



Glenn Springs Holdings, Inc. A subsidiary of
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2019 ANNUAL GROUNDWATER MONITORING REPORT

Indian Basin Gas Plant
Eddy County, New Mexico

March 2020

2019 Annual Groundwater Monitoring Report

**2019 ANNUAL
GROUNDWATER
MONITORING REPORT**

Indian Basin Gas Plant

Eddy County, New Mexico

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ACRONYMS AND ABBREVIATIONS

BTEX	Benzene, Toluene, Ethylbenzene, Xylene
IBGP	Indian Basin Gas Plant
IBRP	Indian Basin Remediation Project
NMOCD	New Mexico Oil Conservation Division
OXY	OXY USA WTP Limited Partnership
Site	Indian Basin Gas Plant
TDS	Total Dissolved Solids

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EXECUTIVE SUMMARY

This report documents the results from the June 2019 annual groundwater monitoring event and the December 2019 semi-annual gauging event and provides historical groundwater monitoring documentation. The 2019 annual groundwater monitoring event was conducted from June 24, 2019 through June 26, 2019, and included the gauging of depth to groundwater and non-aqueous phase liquid thickness in 15 monitoring wells (seven in the Shallow Zone and eight in the Lower Queen) and sampling of monitoring wells for BTEX, TDS and chloride. In June 2019, the monitor wells were also sampled and tested for a broad range of biogeochemical parameters to allow for a more detailed evaluation of the attenuation dynamics, assimilative capacity and residual hydrocarbons at the site. On December 10 and 11, 2019, semi-annual gauging of depth to groundwater and non-aqueous phase liquid thickness of 15 monitoring wells (seven in the Shallow Zone and eight in the Lower Queen) was conducted.

Liquid-level measurements obtained from each well in June 2019 and December 2019 and the surveyed well elevations were used to calculate groundwater elevations, with density corrections to the water level made where condensate was present. The resulting elevation data was used to generate groundwater piezometric contour maps for the Shallow Zone and Lower Queen aquifers. Review of these maps and the elevation data indicate Shallow Zone and Lower Queen groundwater flow was generally consistent with patterns observed in previous years. Flow in the Shallow Zone is to the southeast at an approximate gradient of 0.015 ft/ft, and flow in the Lower Queen is generally to the northwest at an approximate gradient of 0.00085 ft/ft.

In June 2019, groundwater samples were collected from five Shallow Zone monitoring wells (MW-14, MW-45, MW-46, MW-49, and MW-106) and five Lower Queen monitoring wells (MW-66, MW-70, MW-88, MW-111 and MW-127). The purging and sampling techniques utilized low-flow procedures which were approved and implemented in 2003. Shallow Zone monitoring wells MW-77 and MW-126 and the Lower Queen monitoring wells MW-58, MW-81 and MW-113 were not sampled due to insufficient water in MW-77 and the presence of condensate in the other monitoring wells. The analytical results indicate that BTEX concentrations in the sampled Shallow Zone monitoring wells were below NMOCD regulatory levels except in MW-49 (Benzene 11.5 µg/L). In addition, BTEX concentrations in the five sampled Lower Queen wells were below NMOCD regulatory limits. In general, TDS and chloride concentrations in the sampled Shallow Zone monitoring wells were within historical levels, and TDS and chloride concentrations in well MW-106 was below NMOCD the regulatory limits. The TDS in MW-14 (2,530 mg/L), MW-45 (5,500 mg/L), MW-46 (3,880 mg/L) and MW-49 (3,540 mg/L) exceeded the NMOCD regulatory limit of 1,000 mg/L. Chloride in MW-49 (285 mg/L) exceeded the NMOCD regulatory limit of 250 mg/L. Except the TDS concentration in MW-70 (1,750 mg/L), the TDS and chloride concentrations in the sampled Lower Queen wells were all below NMOCD regulatory limits.

Groundwater monitoring at the site will continue to be conducted according to the requirements outlined in the February 20, 2009 NMOCD letter. Based on the current program schedule, the next annual groundwater monitoring event will be conducted in May 2020 and the semi-annual groundwater gauging event will be conducted in November 2020. An annual report will be prepared at the conclusion of each Fall groundwater gauging event and will be submitted to the NMOCD.

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INTRODUCTION

Arcadis has prepared this Annual Groundwater Monitoring report on behalf of OXY USA WTP Limited Partnership (Oxy) for the Indian Basin Remediation Project (IBRP) at the Indian Basin Gas Plant located in Eddy County, New Mexico. This report presents the results of the June 2019 annual groundwater monitoring event, the semi-annual groundwater gauging event conducted in December 2019 and includes historical groundwater monitoring data. This report has been prepared in accordance with the groundwater monitoring requirements outlined in correspondence by the New Mexico Energy, Minerals, and Natural Resources Department, New Mexico Oil Conservation Division (NMOCD) to Marathon Oil Company dated February 20, 2009 prior to OXY operating the facility.

BACKGROUND

The IBGP (site) is located approximately 20 miles northwest of Carlsbad, New Mexico, as shown on Figure 1. The site is situated in Township 21 South, Eddy County, and occupies portions of Range 23 East (Sections 13, 23, 24, 25, and 26) and Range 24 East (Sections 19 and 30). Remediation efforts at the site were initiated in April 1991 and were designed to remove separate-phase petroleum hydrocarbons present in the subsurface, primarily condensate.

The geology underlying the site is comprised of two distinct zones, both with saturated and unsaturated strata. The geologic units are referred to as the Shallow Zone and the Lower Queen. Prior to March 2003, there were a total of 150 wells (78 Shallow Zone and 72 Lower Queen) and two shallow sumps present at the site related to the IBRP. However, with NMOCD approval, 39 Shallow Zone wells were plugged and abandoned in March 2003, reducing the well total to 111 wells and two shallow sumps. The remaining wells and two sumps were used for a combination of groundwater monitoring, groundwater and condensate recovery, treated groundwater infiltration and condensate vapor extraction.

In May 2008, a report titled Evaluation of Natural Attenuation, Indian Basin Remediation Project, Eddy County, New Mexico was submitted to the NMOCD. The report described the natural attenuation processes occurring at the site and recommended closure of the IBRP. In addition, a letter with the reference title Proposed Indian Basin Remediation Project Well Plugging Program was submitted to the NMOCD in February 2009. The NMOCD responded to the May 2008 report and February 2009 plugging program letter in correspondence dated February 20, 2009. In the February 20, 2009 correspondence, the NMOCD stated that the report and well plugging request were substantially acceptable, and conditionally approved the discontinuance of active remediation at the site. However, the NMOCD required at least annual groundwater monitoring for BTEX, TDS and chloride for a total of 15 wells, and semi-annual gauging of depth to groundwater and non-aqueous phase liquid thickness. In addition, the NMOCD required that an annual groundwater monitoring report must be submitted. The NMOCD correspondence is included in Appendix D.

In March and April 2009, a total of 95 wells (including the two shallow sumps) were plugged and abandoned. Three water supply wells (SW-1, SW-2 and SW-3) originally included in the proposed plugging program were not plugged, because they are needed to supply water for site operations. A report documenting the well plugging activities was submitted to the NMOCD in June 2009. The NMOCD approved the plugging report through email correspondence dated June 17, 2009 (Appendix D).

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Table 1 lists the 15 wells remaining in the groundwater monitoring program and monitoring requirements. Figure 2 depicts the site layout, including the locations of remaining Shallow Zone and Lower Queen wells. Additional details regarding local and regional geology and hydrogeology are presented in the report titled Comprehensive Site Characterization Report for the IBRP, submitted to the NMOCD in December 1998.

GROUNDWATER AND CONDENSATE GAUGING

Groundwater gauging was conducted in June 2019 and December 2019. The gauging events consisted of collecting liquid-level measurements from the wells listed in Table 1 for both the Shallow Zone and Lower Queen. The results of the gauging events as well as precipitation recharge (rainfall) are discussed in the following sections. A summary of the June 2019 groundwater gauging results is provided in Table 2. The December 2019 groundwater gauging results are summarized in Table 3. Historical groundwater gauging data for the remaining monitoring wells at the site are presented in Appendix A.

Shallow Zone Aquifer

The seven monitoring wells completed in the Shallow Zone were gauged during the June 2019 and December 2019 events. The liquid-level measurements and the top of casing elevations for the wells were then used to calculate the groundwater elevation at each well. Density corrections to the water level elevations were made where condensate was present.

From November 2018 to June 2019, groundwater levels (including density corrections for condensate if present) increased in Shallow Zone wells MW-45 (1.80 ft.), MW-46 (0.46), MW-49 (0.21 ft.), MW-77 (0.04 ft.), and MW-126 (0.44 ft.). The groundwater levels decreased from November 2018 to June 2019 for Shallow Zone wells MW-14 (1.35 ft.) and MW-126 (1.91 ft.). During the June 2019 event, measurable condensate was detected in Shallow Zone monitoring well MW-126 (0.16 ft.). Historically, the condensate thickness in MW-126 has ranged between 0 and 3.96 feet.

From June to December 2019, groundwater levels (including density corrections for condensate, if present) increased in Shallow Zone wells MW-14 (1.98 ft.), MW-45 (0.25 ft.), MW-46 (1.24 ft.), MW-49 (1.16 ft.), MW-77 (1.54 ft.) and MW-126 (15.95 ft.). The groundwater level in MW-106 decreased from June to December 2019 by 0.10 ft. During the December 2019 gauging event, measurable condensate was only detected in Shallow Zone monitoring well MW-126. The condensate thickness measured in MW-126 was 0.12 feet in December 2019.

Groundwater elevation contour maps were prepared based on the June 2019 and December 2019 groundwater elevation measurements (Figures 3 and 7). As shown on Figures 3 and 7, the observed groundwater flow direction in the Shallow Zone is to the southeast at an approximate gradient of 0.015 ft./ft. The flow direction and gradient are generally consistent with historical patterns.

