/04	135.34	3184.40	---	---	---
	11/15/04	135.76	3183.98	---	---	---
	05/17/05	135.69	3184.05	---	---	---
	11/15/05	135.85	3183.89	---	---	---
	05/08/06	135.60	3184.14	---	---	---
	11/13/06	135.59	3184.15	---	---	---
	05/29/07	135.75	3183.99	---	---	---
	11/14/07	135.62	3184.12	---	---	---
	05/14/08	135.76	3183.98	---	---	---
	11/03/08	135.66	3184.08	---	---	---
	05/19/09	135.67	3184.07	---	---	---
	11/02/09	135.68	3184.06	---	---	---
	05/05/10	135.83	3183.91	---	---	---
	11/08/10	135.36	3184.38	---	---	---
	05/05/11	135.40	3184.34	---	---	---
	11/08/11	135.43	3184.31	---	---	---
	05/16/12	135.38	3184.36	---	---	---
	10/10/12	135.55	3184.19	---	---	---
	05/16/13	135.38	3184.36	---	---	---
	10/07/13	135.53	3184.21	---	---	---
	05/01/14	135.41	3184.33	---	---	---
	10/05/14	135.61	3184.13	---	---	---
	05/21/15	135.25	3184.49	---	---	---
	10/19/15	135.70	3184.04	---	---	---
	05/25/16	135.44	3184.30	---	---	---
	10/17/16	135.11	3184.63	---	---	---
	05/10/17	135.20	3184.54	---	---	---
	10/25/17	135.40	3186.18	---	---	---
	05/22/18	135.13	3186.45	---	---	---
	10/16/18	135.32	3186.26	---	---	---
	06/20/19	136.21	3185.37	171.81	---	---
	11/19/19	135.06	3186.52	177.64	---	---
MW-4A 3319.58	05/18/98	135.68	3183.90	143.00	2.00	128-143
	05/21/99	135.65	3183.93	---	---	---
	05/25/99	135.90	3183.68	---	---	---
	02/08/01	135.34	3184.24	---	---	---
	05/10/02	135.30	3184.28	---	---	---
	10/22/02	135.51	3184.07	---	---	---
	05/20/03	135.55	3184.03	---	---	---
	11/24/03	135.31	3184.27	---	---	---
	05/11/04	135.72	3183.86	---	---	---
	11/15/04	135.38	3184.20	---	---	---
	05/17/05	135.32	3184.26	---	---	---
	11/15/05	135.52	3184.06	---	---	---
	05/08/06	135.26	3184.32	---	---	---
	11/13/06	135.20	3184.38	---	---	---
	05/29/07	135.32	3184.26	---	---	---
	11/14/07	135.20	3184.38	---	---	---
	05/14/08	135.31	3184.27	---	---	---
	11/03/08	135.27	3184.31	---	---	---
	05/19/09	135.25	3184.33	---	---	---
	11/02/09	135.25	3184.33	---	---	---
	05/05/10	135.33	3184.25	---	---	---
	11/08/10	135.18	3184.40	---	---	---
	05/11/11	135.17	3184.41	---	---	---
	11/08/11	135.22	3184.36	---	---	---
	05/16/12	135.18	3184.40	---	---	---
	10/10/12	135.33	3184.25	---	---	---
	05/16/13	135.20	3184.38	---	---	---
	10/07/13	135.01	3184.57	---	---	---
	05/01/14	135.26	3184.32	---	---	---
	10/05/14	135.05	3184.53	---	---	---
	05/21/15	135.11	3184.47	---	---	---
	10/19/15	135.20	3184.38	---	---	---
	05/25/16	135.27	3184.31	---	---	---
	10/17/16	135.00	3184.58	---	---	---
	05/10/17	135.01	3184.57	---	---	---
	10/25/17	135.22	3186.20	---	---	---
	05/22/18	134.97	3186.45	---	---	---
	10/16/18	135.11	3186.31	---	---	---
	06/20/19	134.98	3186.44	145.55	---	---
	11/19/19	134.95	3186.47	147.60	---	---
3321.42						

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-5 3321.10	05/18/98	137.42	3183.68	171.00	2.00	161-171
	05/25/99	137.28	3183.82	---	---	---
	02/08/01	137.18	3183.92	---	---	---
	05/10/02	137.10	3184.00	---	---	---
	10/22/02	137.04	3184.06	---	---	---
	05/20/03	137.45	3183.65	---	---	---
	11/24/03	137.01	3184.09	---	---	---
	05/11/04	137.01	3184.09	---	---	---
	11/15/04	137.08	3184.02	---	---	---
	05/17/05	137.00	3184.10	---	---	---
	11/15/05	137.18	3183.92	---	---	---
	05/08/06	136.90	3184.20	---	---	---
	11/13/06	136.81	3184.29	---	---	---
	05/29/07	136.92	3184.18	---	---	---
	11/14/07	136.85	3184.25	---	---	---
	05/14/08	136.97	3184.13	---	---	---
	11/03/08	136.89	3184.21	---	---	---
	05/19/09	136.90	3184.20	---	---	---
	11/02/09	136.90	3184.20	---	---	---
	05/05/10	137.02	3184.08	---	---	---
	11/08/10	136.93	3184.17	---	---	---
	05/11/11	136.92	3184.18	---	---	---
	11/08/11	136.84	3184.26	---	---	---
	05/16/12	136.80	3184.30	---	---	---
	10/10/12	136.98	3184.12	---	---	---
	05/16/13	136.80	3184.30	---	---	---
	10/07/13	136.79	3184.31	---	---	---
	05/01/14	136.83	3184.27	---	---	---
	10/05/14	136.63	3184.47	---	---	---
	05/21/15	130.60	3190.50	---	---	---
	10/19/15	136.70	3184.40	---	---	---
	05/25/16	136.79	3184.31	---	---	---
	10/17/16	136.51	3184.59	---	---	---
	05/10/17	136.53	3184.57	---	---	---
	10/25/17	136.80	3186.18	---	---	---
	05/22/18	136.51	3186.47	---	---	---
	10/16/18	136.58	3186.40	---	---	---
	06/20/19	136.65	3186.33	173.72	---	---
	11/19/19	136.91	3186.07	177.50	---	---
MW-5A 3321.07	05/18/98	137.20	3183.87	141.00	2.00	126-141
	05/25/99	137.11	3183.96	---	---	---
	02/08/01	136.99	3184.08	---	---	---
	05/10/02	136.90	3184.17	---	---	---
	10/22/02	137.17	3183.90	---	---	---
	05/20/03	137.24	3183.83	---	---	---
	11/24/03	136.91	3184.16	---	---	---
	05/11/04	136.88	3184.19	---	---	---
	11/15/04	136.92	3184.15	---	---	---
	05/17/05	136.83	3184.24	---	---	---
	11/15/05	137.06	3184.01	---	---	---
	05/08/06	136.80	3184.27	---	---	---
	11/13/06	136.74	3184.33	---	---	---
	05/29/07	136.82	3184.25	---	---	---
	11/14/07	136.88	3184.19	---	---	---
	05/14/08	136.83	3184.24	---	---	---
	11/03/08	136.81	3184.26	---	---	---
	05/19/09	136.78	3184.29	---	---	---
	11/02/09	136.80	3184.27	---	---	---
	05/05/10	136.91	3184.16	---	---	---
	11/08/10	136.69	3184.38	---	---	---
	05/11/11	136.87	3184.20	---	---	---
	11/08/11	136.77	3184.30	---	---	---
	05/16/12	136.74	3184.33	---	---	---
	10/10/12	136.85	3184.22	---	---	---
	05/16/13	136.72	3184.35	---	---	---
	10/07/13	137.45	3183.62	---	---	---
	05/01/14	136.81	3184.26	---	---	---
	10/05/14	136.61	3184.46	---	---	---
	05/21/15	136.68	3184.39	---	---	---
	10/19/15	136.55	3184.52	---	---	---
	05/25/16	136.84	3184.23	---	---	---
	10/17/16	136.43	3184.64	---	---	---
	05/10/17	136.66	3184.41	---	---	---
	10/25/17	136.80	3184.27	---	---	---
	05/22/18	136.55	3184.52	---	---	---
	10/16/18	136.64	3184.43	---	---	---
	06/20/19	144.05	3177.02	176.71	---	---
	11/19/19	136.46	3184.61	139.98	---	---
MW-5A 3321.07	05/18/98	137.20	3183.87	141.00	2.00	126-141
	05/25/99	137.11	3183.96	---	---	---
	02/08/01	136.99	3184.08	---	---	---
	05/10/02	136.90	3184.17	---	---	---
	10/22/02	137.17	3183.90	---	---	---
	05/20/03	137.24	3183.83	---	---	---
	11/24/03	136.91	3184.16	---	---	---
	05/11/04	136.88	3184.19	---	---	---
	11/15/04	136.92	3184.15	---	---	---
	05/17/05	136.83	3184.24	---	---	---
	11/15/05	137.06	3184.01	---	---	---
	05/08/06	136.80	3184.27	---	---	---
	11/13/06	136.74	3184.33	---	---	---
	05/29/07	136.82	3184.25	---	---	---
	11/14/07	136.88	3184.19	---	---	---
	05/14/08	136.83	3184.24	---	---	---
	11/03/08	136.81	3184.26	---	---	---