Lower Queen Aquifer

The eight monitoring wells completed in the Lower Queen were gauged during the June 2019 and December 2019 gauging events. The liquid-level measurements and the top of casing elevations for the

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wells were then used to calculate the groundwater elevation at each well. Density corrections to the water level were made as required where condensate was present.

During the June 2019 gauging event, trace condensate was observed in Lower Queen monitoring well MW-113. MW-58 and MW-81 had condensate thicknesses of 0.30 feet and 0.69 feet, respectively. Historically, condensate thickness ranged from 0 to 5.26 feet in MW-58, 0 to 12.08 feet in MW-81 and 0 to 0.88 feet in MW-113. The water level elevation in MW-58 has experienced broad fluctuations over the last part of 2015 to the most recent gauging in 2019. As discussed in earlier annual reports, the cause of this fluctuation is possibly due to measurement interference created by biomass in the well which was reported historically in the gauging events conducted in 2001. During the December 2019 gauging event, trace condensate was observed in monitoring well MW-113. MW-58 and MW-81 contained condensate thickness of 0.20 feet and 0.45 feet, respectively.

Groundwater elevation contour maps were prepared based on the June 2019 and December 2019 groundwater elevation measurements (Figures 4 and 8). As shown on Figures 4 and 8, the observed groundwater flow direction in the Lower Queen is generally to the northwest at an approximate gradient of 0.00085 ft./ft. The flow direction and gradient are generally consistent with historical patterns.

Precipitation Recharge

Table 4 summarizes monthly rainfall for the area during 2019 along with historical precipitation since 1994. From 1994 through 2006, the precipitation records are from the Indian Basin Gas Plant. For the years 2007 through 2018, the precipitation records are from a weather station located in Carlsbad, New Mexico. The site has historically received the highest amounts of precipitation between the months of June and October. The average annual rainfall measured over the past five years is approximately 14.48 inches which is 2.94 inches above the long-term average for the area of approximately 11.54 inches per year. During 2019, data from the Carlsbad station indicate that the highest amount of precipitation was received in July (2.00 inches) with a total of 12.76 inches (1.22 inches above the long-term average) reported for the year.

GROUNDWATER SAMPLING AND ANALYSIS

As a condition of the discontinuance of active remediation at the site (Appendix D), the NMOCD required annual groundwater monitoring for BTEX, TDS and chloride for seven Shallow Zone and eight Lower Queen monitoring wells. Arcadis personnel conducted the 2019 annual groundwater sampling event at the site from June 24, 2019 through June 26, 2019. All samples were collected using low-flow purging and sampling techniques. Table 5 summarizes the BTEX, chloride and TDS analytical results for the June 2019 event. Summaries of historical BTEX, TDS and chloride analytical data are presented in Appendix B. The complete laboratory analytical report for the annual groundwater sampling event in 2019 is presented in Appendix C.

In June 2019, the active monitor wells were also sampled and tested for a broad range of biogeochemical parameters to allow for a more detailed evaluation of the attenuation dynamics, assimilative capacity and residual hydrocarbons at the site.

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The groundwater monitoring analytical results for both the Shallow Zone and Lower Queen are discussed in the following sections.

Shallow Zone Aquifer

BTEX Analysis

Groundwater samples were collected from five Shallow Zone monitoring wells (MW-14, MW-45, MW-46, MW-49 and MW-106) for the June 2019 sampling event. MW-126 was not sampled because it contained condensate and MW-77 was not sampled because it did not contain sufficient volume of water for sampling. The results of the BTEX laboratory analysis of the Shallow Zone groundwater samples are summarized as follows:

- Benzene was not detected in four of the monitoring wells sampled (MW-14, MW-45, MW-46 and MW-106); and
- Benzene was detected in MW-49 at a concentration of 11.5 µg/L which is above the NMOCD regulatory limit of 10 µg/L.

Figure 5 illustrates the distribution of dissolved BTEX compounds in the Shallow Zone aquifer in June 2019. As indicated by the historical data in Appendix B, BTEX concentrations in this water-bearing zone have generally remained stable or declined over time.

Wet Chemistry Analysis

In addition to BTEX analysis, groundwater samples collected in June 2019 from the Shallow Zone monitoring wells were analyzed for TDS and chloride plus several other biogeochemical constituents and parameters. The results for TDS and chloride are summarized as follows:

- TDS concentration in MW-106 (368 mg/L) was below the NMOCD standard and within historical ranges;
- TDS concentrations were detected above the NMOCD standard in the remaining four Shallow Zone monitoring wells sampled (MW-14, MW-45, MW-46 and MW-49). The TDS concentration in MW-14 (2,530 mg/L) and MW-46 (3,880 mg/L) were well above the historical ranges for these wells of 1,000 mg/L to 1,610 mg/L for MW-14 and 490 mg/L to 2,300 mg/L for MW-46. The TDS concentration in MW-45 (5,500 mg/L) was within the historical range (2,540 to 5,990 mg/L) for this well. The TDS concentration in MW-49 (3,540 mg/L) was within the historical range (from 2,600 to 5,220 mg/L) recorded for this well;
- Chloride concentration in MW-106 (3.1 mg/L) was below the NMOCD standard and within historic ranges; and
- Chloride concentration was detected above the NMOCD standard in MW-49 (285 mg/L).

A summary of the TDS and chloride analytical results is provided in Table 5. A Copy of the analytical laboratory report is included in Appendix C. Figure 5 depicts TDS and chloride concentrations in the wells sampled in June 2019.

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Lower Queen Aquifer

BTEX Analysis

Groundwater samples were collected from five Lower Queen monitoring wells (MW-66, MW-70, MW-88, MW-111 and MW-127) in June 2019. Samples were not collected from MW-58, MW-81, and MW-113 because they contained condensate. BTEX concentrations were not detected in the five sampled Lower Queen wells. Figure 6 illustrates the distribution of dissolved BTEX compounds in the Lower Queen in June 2019.

Wet Chemistry Analysis

In addition to BTEX analysis, groundwater samples were collected in June 2019 from the Lower Queen monitoring wells MW-66, MW-70, MW-88, MW-111 and MW-127 and analyzed for TDS and chlorides plus several other biogeochemical parameters. The results TDS and chloride laboratory analysis for the Lower Queen monitoring wells are summarized as follows:

- TDS concentrations were below the NMOCD standard of 1,000 mg/L in all samples collected from the Lower Queen monitoring wells, except for MW-70 (1,750 mg/L). The 1,750 mg/L TDS reported for MW-70 is an anomaly and a significantly departure from the historical range for this well of approximately 500 mg/L or less as well as the historical concentrations in the Lower Queen Aquifer. The TDS concentration in MW-70 will be closely scrutinized in future sampling events to evaluation trends. The TDS concentrations for the remaining Lower Queen monitoring wells ranged from 688 mg/L in MW-111 to 920 mg/L in MW-88; and
- Chloride concentrations were below the NMOCD standard of 250 mg/L in all five samples collected from the Lower Queen monitoring wells. The chloride concentrations ranged from 8.11 mg/L in MW-66 to 53 mg/L in MW-127.

A summary of the laboratory analysis data for TDS and chloride is provided in Table 5. A copy of the analytical laboratory report is included in Appendix C. Figure 6 depicts TDS and chlorides in the Lower Queen monitoring wells sampled in June 2019.

SUMMARY

Groundwater Monitoring

Results from the annual groundwater monitoring event conducted in June 2019 and the groundwater gauging event conducted in December 2019 indicated similar groundwater conditions present as in previous years. Wells containing measurable condensate in June and December 2019 were consistent with historical results. Analytical results for BTEX, chloride and TDS were similar to historical data for the remaining sampled wells, except MW-70 (Lower Queen Aquifer) contained TDS concentration well above the historical concentrations for this well and the Lower Queen Aquifer.

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Groundwater Monitoring Plan

Groundwater monitoring will continue at the Indian Basin Gas Plant in accordance with the requirements outlined in the February 20, 2009 NMOCD letter (Appendix D) including annual groundwater monitoring for BTEX, TDS and chloride for the seven Shallow Zone and eight Lower Queen monitoring wells at the site, and semi-annual gauging of depth to groundwater and non-aqueous phase liquid thickness. In addition, an annual groundwater monitoring report will be submitted to the NMOCD. Based on the current program schedule, the annual groundwater monitoring event for 2020 will be conducted in May and the semi-annual groundwater gauging event will be conducted in November. The annual report will be prepared and submitted to the NMOCD during the first half of 2021.

The current purging and sampling techniques utilize low-flow procedures that were approved and implemented in 2003. A copy of the March 1998 USEPA low-flow procedures is included in Appendix E.

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TABLES

Table 1. Groundwater Monitoring Plan
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant
 Eddy County, New Mexico.

Shallow Zone Sampling Schedule

Well ID	Spring		Fall
	Annual	Analytical Parameters Annual	Semi-Annual
MW-14	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-45	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-46	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-49	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-77	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-106	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-126	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging

Lower Queen Sampling Schedule

Well ID	Spring		Fall
	Annual	Analytical Parameters Annual	Semi-Annual
MW-58	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-66	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-70	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-81	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-88	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-111	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-113	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging
MW-127	Groundwater Gauging	BTEX, Chloride, TDS	Groundwater Gauging

Notes:

TDS Total Dissolved Solids
 BTEX Benzene, Toluene, Ethylbenzene, and Total Xylenes

Table 2. Summary of Groundwater Gauging Results, June 2019
 Semi-Annual Groundwater Gauging Event
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico.