	05/19/09	136.78	3184.29	---	---	---
	11/02/09	136.80	3184.27	---	---	---
	05/05/10	136.91	3184.16	---	---	---
	11/08/10	136.69	3184.38	---	---	---
	05/11/11	136.87	3184.20	---	---	---
	11/08/11	136.77	3184.30	---	---	---
	05/16/12	136.74	3184.33	---	---	---
	10/10/12	136.85	3184.22	---	---	---
	05/16/13	136.72	3184.35	---	---	---
	10/07/13	137.45	3183.62	---	---	---
	05/01/14	136.81	3184.26	---	---	---
	10/05/14	136.61	3184.46	---	---	---
	05/21/15	136.68	3184.39	---	---	---
	10/19/15	136.55	3184.52	---	---	---
	05/25/16	136.84	3184.23	---	---	---
	10/17/16	136.43	3184.64	---	---	---
	05/10/17	136.66	3184.41	---	---	---
	10/25/17	136.80	3184.27	---	---	---
	05/22/18	136.55	3184.52	---	---	---
	10/16/18	136.64	3184.43	---	---	---
	06/20/19	144.05	3177.02	176.71	---	---
	11/19/19	136.46	3184.61	139.98	---	---

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-6 3321.15	05/18/98	136.73	3184.42	170.00	2.00	120-170
	05/25/99	136.61	3184.54	---	---	---
	02/08/01	136.50	3184.65	---	---	---
	05/10/02	136.40	3184.75	---	---	---
	10/22/02	136.57	3184.58	---	---	---
	05/20/03	136.85	3184.30	---	---	---
	11/24/03	136.38	3184.77	---	---	---
	05/11/04	136.41	3184.74	---	---	---
	11/15/04	136.08	3185.07	---	---	---
	05/17/05	136.58	3184.57	---	---	---
	11/15/05	136.82	3184.33	---	---	---
	05/08/06	136.58	3184.57	---	---	---
	11/13/06	136.49	3184.66	---	---	---
	05/29/07	136.61	3184.54	---	---	---
	11/15/07	136.59	3184.56	---	---	---
	05/14/08	136.58	3184.57	---	---	---
	11/03/08	136.52	3184.63	---	---	---
	05/19/09	136.52	3184.63	---	---	---
	11/02/09	136.51	3184.64	---	---	---
	05/05/10	136.53	3184.62	---	---	---
	11/08/10	136.40	3184.75	---	---	---
	05/11/11	Well Casing Damaged				
	11/08/11	Well Casing Damaged				
	05/16/12	Well Casing Damaged				
	10/10/12	Well Casing Damaged				
	09/30/13	Well Plugged and Abandoned				
MW-6R 3321.50	10/07/13	136.17	3185.33	176.00	4.00	136-176
	05/01/14	136.25	3185.25	---	---	---
	10/05/14	136.40	3185.10	---	---	---
	05/21/15	136.13	3185.37	---	---	---
	10/19/15	136.20	3185.30	---	---	---
	05/25/16	136.27	3185.23	---	---	---
	10/17/16	135.96	3185.54	---	---	---
	05/10/17	136.07	3185.43	---	---	---
	10/25/17	136.20	3186.84	---	---	---
	05/22/18	136.03	3187.01	---	---	---
	10/17/18	136.09	3186.95	---	---	---
	06/20/19	---	---	---	---	---
	11/19/19	136.04	3187.00	187.37	---	---
MW-7 3318.39	05/18/98	136.19	3182.20	166.00	2.00	151-166
	05/25/99	135.98	3182.41	---	---	---
	02/08/01	135.87	3182.52	---	---	---
	05/10/02	135.67	3182.72	---	---	---
	10/22/02	135.89	3182.50	---	---	---
	05/20/03	136.12	3182.27	---	---	---
	11/24/03	135.71	3182.68	---	---	---
	05/11/04	135.74	3182.65	---	---	---
	11/15/04	135.78	3182.61	---	---	---
	05/17/05	135.68	3182.71	---	---	---
	11/15/05	135.90	3182.49	---	---	---
	05/08/06	135.64	3182.75	---	---	---
	11/13/06	135.58	3182.81	---	---	---
	05/29/07	135.73	3182.66	---	---	---
	11/15/07	135.64	3182.75	---	---	---
	05/14/08	135.68	3182.71	---	---	---
	11/03/08	135.66	3182.73	---	---	---
	05/19/09	135.63	3182.76	---	---	---
	11/02/09	135.65	3182.74	---	---	---
	05/05/10	135.80	3182.59	---	---	---
	11/08/10	135.51	3182.88	---	---	---
	05/11/11	135.68	3182.71	---	---	---
	11/08/11	135.62	3182.77	---	---	---
	05/16/12	135.55	3182.84	---	---	---
	10/10/12	135.79	3182.60	---	---	---
	05/16/13	135.59	3182.80	---	---	---
	10/07/13	NS	NS	---	---	---
	05/01/14	135.65	3182.74	---	---	---
	10/05/14	135.58	3182.81	---	---	---
	05/21/15	135.52	3182.87	---	---	---
	10/19/15	135.54	3182.85	---	---	---
	05/25/16	135.75	3182.64	---	---	---
	10/17/16	135.35	3183.04	---	---	---
	05/10/17	135.39	3183.00	---	---	---
	10/24/17	135.38	3184.81	---	---	---
	05/22/18	135.39	3184.80	---	---	---
	10/15/18	135.59	3184.60	---	---	---
	06/20/19	135.48	3184.71	162.60	---	---
	11/20/19	135.50	3184.69	162.58	---	---
3320.19						

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-8 3317.14	05/18/98	134.36	3182.78	170.00	2.00	155-170
	05/25/99	134.21	3182.93	---	---	---
	02/08/01	134.08	3183.06	---	---	---
	05/10/02	133.95	3183.19	---	---	---
	10/22/02	134.18	3182.96	---	---	---
	05/20/03	134.38	3182.76	---	---	---
	11/24/03	133.99	3183.15	---	---	---
	05/11/04	134.02	3183.12	---	---	---
	11/15/04	134.11	3183.03	---	---	---
	05/17/05	133.97	3183.17	---	---	---
	11/15/05	134.21	3182.93	---	---	---
	05/08/06	133.94	3183.20	---	---	---
	11/13/06	133.90	3183.24	---	---	---
	05/29/07	134.02	3183.12	---	---	---
	11/15/07	133.76	3183.38	---	---	---
	05/15/08	133.98	3183.16	---	---	---
	11/03/08	134.01	3183.13	---	---	---
	05/19/09	133.97	3183.17	---	---	---
	11/02/09	134.00	3183.14	---	---	---
	05/05/10	134.08	3183.06	---	---	---
	11/08/10	134.03	3183.11	---	---	---
	05/11/11	133.98	3183.16	---	---	---
	11/08/11	133.96	3183.18	---	---	---
	05/16/12	133.84	3183.30	---	---	---
	10/10/12	134.15	3182.99	---	---	---
	05/16/13	133.94	3183.20	---	---	---
	10/07/13	133.90	3183.24	---	---	---
	05/01/14	133.91	3183.23	---	---	---
	10/05/14	133.75	3183.39	---	---	---
	05/21/15	133.88	3183.26	---	---	---
	10/19/15	133.88	3183.26	---	---	---
	05/25/16	133.86	3183.28	---	---	---
	10/17/16	133.68	3183.46	---	---	---
	05/10/17	133.84	3183.30	---	---	---
	10/24/17	133.72	3185.34	---	---	---
	05/22/18	133.77	3185.29	---	---	---
	10/17/18	133.87	3185.19	---	---	---
	06/20/19	133.87	3185.19	146.85	---	---
	11/20/19	133.84	3185.22	146.92	---	---
MW-9 3312.79	05/18/98	132.89	3179.90	164.00	2.00	149-164
	05/25/99	132.68	3180.11	---	---	---
	02/08/01	132.52	3180.27	---	---	---
	05/10/02	137.20	3175.59	---	---	---
	10/22/02	132.56	3180.23	---	---	---
	05/20/03	132.75	3180.04	---	---	---
	11/24/03	132.35	3180.44	---	---	---
	05/11/04	132.39	3180.40	---	---	---
	11/15/04	132.43	3180.36	---	---	---
	05/17/05	132.26	3180.53	---	---	---
	11/15/05	132.60	3180.19	---	---	---
	05/08/06	132.26	3180.53	---	---	---
	11/13/06	132.19	3180.60	---	---	---
	05/29/07	132.32	3180.47	---	---	---
	11/14/07	132.34	3180.45	---	---	---
	05/15/08	132.29	3180.50	---	---	---
	11/03/08	132.33	3180.46	---	---	---
	05/19/09	132.21	3180.58	---	---	---
	11/02/09	132.35	3180.44	---	---	---
	05/05/10	132.41	3180.38	---	---	---
	11/08/10	132.10	3180.69	---	---	---
	05/11/11	132.22	3180.57	---	---	---
	11/08/11	132.19	3180.60	---	---	---
	05/16/12	132.05	3180.74	---	---	---
	10/10/12	132.32	3180.47	---	---	---
	05/16/13	132.08	3180.71	---	---	---