Well Number	Well Diameter (in)	Northing NAD 27 Con hddd,mm',ss.s"	Easting	Total Depth From TOC (ft)	Top of Casing (ft amsl)	Top of Casing Stickup (ft agl)	DTW (feet)	DTP (feet)	PT (feet)	PT x 0.73 (feet)	ADJ DTW (feet)	WL Elev (ft amsl)	Comments
Shallow Zone													
MW-14	4	32 27 44.3	104 34 00.9	24.20	3803.61	2.08	23.13	---	---	---	---	3780.48	
MW-45	2	32 28 01.1	104 34 08.7	26.34	3808.68	1.60	19.20	---	---	---	---	3789.48	
MW-46	4	32 27 56.7	104 34 05.8	19.93	3805.54	1.90	18.24	---	---	---	---	3787.30	
MW-49	2	32 27 57.6	104 33 59.9	26.71	3805.61	1.90	22.38	---	---	---	---	3783.23	
MW-77	7.875	32 27 27.3	104 33 25.0	82.20	3775.48	2.38	80.26	---	---	---	---	3695.22	
MW-106	4	32 26 57.0	104 32 26.4		3721.97	2.61	88.10	---	---	---	---	3633.87	
MW-126	4	32 27 48.2	104 33 49.9	NR	3796.28	3.33	69.73	69.53	0.20	0.15	69.58	3726.70	Light yellow LNAPL on probe
Lower Queen													
MW-58	7.875	32 28 04.5	104 33 28.5	NR	3824.07	3.48	200.50	200.20	0.30	0.22	200.28	3623.79	Light yellow LNAPL on probe w/bio mass
MW-66	4	32 28 19.1	104 33 28.5	NR	3828.98	2.60	206.78	---	---	---	---	3622.20	
MW-70	4	32 27 18.8	104 34 05.5	NR	3822.57	2.71	199.63	---	---	---	---	3622.94	
MW-81	7.875	32 28 04.3	104 33 19.5	NR	3817.03	3.98	194.48	193.79	0.69	0.50	193.98	3623.05	Light yellow LNAPL on probe w/bio mass
MW-88	4	32 28 25.3	104 32 55.6	128.02	3789.70	2.71	167.14	---	---	---	---	3622.56	
MW-111	4	32 28 15.9	104 34 06.1	NR	3824.44	1.85	203.20	---	---	---	---	3621.24	
MW-113	7.875	32 27 16..3	104 33 32.1	NR	3772.67	1.82	149.22	149.22	0.00	0.00	149.22	3623.45	Trace Condensate
MW-127	8.25	32 28 00.8	104 33 58.8	NR	3825.17	2.63	208.23	---	---	---	---	3616.94	

Foot Notes: TOC
 DTW
 DTP
 Top of Casing
 Depth to Water
 Depth to Product
 PT
 ADJ DTW
 WL
 Product Thickness
 Adjusted Depth to Water
 Water Level

Table 3. Summary of Groundwater Gauging Results, December 2019
 Semi-Annual Groundwater Gauging Event
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico.

Well Number	Well Diameter (in)	Northing NAD 27 Con hddd,mm',ss.s"	Easting	Total Depth From TOC (ft)	Top of Casing (ft amsl)	Top of Casing Stickup (ft agl)	DTW (feet)	DTP (feet)	PT (feet)	PT x 0.73 (feet)	ADJ DTW (feet)	WL Elev (ft amsl)	Comments
Shallow Zone													
MW-14	4	32 27 44.3	104 34 00.9	24.10	3803.61	2.08	21.15	---	---	---	---	3782.46	
MW-45	2	32 28 01.1	104 34 08.7	26.45	3808.68	1.60	18.95	---	---	---	---	3789.73	
MW-46	4	32 27 56.7	104 34 05.8	19.92	3805.54	1.90	17	---	---	---	---	3788.54	
MW-49	2	32 27 57.6	104 33 59.9	27.05	3805.61	1.90	21.22	---	---	---	---	3784.39	
MW-77	7.875	32 27 27.3	104 33 25.0	NR	3775.48	2.38	72.72	---	---	---	---	3702.76	
MW-106	4	32 26 57.0	104 32 26.4	NR	3721.97	2.61	88.20	---	---	---	---	3633.77	
MW-126	4	32 27 48.2	104 33 49.9	NR	3796.28	3.33	53.72	53.60	0.12	0.09	53.63	3742.65	Light yellow LNAPL on probe
Lower Queen													
MW-58	7.875	32 28 04.5	104 33 28.5	NR	3824.07	3.48	199.40	199.20	0.20	0.15	199.25	3624.82	Light yellow LNAPL on probe
MW-66	4	32 28 19.1	104 33 28.5	NR	3828.98	2.60	205.96	---	---	---	---	3623.02	
MW-70	4	32 27 18.8	104 34 05.5	NR	3822.57	2.71	199.04	---	---	---	---	3623.53	
MW-81	7.875	32 28 04.3	104 33 19.5	NR	3817.03	3.98	193.50	193.05	0.45	0.33	193.17	3623.86	Light yellow LNAPL on probe w/bio
MW-88	4	32 28 25.3	104 32 55.6	177.70	3789.70	2.71	166.49	---	---	---	---	3623.21	
MW-111	4	32 28 15.9	104 34 06.1	NR	3824.44	1.85	203.85	---	---	---	---	3620.59	
MW-113	7.875	32 27 16.3	104 33 32.1	NR	3772.67	1.82	148.62	148.62	0.00	0.00	148.62	3624.05	Trace Condensate
MW-127	8.25	32 28 00.8	104 33 58.8	NR	3825.17	2.63	202.18	---	---	---	---	3622.99	

Foot Notes: TOC
 DTW
 DTP
 Top of Casing
 Depth to Water
 Depth to Product
 PT
 ADJ DTW
 WL
 Product Thickness
 Adjusted Depth to Water
 Water Level

Table 4. Summary of Historical Rainfall with Monthly Rainfall During 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant
 Eddy County, New Mexico.

Historical Rainfall	
Year	Rainfall (inches)
1994	9.31
1995	7.84
1996	16.60
1997	10.65
1998	3.95
1999	4.70
2000	9.75
2001	6.02
2002	12.70
2003	7.58
2004	26.96
2005	11.16
2006	17.49
2007	19.02*
2008	9.39*
2009	11.96*
2010	17.32*
2011	5.84*
2012	11.14*
2013	11.38*
2014	23.53*
2015	16.49*
2016	11.96*
2017	12.38*
2018	11.16
Monthly Rainfall During 2019	
Month	Rainfall (inches)
January	0.59
February	0.51
March	0.94
April	0.79
May	0.94
June	1.30
July	2.00
August	0.87
September	1.87
October	1.96
November	0.94
December	0.05
2019 Annual Total	12.76

Source: Rain gauge at Indian Basin Gas Plant
 *Changed in 2007 to a station
 located in Carlsbad, NM

Table 5. Summary of Analytical Results, June 2018
Annual Groundwater Sampling Event
OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico.

Well ID	Sample Date	Analytical Parameters					
		Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TDS (mg/L)	Chloride (mg/L)
OCD Regulatory Limits		10	750	750	620	1,000	250
Shallow Zone Wells							
MW-14	6/25/2019	<0.56	<0.55	<1.29	<1.98	2,530	124
MW-45	6/24/2019	<0.56	<0.55	<1.29	<1.98	5,500	177
DUP-1 (Parent MW-45)	6/24/2019	<0.56	<0.55	<1.29	<1.98	5,300	127
MW-46	6/25/2019	<0.56	<0.55	<1.29	<1.98	3,880	192
MW-49	6/24/2019	11.5	<0.55	<1.29	<1.98	3,540	285
MW-77		Not Sampled - not enough water to collect sample					
MW-106	6/25/2019	<0.56	<0.55	<1.29	<1.98	368	3.72
MW-126		Not Sampled - well contained condensate					
Lower Queen Wells							
MW-58		Not Sampled - well contained condensate					
MW-66	6/25/2019	<0.56	<0.55	<1.29	<1.98	860	8.11
MW-70	6/25/2019	<0.56	<0.55	<1.29	<1.98	1,750	9.87
MW-81		Not Sampled - well contained condensate					
MW-88	6/25/2019	<0.56	<0.55	<1.29	<1.98	920	28.4
MW-111	6/25/2019	<0.56	<0.55	<1.29	<1.98	688	40
MW-113		Not Sampled - well contained condensate					
MW-127	6/25/2019	<0.56	<0.55	<1.29	<1.98	750	53

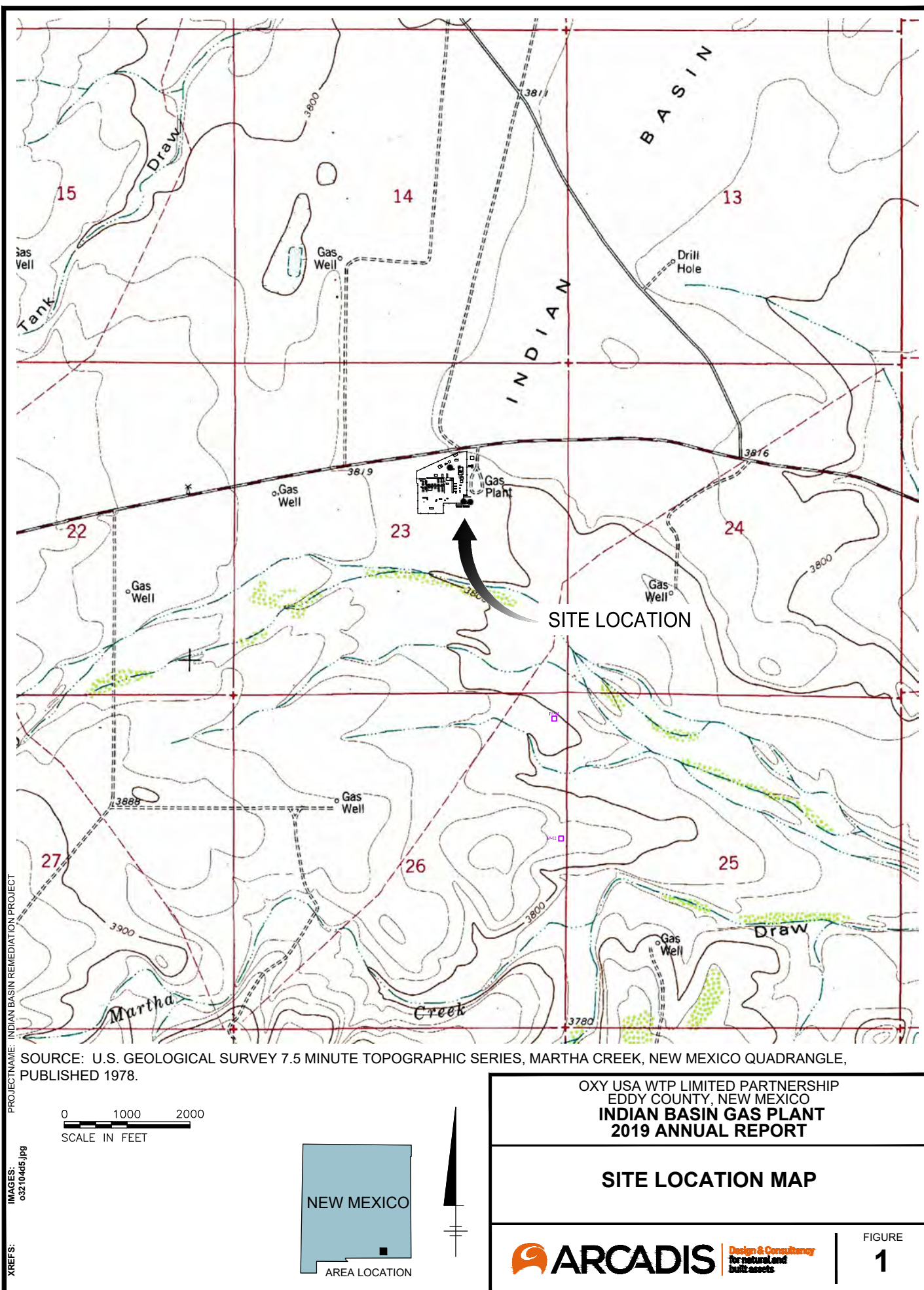
Notes:

ug/L	Micrograms per liter
mg/L	Milligrams per liter
<5	Compound below the laboratory detection limit
6	Indicates result above the detection limit and below the NMOCD standard
16	Indicates result at/above the NMOCD standard

FIGURES



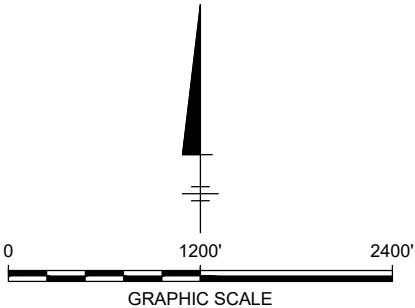
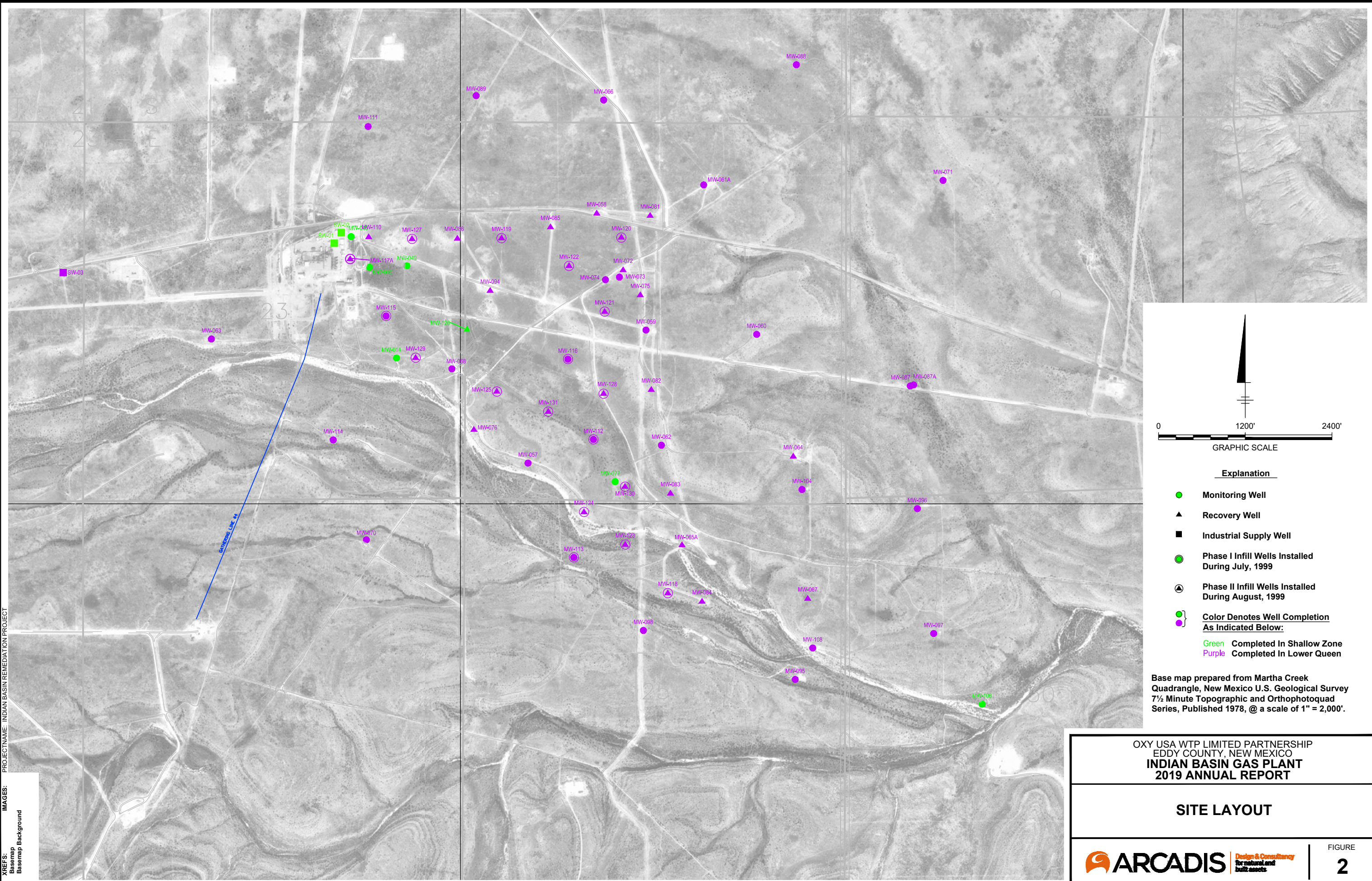
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XREFS: IMAGES: PROJECTNAME: INDIAN BASIN REMEDIATION PROJECT

Basemap Background



Explanation

- Monitoring Well
- Recovery Well
- Industrial Supply Well
- Phase I Infill Wells Installed During July, 1999
- Phase II Infill Wells Installed During August, 1999
- Color Denotes Well Completion As Indicated Below:
 - Green Completed In Shallow Zone
 - Purple Completed In Lower Queen

Base map prepared from Martha Creek Quadrangle, New Mexico U.S. Geological Survey 7½ Minute Topographic and Orthophotoquad Series, Published 1978, @ a scale of 1" = 2,000'.

OXY USA WTP LIMITED PARTNERSHIP
EDDY COUNTY, NEW MEXICO
INDIAN BASIN GAS PLANT
2019 ANNUAL REPORT

SITE LAYOUT

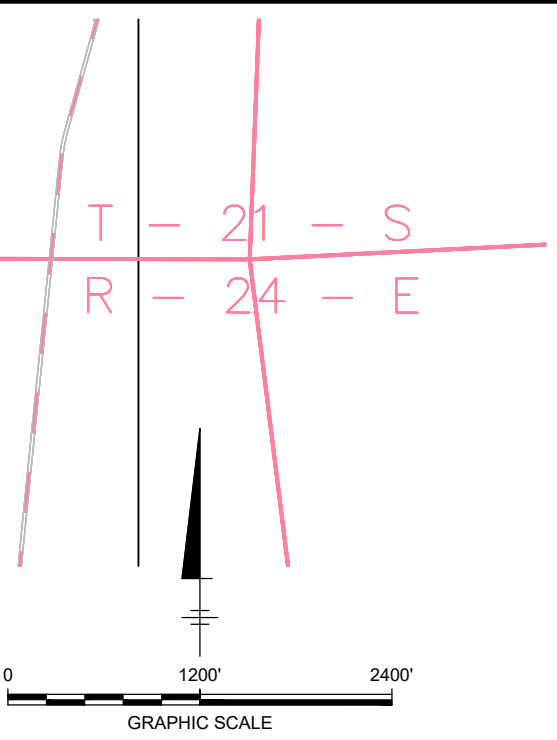
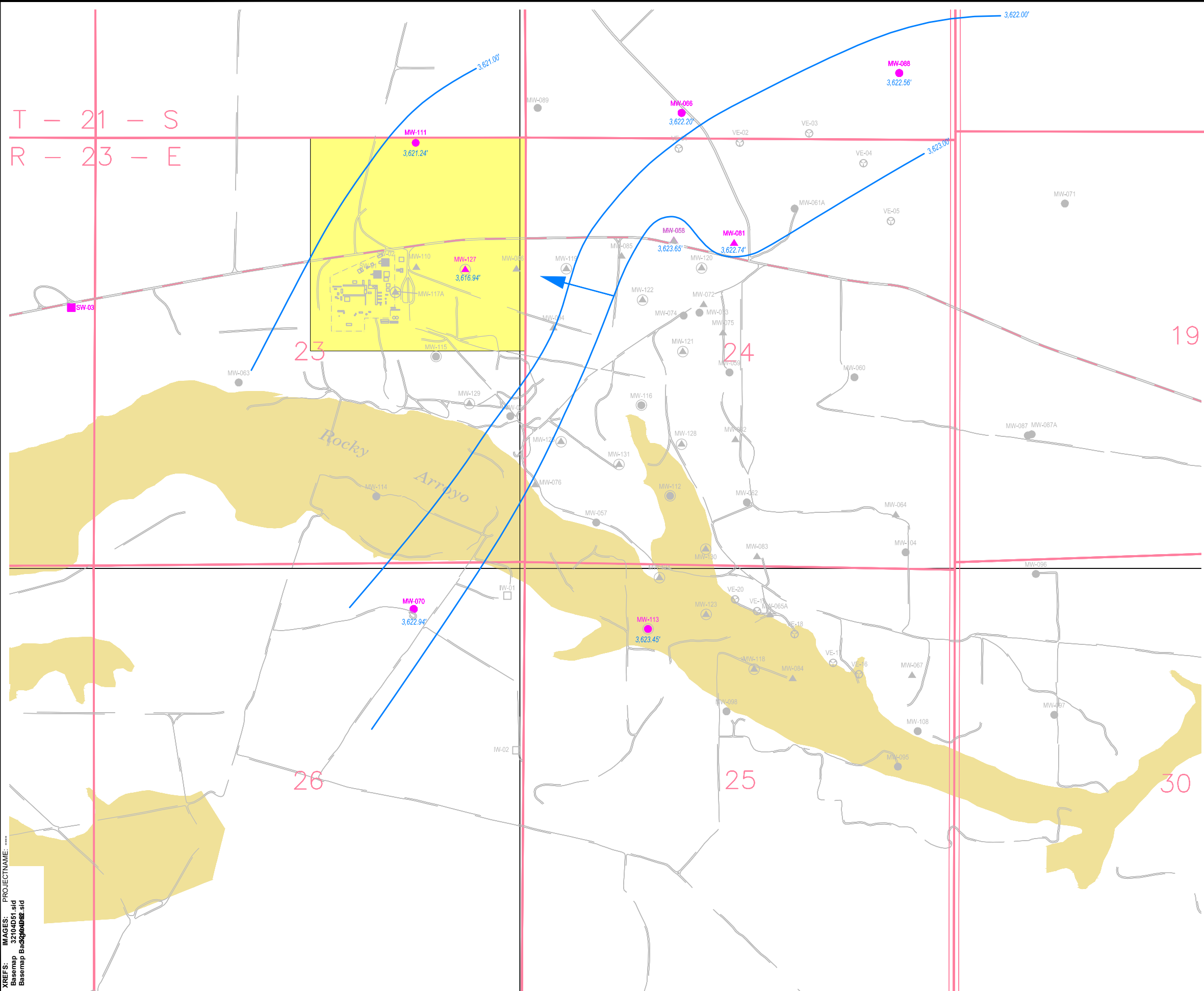