	10/07/13	131.94	3180.85	---	---	---
	05/01/14	Not Measured - Obstruction In Well				
	10/05/14	131.95	3180.84	---	---	---
	05/21/15	132.05	3180.74	---	---	---
	10/19/15	132.01	3180.78	---	---	---
	05/25/16	131.98	3180.81	---	---	---
	10/17/16	131.91	3180.88	---	---	---
	05/10/17	131.95	3180.84	---	---	---
	10/24/17	131.92	3182.76	---	---	---
	05/22/18	131.90	3182.78	---	---	---
	10/17/18	131.98	3182.70	---	---	---
	06/20/19	131.95	3182.73	161.46	---	---
	11/20/19	131.86	3182.82	162.00	---	---
3314.68						

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-9A 3312.56	05/18/98	132.65	3179.91	142.00	2.00	127-142
	05/25/99	132.43	3180.13	---	---	---
	02/08/01	132.37	3180.19	---	---	---
	05/10/02	137.20	3175.36	---	---	---
	10/22/02	132.35	3180.21	---	---	---
	05/20/03	132.55	3180.01	---	---	---
	11/24/03	132.10	3180.46	---	---	---
	05/11/04	132.14	3180.42	---	---	---
	11/15/04	132.19	3180.37	---	---	---
	05/17/05	132.06	3180.50	---	---	---
	11/15/05	132.35	3180.21	---	---	---
	05/08/06	132.02	3180.54	---	---	---
	11/13/06	131.09	3181.47	---	---	---
	05/29/07	132.08	3180.48	---	---	---
	11/14/07	132.06	3180.50	---	---	---
	05/15/08	132.03	3180.53	---	---	---
	11/03/08	131.98	3180.58	---	---	---
	05/19/09	132.00	3180.56	---	---	---
	11/02/09	131.90	3180.66	---	---	---
	05/05/10	131.96	3180.60	---	---	---
	11/08/10	131.85	3180.71	---	---	---
	05/11/11	132.06	3180.50	---	---	---
	11/08/11	131.95	3180.61	---	---	---
	05/16/12	131.81	3180.75	---	---	---
	10/10/12	132.09	3180.47	---	---	---
	05/16/13	131.88	3180.68	---	---	---
	10/07/13	131.90	3180.66	---	---	---
	05/01/14	Not Measured - Obstruction In Well				
	10/05/14	Not Measured - Obstruction In Well				
	05/21/15	Not Measured - Obstruction In Well				
3314.48	10/19/15	131.68	3180.88	---	---	---
	05/25/16	131.73	3180.83	---	---	---
	10/17/16	131.62	3180.94	---	---	---
	05/10/17	131.68	3180.88	---	---	---
	10/24/17	131.60	3182.88	---	---	---
	05/22/18	131.81	3182.67	---	---	---
	10/17/18	131.72	3182.76	---	---	---
	06/20/19	131.69	3182.79	141.72	---	---
	11/20/19	131.63	3182.85	145.66	---	---
MW-10 3319.30	05/18/98	137.18	3182.12	166.00	2.00	151-166
	05/25/99	137.04	3182.26	---	---	---
	02/08/01	136.88	3182.42	---	---	---
	05/10/02	136.80	3182.50	---	---	---
	10/22/02	136.91	3182.39	---	---	---
	05/20/03	137.13	3182.17	---	---	---
	11/24/03	136.71	3182.59	---	---	---
	05/11/04	136.77	3182.53	---	---	---
	11/15/04	136.82	3182.48	---	---	---
	05/17/05	136.34	3182.96	---	---	---
	11/15/05	136.95	3182.35	---	---	---
	05/08/06	136.65	3182.65	---	---	---
	11/13/06	136.59	3182.71	---	---	---
	05/29/07	136.68	3182.62	---	---	---
	11/15/07	136.61	3182.69	---	---	---
	05/15/08	136.65	3182.65	---	---	---
	11/03/08	136.60	3182.70	---	---	---
	05/19/09	136.60	3182.70	---	---	---
	11/02/09	136.60	3182.70	---	---	---
	05/05/10	136.44	3182.86	---	---	---
	11/08/10	136.58	3182.72	---	---	---
	05/11/11	136.62	3182.68	---	---	---
	11/08/11	136.57	3182.73	---	---	---
	05/16/12	136.44	3182.86	---	---	---
	10/10/12	136.91	3182.39	---	---	---
	05/16/13	136.51	3182.79	---	---	---
	10/07/13	136.55	3182.75	---	---	---
	05/01/14	136.37	3182.93	---	---	---
	10/05/14	136.42	3182.88	---	---	---