FIGURE
2



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XREFS: IMAGES: PROJECTNAME:
Basemap 32104051.sld
Basemap Background



- LEGEND**
- MONITORING WELL
 - PLUGGED MONITORING WELL
 - ▲ RECOVERY WELL
 - ▲ PLUGGED RECOVERY WELL
 - PLUGGED INDUSTRIAL SUPPLY WELL
 - ▲ PHASE II INFILL WELLS INSTALLED DURING AUGUST, 1999
 - ▲ PLUGGED PHASE II INFILL WELL INSTALLED DURING AUGUST, 1999
 - PLUGGED PHASE I INFILL WELL INSTALLED DURING JULY, 1999
 - PLUGGED INFILTRATION WELL
 - ⊙ PLUGGED VAPOR EXTRACTION WELL
 - 3,622.94' GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - 3,622.00' GROUNDWATER ELEVATION CONTOUR LINE, CONTOUR INTERVAL = 2 FEET
 - GROUNDWATER FLOW DIRECTION

BASE MAP PREPARED FROM MARTHA CREEK QUADRANGLE, NEW MEXICO U.S. GEOLOGICAL SURVEY 7½ MINUTE TOPOGRAPHIC SERIES, PUBLISHED 1978, @ A SCALE OF 1" = 2,000'.

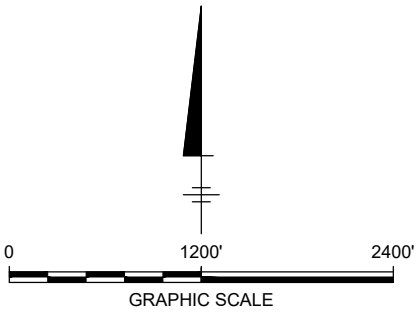
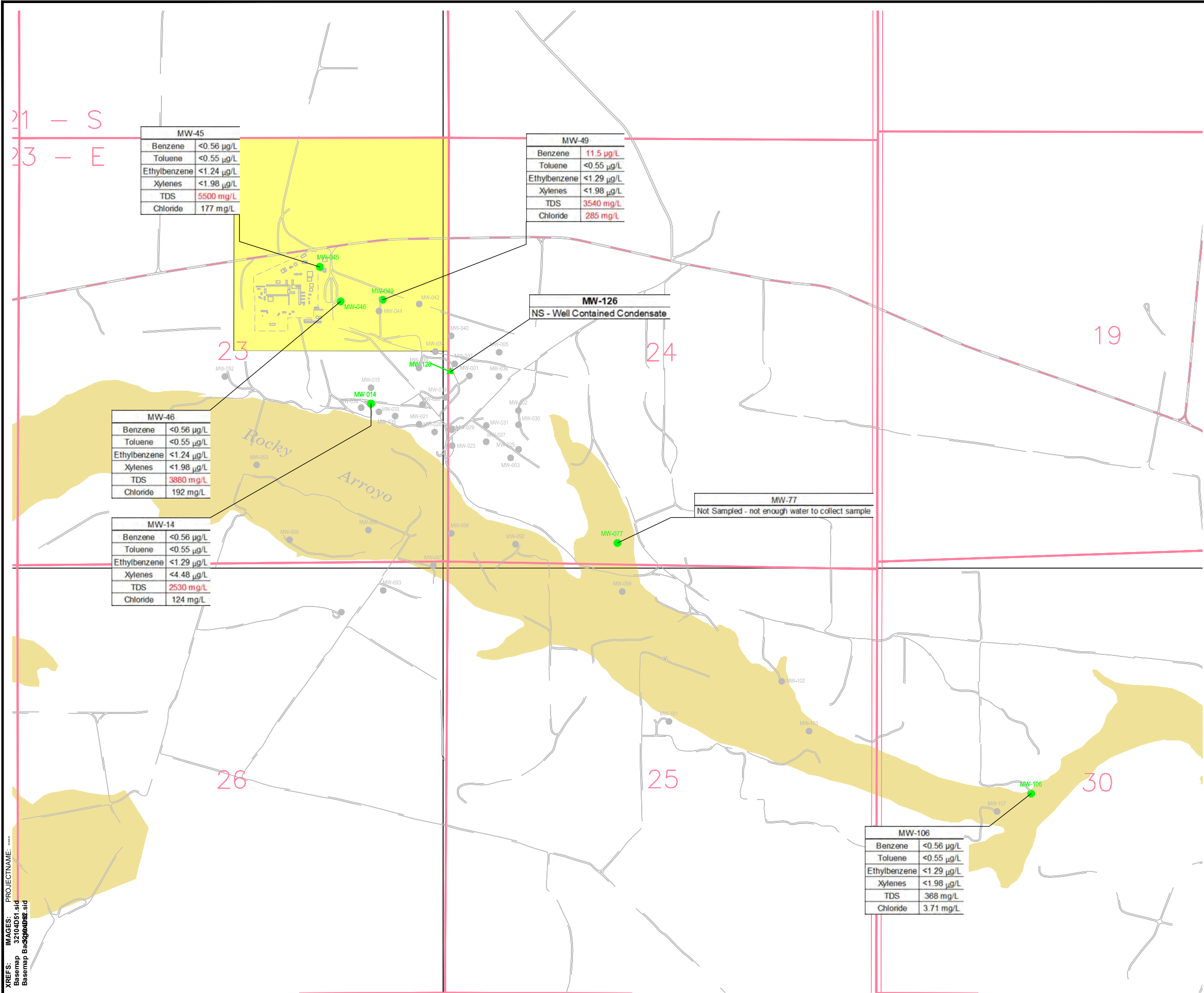
OXY USA WTP LIMITED PARTNERSHIP
EDDY COUNTY, NEW MEXICO
INDIAN BASIN GAS PLANT
2019 ANNUAL REPORT

LOWER QUEEN GROUNDWATER
ELEVATION CONTOURS
JUNE 2019

 **ARCADIS** Design & Consultancy
for natural
built assets

FIGURE
4

CITY: Milwaukee, WI GROUP: ENV DB: C. McKeough LD: P. C. McKeough PM: H. McConnell TM: A. Sides TR: LYRONE*OFF-REF* UN: 31-009-00471
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LEGEND

- MONITORING WELL
- PLUGGED MONITORING WELL
- ▲ RECOVERY WELL
- INDUSTRIAL SUPPLY WELL
- ⊙ PHASE II INFILL WELLS INSTALLED DURING AUGUST, 1999

COC	MW-14	WELL ID
Benzene	0.81	
Toluene	<1 µg/L	
Ethylbenzene	<1 µg/L	
Xylenes	<3 µg/L	
TDS	1430	
Chloride	61.6	

CONCENTRATION (ug/L or mg/L)

CONSTITUENT

OCD Cleanup Goals/Regulatory Limits

Benzene	10 µg/L
Toluene	750 µg/L
Ethylbenzene	750 µg/L
Total Xylenes	620 µg/L
Total Dissolved Solids	1,000 mg/L
Chlorides	250 mg/L

- Notes:
- OCD NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, OIL CONSERVATION DIVISION
 - mg/L MILLIGRAMS PER LITER
 - µg/L MICROGRAMS PER LITER
 - NS NOT SAMPLED - WELL CONTAINED CONDENSATE
 - RED CONCENTRATIONS IN RED EXCEED THE OCD REGULATORY LIMITS

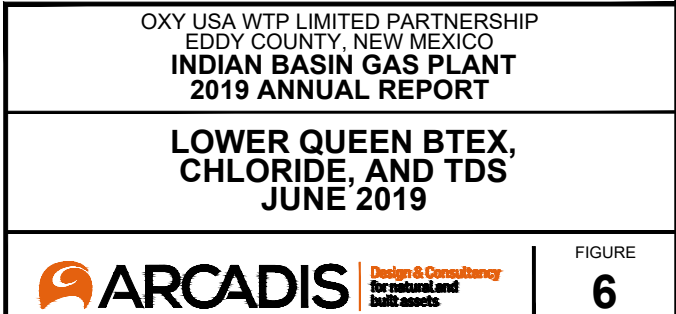
BASE MAP PREPARED FROM MARTHA CREEK QUADRANGLE, NEW MEXICO U.S. GEOLOGICAL SURVEY 7½ MINUTE TOPOGRAPHIC SERIES, PUBLISHED 1978, @ A SCALE OF 1" = 2,000'.

OXY USA WTP LIMITED PARTNERSHIP
EDDY COUNTY, NEW MEXICO
INDIAN BASIN GAS PLANT
2019 ANNUAL REPORT

SHALLOW ZONE BTEX,
CHLORIDE, AND TDS
JUNE 2019

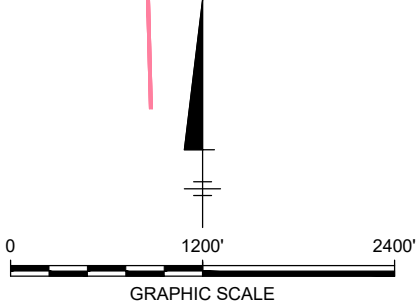
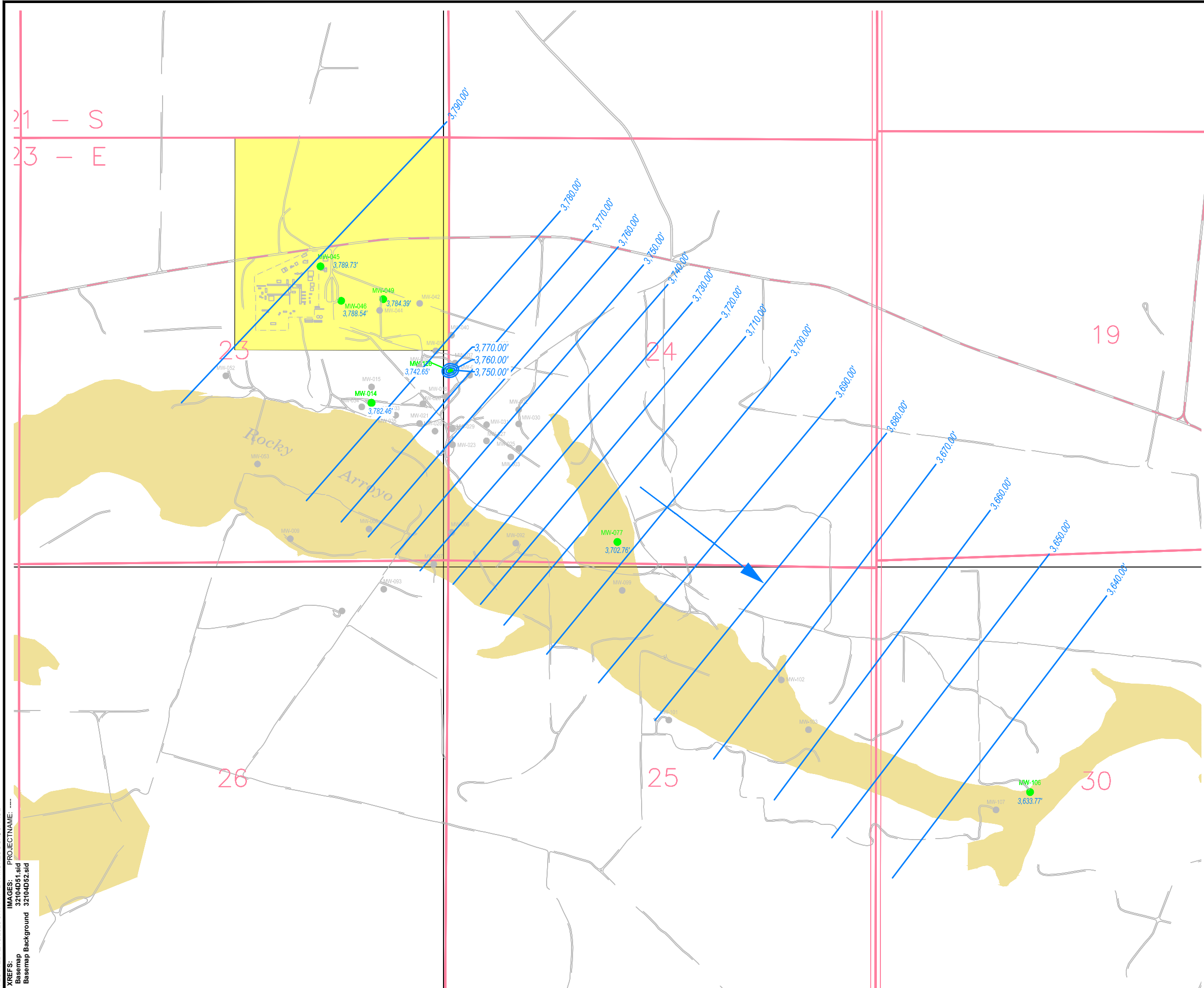


REFS	IMAGES	PROJECTNAME	XREFS



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Basemap Background 32104D52.sld



- LEGEND**
- MONITORING WELL
 - PLUGGED MONITORING WELL
 - ▲ PHASE II INFILL WELLS INSTALLED DURING AUGUST, 1999
 - 3,633.77' GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - DRY INDICATES WELL WAS DRY AT TIME OF GAUGING
 - 3,780.00' GROUNDWATER ELEVATION CONTOUR LINE, CONTOUR INTERVAL = 10 FEET
 - GROUNDWATER FLOW DIRECTION

BASE MAP PREPARED FROM MARTHA CREEK QUADRANGLE, NEW MEXICO U.S. GEOLOGICAL SURVEY 7½ MINUTE TOPOGRAPHIC SERIES, PUBLISHED 1978, @ A SCALE OF 1" = 2,000'.

OXY USA WTP LIMITED PARTNERSHIP
EDDY COUNTY, NEW MEXICO
**INDIAN BASIN GAS PLANT
2019 ANNUAL REPORT**

**SHALLOW ZONE GROUNDWATER
ELEVATION CONTOURS
DECEMBER 2019**

 **ARCADIS** Design & Consultancy
for natural and
built assets

FIGURE
7



APPENDIX A

Historic Groundwater Elevations



Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Page 1 of 18

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
Shallow Zone Wells					
MW-14	12/1/1991	3803.61	9.68	0	3793.93
MW-14	10/1/1993	3803.61	22.55	0	3781.06
MW-14	1/1/1994	3803.61	22.78	0	3780.83
MW-14	1/27/1998	3803.61	22.36	0	3781.25
MW-14	6/16/1998	3803.61	22.88	0	3780.73
MW-14	4/19/1999	3803.61	23.74	0.24	3780.05
MW-14	1/5/2000	3803.61	22.22	0	3781.39
MW-14	4/26/2000	3803.61	22.74	0.03	3780.89
MW-14	9/27/2000	3803.61	23.40	0.09	3780.28
MW-14	4/16/2001	3803.61	22.15	0.01	3781.47
MW-14	10/29/2001	3803.61	21.98	0.08	3781.69
MW-14	4/15/2002	3803.61	22.81	0	3780.80
MW-14	10/14/2002	3803.61	18.17	0	3785.44
MW-14	04/15/2003	3803.61	21.87	0	3781.74
MW-14	10/14/2003	3803.61	22.19	0	3781.42
MW-14	4/5/2004	3803.61	23.45	0.01	3780.17
MW-14	10/5/2004	3803.61	18.36	0	3785.25
MW-14	4/19/2005	3803.61	21.55	0	3782.06
MW-14	10/24/2005	3803.61	20.69	0	3782.92
MW-14	4/18/2006	3803.61	22.69	0	3780.92
MW-14	10/11/2006	3803.61	19.20	0	3784.41
MW-14	4/16/2007	3803.61	22.1	0	3781.51
MW-14	10/22/2007	3803.61	21.15	0	3782.46
MW-14	5/27/2009	3803.61	23.75	0	3779.86
MW-14	6/21/2010	3803.61	24.04	0	3779.57
MW-14	12/28/2010	3803.61	22.31	0	3781.30
MW-14	6/30/2011	3803.61	24.00	0	3779.61
MW-14	12/15/2011	3803.61	23.85	0	3779.76
MW-14	6/27/2012	3803.61	22.73	0	3780.88
MW-14	12/1/2012	3803.61	23.40	0	3780.21
MW-14	6/1/2013	3803.61	22.73	0	3780.88
MW-14	12/12/2013	3803.61	20.82	0	3782.79
MW-14	6/25/2014	3803.61	20.96	0	3782.65
MW-14	12/16/2014	3803.61	20.42	0	3783.19
MW-14	4/28/2015	3803.61	21.91	0	3781.70
MW-14	10/13/2015	3803.61	19.89	0	3783.72
MW-14	5/24/2016	3803.61	22.70	0	3780.91
MW-14	12/6/2016	3803.61	21.85	0	3781.76
MW-14	7/12/2017	3803.61	23.39	0	3780.22
MW-14	12/17/2017	3803.61	23.10	0	3780.51
MW-14	7/8/2018	3803.61	23.79	0	3779.82
MW-14	11/13/2018	3803.61	21.78	0	3781.83
MW-14	6/24/2019	3803.61	23.13	0	3780.48
MW-14	12/10/2019	3803.61	21.15	0	3782.46
MW-45	12/1/1991	3808.68	13.91	0	3794.77
MW-45	7/1/1993	3808.68	21.49	0	3787.19
MW-45	10/1/1993	3808.68	21.47	0	3787.21
MW-45	1/1/1994	3808.68	21.54	0	3787.14
MW-45	4/1/1994	3808.68	22.64	0	3786.04

D = Dry
NA = Not Available
NG = Not Gauged
NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Page 2 of 18