	05/21/15	136.40	3182.90	---	---	---
	10/19/15	136.41	3182.89	---	---	---
	05/25/16	136.40	3182.90	---	---	---
	10/17/16	136.33	3182.97	---	---	---
	05/10/17	136.34	3182.96	---	---	---
3321.12	10/24/17	136.28	3184.84	---	---	---
	05/22/18	130.07	3191.05	---	---	---
	10/15/18	136.34	3184.78	---	---	---
	06/20/19	136.28	3184.84	160.72	---	---
	11/20/19	136.36	3184.76	160.71	---	---

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-11 3309.69	03/23/99	131.12	3178.57	140.00	4.00	125-140
	05/25/99	130.91	3178.78	---	---	---
	02/08/01	130.11	3179.58	---	---	---
	05/10/02	135.60	3174.09	---	---	---
	10/22/02	130.76	3178.93	---	---	---
	05/20/03	131.03	3178.66	---	---	---
	11/24/03	130.57	3179.12	---	---	---
	05/11/04	130.61	3179.08	---	---	---
	11/15/04	130.65	3179.04	---	---	---
	05/17/05	131.56	3178.13	---	---	---
	11/15/05	130.70	3178.99	---	---	---
	05/08/06	130.41	3179.28	---	---	---
	11/13/06	130.42	3179.27	---	---	---
	05/29/07	130.52	3179.17	---	---	---
	11/14/07	130.42	3179.27	---	---	---
	05/15/08	130.46	3179.23	---	---	---
	11/03/08	130.41	3179.28	---	---	---
	05/19/09	130.40	3179.29	---	---	---
	11/02/09	130.40	3179.29	---	---	---
	05/05/10	130.43	3179.26	---	---	---
	11/08/10	130.28	3179.41	---	---	---
	05/11/11	130.40	3179.29	---	---	---
	11/08/11	130.37	3179.32	---	---	---
	05/16/12	130.23	3179.46	---	---	---
	10/10/12	130.49	3179.20	---	---	---
	05/16/13	130.27	3179.42	---	---	---
	10/07/13	130.12	3179.57	---	---	---
	05/01/14	130.21	3179.48	---	---	---
	10/05/14	130.16	3179.53	---	---	---
	05/21/15	130.17	3179.52	---	---	---
	10/19/15	130.20	3179.49	---	---	---
	05/25/16	130.17	3179.52	---	---	---
	10/17/16	130.02	3179.67	---	---	---
	05/10/17	130.09	3179.60	---	---	---
	10/24/17	130.14	3181.42	---	---	---
	05/22/18	130.07	3181.49	---	---	---
	10/17/18	130.09	3181.47	---	---	---
	06/20/19	130.13	3181.43	165.71	---	---
	11/20/19	130.04	3181.52	172.30	---	---
MW-12* 3328.43	05/10/02	139.57	3188.86	171.65	4.00	157-172
	10/22/02	139.73	3188.70	---	---	---
	05/20/03	139.72	3188.71	---	---	---
	11/24/03	139.69	3188.74	---	---	---
	05/11/04	139.64	3188.79	---	---	---
	11/15/04	139.68	3188.75	---	---	---
	05/17/05	139.58	3188.85	---	---	---
	11/15/05	139.83	3188.60	---	---	---
	05/08/06	139.55	3188.88	---	---	---
	11/13/06	139.53	3188.90	---	---	---
	05/29/07	139.65	3188.78	---	---	---
	11/16/07	139.05	3189.38	---	---	---
	05/14/08	139.69	3188.74	---	---	---
	11/03/08	139.61	3188.82	---	---	---
	05/19/09	139.59	3188.84	---	---	---
	11/02/09	139.62	3188.81	---	---	---
	05/05/10	139.66	3188.77	---	---	---
	11/08/10	139.55	3188.88	---	---	---
	05/11/11	139.04	3189.39	---	---	---
	11/08/11	139.68	3188.75	---	---	---
	05/16/12	139.65	3188.78	---	---	---
	10/10/12	139.95	3188.48	---	---	---
	05/16/13	139.67	3188.76	---	---	---
	10/07/13	139.50	3188.93	---	---	---
	05/01/14	139.58	3188.85	---	---	---
	10/05/14	139.56	3188.87	---	---	---
	05/21/15	139.65	3188.78	---	---	---
	10/19/15	139.65	3188.78	---	---	---
	05/25/16	139.71	3188.72	---	---	---
	10/17/16	139.45	3188.98	---	---	---
	05/10/17	139.61	3188.82	---	---	---
	10/24/17	139.72	3190.61	---	---	---
	05/22/18	139.59	3190.74	---	---	---
	10/17/18	139.68	3190.65	---	---	---