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-45	7/1/1994	3808.68	21.85	0	3786.83
MW-45	10/1/1994	3808.68	21.52	0	3787.16
MW-45	1/1/1995	3808.68	21.78	0	3786.90
MW-45	4/1/1995	3808.68	22.13	0	3786.55
MW-45	7/1/1995	3808.68	22.13	0	3786.55
MW-45	1/5/2000	3808.68	18.88	0	3789.80
MW-45	4/26/2000	3808.68	19.19	0	3789.49
MW-45	9/27/2000	3808.68	19.19	0	3789.49
MW-45	4/16/2001	3808.68	18.39	0	3790.29
MW-45	10/29/2001	3808.68	18.53	0	3790.15
MW-45	4/15/2002	3808.68	18.75	0	3789.93
MW-45	10/14/2002	3808.68	18.39	0	3790.29
MW-45	04/15/2003	3808.68	21.36	0	3787.32
MW-45	10/14/2003	3808.68	21.35	0	3787.33
MW-45	4/5/2004	3808.68	21.69	0	3786.99
MW-45	10/5/2004	3808.68	14.09	0	3794.59
MW-45	4/19/2005	3808.68	16.94	0	3791.74
MW-45	10/24/2005	3808.68	20.09	0	3788.59
MW-45	4/18/2006	3808.68	20.72	0	3787.96
MW-45	10/11/2006	3808.68	16.40	0	3792.28
MW-45	4/16/2007	3808.68	19.98	0	3788.70
MW-45	10/22/2007	3808.68	15.95	0	3792.73
MW-45	5/27/2009	3808.68	21.56	0	3787.12
MW-45	6/21/2010	3808.68	21.52	0	3787.16
MW-45	12/28/2010	3808.68	20.05	0	3788.63
MW-45	6/30/2011	3808.68	19.47	0	3789.21
MW-45	12/15/2011	3808.68	20.20	0	3788.48
MW-45	6/27/2012	3808.68	21.47	0	3787.21
MW-45	12/1/2012	3808.68	21.22	0	3787.46
MW-45	6/1/2013	3808.68	21.47	0	3787.21
MW-45	12/12/2013	3808.68	18.77	0	3789.91
MW-45	6/25/2014	3808.68	16.12	0	3792.56
MW-45	12/16/2014	3808.68	16.95	0	3791.73
MW-45	4/28/2015	3808.68	19.90	0	3788.78
MW-45	10/13/2015	3808.68	19.79	0	3788.89
MW-45	5/24/2016	3808.68	22.14	0	3786.54
MW-45	12/6/2016	3808.68	21.06	0	3787.62
MW-45	7/12/2017	3808.68	21.45	0	3787.23
MW-45	12/17/2017	3808.68	20.11	0	3788.57
MW-45	7/8/2018	3808.68	21.54	0	3787.14
MW-45	11/13/2018	3808.68	21.00	0	3787.68
MW-45	6/24/2019	3808.68	19.20	0	3789.48
MW-45	12/10/2019	3808.68	18.95	0	3789.73
MW-46	10/1/1993	3805.54	19.87	0	3785.67
MW-46	1/1/1994	3805.54	19.42	0	3786.12
MW-46	4/1/1994	3805.54	19.59	0	3785.95
MW-46	10/1/1994	3805.54	19.20	0	3786.34
MW-46	4/1/1995	3805.54	19.55	0	3785.99
MW-46	7/1/1995	3805.54	19.55	0	3785.99
MW-46	1/16/1996	3805.54	19.48	0	3786.06
MW-46	4/19/1996	3805.54	19.52	0	3786.02

D = Dry
NA = Not Available
NG = Not Gauged
NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Page 3 of 18

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-46	7/15/1996	3805.54	19.41	0	3786.13
MW-46	10/13/1996	3805.54	15.73	0	3789.81
MW-46	2/4/1997	3805.54	18.22	0	3787.32
MW-46	4/28/1997	3805.54	16.93	0	3788.61
MW-46	7/14/1997	3805.54	17.15	0	3788.39
MW-46	10/13/1997	3805.54	18.01	0	3787.53
MW-46	1/27/1998	3805.54	17.54	0	3788.00
MW-46	4/27/1998	3805.54	18.34	0	3787.20
MW-46	6/16/1998	3805.54	18.69	0	3786.85
MW-46	10/10/1998	3805.54	17.82	0	3787.72
MW-46	1/27/1999	3805.54	16.91	0	3788.63
MW-46	4/19/1999	3805.54	17.44	0	3788.10
MW-46	1/5/2000	3805.54	16.76	0	3788.78
MW-46	4/26/2000	3805.54	17.17	0	3788.37
MW-46	9/27/2000	3805.54	17.42	0	3788.12
MW-46	4/16/2001	3805.54	16.68	0	3788.86
MW-46	10/29/2001	3805.54	16.79	0	3788.75
MW-46	4/15/2002	3805.54	17.49	0	3788.05
MW-46	10/14/2002	3805.54	17.83	0	3787.71
MW-46	04/15/2003	3805.54	19.38	0	3786.16
MW-46	10/14/2003	3805.54	19.62	0	3785.92
MW-46	4/5/2004	3805.54	19.63	0	3785.91
MW-46	10/5/2004	3805.54	13.05	0	3792.49
MW-46	4/19/2005	3805.54	16.27	0	3789.27
MW-46	10/24/2005	3805.54	19.38	0	3786.16
MW-46	4/18/2006	3805.54	19.35	0	3786.19
MW-46	10/11/2006	3805.54	15.74	0	3789.80
MW-46	4/16/2007	3805.54	19.34	0	3786.20
MW-46	10/22/2007	3805.54	15.67	0	3789.87
MW-46	5/27/2009	3805.54	19.38	0	3786.16
MW-46	6/21/2010	3805.54	19.42	0	3786.12
MW-46	12/28/2010	3805.54	18.27	0	3787.27
MW-46	6/30/2011	3805.54	19.54	0	3786.00
MW-46	12/15/2011	3805.54	18.35	0	3787.19
MW-46	6/27/2012	3805.54	19.33	0	3786.21
MW-46	12/1/2012	3805.54	19.33	0	3786.21
MW-46	6/1/2013	3805.54	19.33	0	3786.21
MW-46	12/12/2013	3805.54	16.88	0	3788.66
MW-46	6/25/2014	3805.54	15.67	0	3789.87
MW-46	12/16/2014	3805.54	16.31	0	3789.23
MW-46	4/28/2015	3805.54	18.54	0	3787.00
MW-46	10/13/2015	3805.54	17.98	0	3787.56
MW-46	5/24/2016	3805.54	19.45	0	3786.09
MW-46	12/6/2016	3805.54	19.81	0	3785.73
MW-46	7/12/2017	3805.54	19.25	0	3786.29
MW-46	12/17/2017	3805.54	18.15	0	3787.39
MW-46	7/8/2018	3805.54	19.31	0	3786.23
MW-46	11/13/2018	3805.54	18.70	0	3786.84
MW-46	6/24/2019	3805.54	18.24	0	3787.30
MW-46	12/10/2019	3805.54	17.00	0	3788.54
MW-49	12/1/1991	3805.61	16.60	0	3789.01

D = Dry
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NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-49	7/1/1993	3805.61	21.98	0	3783.63
MW-49	10/1/1993	3805.61	21.93	0	3783.68
MW-49	1/1/1994	3805.61	22.27	0	3783.34
MW-49	4/1/1994	3805.61	22.64	0	3782.97
MW-49	7/1/1994	3805.61	22.73	0	3782.88
MW-49	10/1/1994	3805.61	22.30	0	3783.31
MW-49	1/1/1995	3805.61	22.56	0	3783.05
MW-49	4/1/1995	3805.61	22.94	0	3782.67
MW-49	7/1/1995	3805.61	22.94	0	3782.67
MW-49	10/1/1995	3805.61	22.68	0	3782.93
MW-49	1/16/1996	3805.61	22.55	0	3783.06
MW-49	4/19/1996	3805.61	22.59	0	3783.02
MW-49	7/15/1996	3805.61	22.76	0	3782.85
MW-49	10/13/1996	3805.61	19.54	0	3786.07
MW-49	2/3/1997	3805.61	20.66	0	3784.95
MW-49	3/18/1997	3805.61	20.99	0	3784.62
MW-49	4/28/1997	3805.61	20.70	0	3784.91
MW-49	7/14/1997	3805.61	20.31	0	3785.30
MW-49	10/13/1997	3805.61	21.01	0	3784.60
MW-49	1/27/1998	3805.61	21.08	0	3784.53
MW-49	4/27/1998	3805.61	21.34	0	3784.27
MW-49	6/16/1998	3805.61	21.35	0	3784.26
MW-49	10/9/1998	3805.61	22.52	0	3783.09
MW-49	1/27/1999	3805.61	20.50	0	3785.11
MW-49	4/19/1999	3805.61	20.81	0	3784.80
MW-49	1/5/2000	3805.61	20.07	0	3785.54
MW-49	4/26/2000	3805.61	20.30	0	3785.31
MW-49	9/27/2000	3805.61	20.52	0	3785.09
MW-49	4/16/2001	3805.61	20.03	0	3785.58
MW-49	10/29/2001	3805.61	19.96	0	3785.65
MW-49	4/15/2002	3805.61	19.76	0	3785.85
MW-49	10/14/2002	3805.61	20.56	0	3785.05
MW-49	04/15/2003	3805.61	22.08	0	3783.53
MW-49	10/14/2003	3805.61	22.52	0	3783.09
MW-49	4/5/2004	3805.61	22.79	0	3782.82
MW-49	10/5/2004	3805.61	18.33	0	3787.28
MW-49	4/19/2005	3805.61	18.23	0	3787.38
MW-49	10/24/2005	3805.61	21.01	0	3784.60
MW-49	4/18/2006	3805.61	22.29	0	3783.32
MW-49	10/11/2006	3805.61	20.49	0	3785.12
MW-49	4/16/2007	3805.61	21.43	0	3784.18
MW-49	10/22/2007	3805.61	18.81	0	3786.80
MW-49	5/27/2009	3805.61	22.35	0	3783.26
MW-49	6/21/2010	3805.61	22.33	0	3783.28
MW-49	12/28/2010	3805.61	20.92	0	3784.69
MW-49	6/30/2011	3805.61	21.95	0	3783.66
MW-49	12/15/2011	3805.61	21.11	0	3784.50
MW-49	6/27/2012	3805.61	22.40	0	3783.21
MW-49	12/1/2012	3805.61	22.12	0	3783.49
MW-49	6/1/2013	3805.61	22.40	0	3783.21
MW-49	12/12/2013	3805.61	20.05	0	3785.56
MW-49	6/25/2014	3805.61	19.42	0	3786.19