	06/20/19	139.72	3190.61	171.02	---	---
	11/20/19	139.65	3190.68	174.57	---	---
3330.33						

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-13* 3338.49	05/10/02	144.45	3194.04	171.65	4.00	157-172
	10/22/02	144.49	3194.00	---	---	---
	05/20/03	144.90	3193.59	---	---	---
	11/24/03	144.37	3194.12	---	---	---
	05/11/04	144.47	3194.02	---	---	---
	11/15/04	144.56	3193.93	---	---	---
	05/17/05	144.36	3194.13	---	---	---
	11/15/05	144.60	3193.89	---	---	---
	05/08/06	144.29	3194.20	---	---	---
	11/13/06	144.38	3194.11	---	---	---
	05/29/07	144.54	3193.95	---	---	---
	11/16/07	144.54	3193.95	---	---	---
	05/14/08	144.45	3194.04	---	---	---
	11/03/08	144.36	3194.13	---	---	---
	05/19/09	144.51	3193.98	---	---	---
	11/02/09	144.35	3194.14	---	---	---
	05/05/10	144.39	3194.10	---	---	---
	11/08/10	144.40	3194.09	---	---	---
	05/11/11	144.60	3193.89	---	---	---
	11/08/11	144.74	3193.75	---	---	---
	05/16/12	144.70	3193.79	---	---	---
	10/10/12	144.82	3193.67	---	---	---
	05/16/13	144.70	3193.79	---	---	---
	10/07/13	144.60	3193.89	---	---	---
	05/01/14	144.53	3193.96	---	---	---
	10/05/14	144.70	3193.79	---	---	---
	05/21/15	144.78	3193.71	---	---	---
	10/19/15	144.75	3193.74	---	---	---
	05/25/16	144.87	3193.62	---	---	---
	10/17/16	144.54	3193.95	---	---	---
	05/10/17	144.66	3193.83	---	---	---
	Well Plugged and Abandoned					
MW-14 3316.84	10/07/13	134.60	3182.24	171.50	4.00	131-171
	05/01/14	134.51	3182.33	---	---	---
	10/05/14	134.44	3182.40	---	---	---
	05/21/15	134.31	3182.53	---	---	---
	10/19/15	134.49	3182.35	---	---	---
	05/25/16	134.42	3182.42	---	---	---
	10/17/16	134.30	3182.54	---	---	---
	05/10/17	134.35	3182.49	---	---	---
	10/24/17	134.30	3184.06	---	---	---
	05/22/18	134.32	3184.04	---	---	---
	10/15/18	134.41	3183.95	---	---	---
	06/20/19	134.78	3183.58	178.74	---	---
	11/20/19	130.48	3187.88	178.42	---	---
RW-1 3318.50	05/21/99	134.32	3184.18	175.00	5.00	130-174
	05/25/99	134.24	3184.26	---	---	---
	02/08/01	134.15	3184.35	---	---	---
	05/10/02	134.00	3184.50	---	---	---
	10/22/02	134.17	3184.33	---	---	---
	05/20/03	134.40	3184.10	---	---	---
	11/24/03	134.02	3184.48	---	---	---
	05/11/04	134.01	3184.49	---	---	---
	11/15/04	134.06	3184.44	---	---	---
	05/17/05	133.97	3184.53	---	---	---
	11/15/05	134.20	3184.30	---	---	---
	05/08/06	133.93	3184.57	---	---	---
	11/13/06	133.92	3184.58	---	---	---
	05/29/07	134.00	3184.50	---	---	---
	11/15/07	133.88	3184.62	---	---	---
	05/14/08	133.98	3184.52	---	---	---
	11/03/08	133.99	3184.51	---	---	---
	05/19/09	133.92	3184.58	---	---	---
	11/02/09	134.00	3184.50	---	---	---
	05/05/10	134.03	3184.47	---	---	---
	11/08/10	133.81	3184.69	---	---	---
	05/11/11	133.83	3184.67	---	---	---
	11/08/11	133.88	3184.62	---	---	---
	05/16/12	133.84	3184.66	---	---	---
	10/10/12	135.01	3183.49	---	---	---
	05/16/13	133.85	3184.65	---	---	---
	10/07/13	133.68	3184.82	---	---	---
	05/01/14	133.91	3184.59	---	---	---
	10/05/14	133.64	3184.86	---	---	---
	05/21/15	133.73	3184.77	---	---	---
	10/19/15	133.73	3184.77	---	---	---
	05/25/16	133.73	3184.77	---	---	---
	10/17/16	133.80	3184.70	---	---	---
	05/10/17	133.67	3184.83	---	---	---
	10/25/17	133.80	3186.51	---	---	---
	05/22/18	133.61	3186.70	---	---	---
	10/16/18	133.76	3186.55	---	---	---
	06/20/19	133.64	3186.67	164.03	---	---
	11/20/19	133.63	3186.68	163.79	---	---
3320.31						

Well ID TOC Elevation (ft MSL)	Collection Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft MSL)	Constructed Depth (ft below TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
RW-2 3318.62	02/08/01	135.58	3183.04	160.00	5.00	134-173
	05/10/02	135.55	3183.07	---	---	---
	10/22/02	135.55	3183.07	---	---	---
	05/20/03	135.58	3183.04	---	---	---
	11/24/03	135.54	3183.08	---	---	---
	05/11/04	135.48	3183.14	---	---	---
	11/15/04	135.43	3183.19	---	---	---
	05/17/05	135.46	3183.16	---	---	---
	11/15/05	135.65	3182.97	---	---	---
	05/08/06	135.42	3183.20	---	---	---
	11/13/06	135.47	3183.15	---	---	---
	05/29/07	135.54	3183.08	---	---	---
	11/15/07	135.48	3183.14	---	---	---
	05/14/08	135.48	3183.14	---	---	---
	11/03/08	135.44	3183.18	---	---	---
	05/19/09	135.44	3183.18	---	---	---
	11/02/09	135.45	3183.17	---	---	---
	05/05/10	135.47	3183.15	---	---	---
	11/08/10	135.30	3183.32	---	---	---
	05/11/11	135.55	3183.07	---	---	---
	11/08/11	135.46	3183.16	---	---	---
	05/16/12	135.40	3183.22	---	---	---
	10/10/12	135.49	3183.13	---	---	---
	05/16/13	135.33	3183.29	---	---	---
	05/01/14	135.40	3183.22	---	---	---
	10/05/14	135.29	3183.33	---	---	---
	05/21/15	135.28	3183.34	---	---	---
	10/19/15	135.32	3183.30	---	---	---
	05/25/16	135.21	3183.41	---	---	---
	10/17/16	135.15	3183.47	---	---	---
	05/10/17	135.14	3183.48	---	---	---
	10/25/17	135.30	3185.12	---	---	---
	05/22/18	135.12	3185.30	---	---	---
	10/15/18	135.21	3185.21	---	---	---
	06/20/19	135.23	3185.19	156.50	---	---
	11/19/19	135.08	3185.34	172.60	---	---
RW-2R 3320.42	10/07/13	135.43	3183.19	173.00	6.00	133-173
	10/07/13	136.94	3183.74	---	---	---
	05/01/14	137.05	3183.63	---	---	---
	10/05/14	136.85	3183.83	---	---	---
	05/21/15	136.85	3183.83	---	---	---
	10/19/15	136.92	3183.76	---	---	---
	05/25/16	136.89	3183.79	---	---	---
	10/17/16	136.75	3183.93	---	---	---
	05/10/17	136.77	3183.91	---	---	---
	10/25/17	137.00	3183.68	---	---	---
	05/22/18	136.76	3183.92	---	---	---
	10/15/18	136.87	3183.81	---	---	---
	06/20/19	136.79	3183.89	176.82	---	---
	11/19/19	136.71	3183.97	188.97	---	---
3320.68	10/07/13	135.43	3183.19	173.00	6.00	133-173
	10/07/13	136.94	3183.74	---	---	---
	05/01/14	137.05	3183.63	---	---	---
	10/05/14	136.85	3183.83	---	---	---
	05/21/15	136.85	3183.83	---	---	---
	10/19/15	136.92	3183.76	---	---	---
	05/25/16	136.89	3183.79	---	---	---
	10/17/16	136.75	3183.93	---	---	---
	05/10/17	136.77	3183.91	---	---	---
	10/25/17	137.00	3183.68	---	---	---
	05/22/18	136.76	3183.92	---	---	---
	10/15/18	136.87	3183.81	---	---	---
	06/20/19	136.79	3183.89	176.82	---	---
	11/19/19	136.71	3183.97	188.97	---	---
RW-6R	10/07/13	135.43	3183.19	173.00	6.00	133-173

Notes:

1. TOC - Top of Casing
2. ft bgs - feet below ground surface
3. in - inches
4. NS - Not sampled
5. A - Indicates groundwater monitor well installed in shallow Uppermost Groundwater Bearing Unit.
6. MSL - Mean Sea Level
7. * - Indicates groundwater monitor well installed off-Site and upgradient of plume.