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-49	12/16/2014	3805.61	17.49	0	3788.12
MW-49	4/28/2015	3805.61	20.21	0	3785.40
MW-49	10/13/2015	3805.61	20.95	0	3784.66
MW-49	5/24/2016	3805.61	21.41	0	3784.20
MW-49	12/6/2016	3805.61	21.62	0	3783.99
MW-49	7/12/2017	3805.61	22.40	0	3783.21
MW-49	12/17/2017	3805.61	21.08	0	3784.53
MW-49	7/8/2018	3805.61	22.31	0	3783.30
MW-49	11/13/2018	3805.61	22.59	0	3783.02
MW-49	6/24/2019	3805.61	22.38	0	3783.23
MW-49	12/10/2019	3805.61	21.22	0	3784.39
MW-77	1/1/1995	3775.48	80.03	0	3695.45
MW-77	4/1/1995	3775.48	80.04	0	3695.44
MW-77	7/1/1995	3775.48	80.04	0	3695.44
MW-77	10/1/1995	3775.48	79.70	0	3695.78
MW-77	1/16/1996	3775.48	79.84	0	3695.64
MW-77	4/17/1996	3775.48	78.95	0	3696.53
MW-77	7/16/1996	3775.48	79.42	0	3696.06
MW-77	10/14/1996	3775.48	80.02	0	3695.46
MW-77	2/4/1997	3775.48	D	0	--
MW-77	4/29/1997	3775.48	80.35	0	3695.13
MW-77	7/15/1997	3775.48	80.31	0	3695.17
MW-77	10/14/1997	3775.48	78.92	0	3696.56
MW-77	1/28/1998	3775.48	77.00	0	3698.48
MW-77	4/27/1998	3775.48	78.48	0	3697.00
MW-77	6/16/1998	3775.48	75.30	0	3700.18
MW-77	10/10/1998	3775.48	79.84	0	3695.64
MW-77	1/27/1999	3775.48	76.41	0	3699.07
MW-77	4/19/1999	3775.48	77.50	0	3697.98
MW-77	1/5/2000	3775.48	79.36	0	3696.12
MW-77	4/26/2000	3775.48	78.57	0	3696.91
MW-77	9/27/2000	3775.48	78.86	0	3696.62
MW-77	4/16/2001	3775.48	79.91	0	3695.57
MW-77	10/29/2001	3775.48	79.72	0	3695.76
MW-77	4/15/2002	3775.48	80.42	0	3695.06
MW-77*	10/14/2002	3775.48	57.95	0	3717.53
MW-77	04/15/2003	3775.48	69.95	0	3705.53
MW-77	10/14/2003	3775.48	73.98	0	3701.50
MW-77	4/5/2004	3775.48	79.88	0	3695.60
MW-77	10/5/2004	3775.48	63.37	0	3712.11
MW-77	4/19/2005	3775.48	67.06	0	3708.42
MW-77	10/24/2005	3775.48	63.89	0	3711.59
MW-77	4/18/2006	3775.48	80.43	0	3695.05
MW-77	10/11/2006	3775.48	78.89	0	3696.59
MW-77	4/17/2007	3775.48	76.32	0	3699.16
MW-77	10/22/2007	3775.48	73.36	0	3702.12
MW-77	5/27/2009	3775.48	D	0	--
MW-77	6/21/2010	3775.48	80.57	0	3694.91
MW-77	12/28/2010	3775.48	80.37	0	3695.11
MW-77	6/30/2011	3775.48	80.47	0	3695.01
MW-77	12/15/2011	3775.48	80.55	0	3694.93

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OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-77	6/27/2012	3775.48	81.00	0	3694.48
MW-77	12/1/2012	3775.48	80.51	0	3694.97
MW-77	6/1/2013	3775.48	81.00	0	3694.48
MW-77	12/12/2013	3775.48	78.76	0	3696.72
MW-77	6/25/2014	3775.48	71.32	0	3704.16
MW-77	12/16/2014	3775.48	80.45	0	3695.03
MW-77	4/28/2015	3775.48	80.61	0	3694.87
MW-77	10/13/2015	3775.48	80.63	0	3694.85
MW-77	5/24/2016	3775.48	80.47	0	3695.01
MW-77	12/6/2016	3775.48	80.50	0	3694.98
MW-77	7/12/2017	3775.48	80.55	0	3694.93
MW-77	12/17/2017	3775.48	80.41	0	3695.07
MW-77	7/8/2018	3775.48	80.49	0	3694.99
MW-77	11/13/2018	3775.48	80.30	0	3695.18
MW-77	6/24/2019	3775.48	80.26	0	3695.22
MW-77	12/10/2019	3775.48	72.72	0	3702.76
MW-106	2/4/1997	3721.97	87.97	0	3634.00
MW-106	4/28/1997	3721.97	87.59	0	3634.38
MW-106	7/15/1997	3721.97	87.63	0	3634.34
MW-106	10/13/1997	3721.97	88.75	0	3633.22
MW-106	1/28/1998	3721.97	88.97	0	3633.00
MW-106	4/27/1998	3721.97	89.36	0	3632.61
MW-106	6/15/1998	3721.97	89.63	0	3632.34
MW-106	10/10/1998	3721.97	89.61	0	3632.36
MW-106	1/27/1999	3721.97	86.55	0	3635.42
MW-106	4/19/1999	3721.97	89.58	0	3632.39
MW-106	1/5/2000	3721.97	89.05	0	3632.92
MW-106	4/26/2000	3721.97	89.31	0	3632.66
MW-106	9/27/2000	3721.97	87.98	0	3633.99
MW-106	4/16/2001	3721.97	88.81	0	3633.16
MW-106	10/29/2001	3721.97	89.05	0	3632.92
MW-106	4/15/2002	3721.97	89.05	0	3632.92
MW-106	10/14/2002	3721.97	87.40	0	3634.57
MW-106	04/15/2003	3721.97	88.91	0	3633.06
MW-106	10/14/2003	3721.97	89.94	0	3632.03
MW-106	4/5/2004	3721.97	89.34	0	3632.63
MW-106	10/5/2004	3721.97	75.78	0	3646.19
MW-106	4/19/2005	3721.97	88.54	0	3633.43
MW-106	10/24/2005	3721.97	88.47	0	3633.50
MW-106	4/18/2006	3721.97	89.71	0	3632.26
MW-106	10/11/2006	3721.97	87.09	0	3634.88
MW-106	4/17/2007	3721.97	89.4	0	3632.57
MW-106	10/22/2007	3721.97	88.64	0	3633.33
MW-106	5/27/2009	3721.97	D	--	--
MW-106	6/21/2010	3721.97	90.06	0	3631.91
MW-106	12/28/2010	3721.97	89.47	0	3632.50
MW-106	6/30/2011	3721.97	89.93	0	3632.04
MW-106	12/15/2011	3721.97	90.02	0	3631.95
MW-106	6/27/2012	3721.97	87.75	0	3634.22
MW-106	12/1/2012	3721.97	89.71	0	3632.26
MW-106	6/1/2013	3721.97	87.50	0	3634.47

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-106	12/12/2013	3721.97	88.62	0	3633.35
MW-106	6/25/2014	3721.97	88.27	0	3633.70
MW-106	12/16/2014	3721.97	88.44	0	3633.53
MW-106	4/28/2015	3721.97	89.03	0	3632.94
MW-106	10/13/2015	3721.97	88.01	0	3633.96
MW-106	5/24/2016	3721.97	89.76	0	3632.21
MW-106	12/6/2016	3721.97	89.93	0	3632.04
MW-106	7/12/2017	3721.97	89.79	0	3632.18
MW-106	12/17/2017	3721.97	89.72	0	3632.25
MW-106	7/8/2018	3721.97	89.68	0	3632.29
MW-106	11/13/2018	3721.97	88.54	0	3633.43
MW-106	6/24/2019	3721.97	88.10	0	3633.87
MW-106	12/10/2019	3721.97	88.20	0	3633.77
MW-126	1/5/2000	3795.58	53.08	0	3742.50
MW-126	4/26/2000	3795.58	54.03	0	3741.55
MW-126	9/27/2000	3795.58	60.29	0	3735.29
MW-126	4/16/2001	3795.58	54.25	0.52	3741.71
MW-126	10/29/2001	3795.58	57.82	2.1	3739.29
MW-126	4/15/2002	3795.58	56.95	2.23	3740.26
MW-126	10/14/2002	3795.58	54.03	2.57	3743.43
MW-126	04/15/2003	3796.28	63.65	3.96	3735.52
MW-126	10/14/2003	3796.28	68.01	0	3728.27
MW-126	4/5/2004	3796.28	70.04	0	3726.24
MW-126	10/5/2004	3796.28	48.01	0.01	3748.28
MW-126	4/19/2005	3796.28	50.63	0.25	3745.83
MW-126	10/24/2005	3796.28	51.78	0	3744.50
MW-126	4/18/2006	3796.28	66.79	0	3729.49
MW-126	10/11/2006	3796.28	51.76	0.08	3744.58
MW-126	4/17/2007	3796.28	62.92	0.6	3732.92
MW-126	10/22/2007	3796.28	56.30	0	3739.98
MW-126	5/27/2009	3796.28	69.95	0.05	3726.37
MW-126	6/21/2010	3796.28	70.40	0.23	3726.05
MW-126	12/28/2010	3796.28	66.12	0.56	3730.57
MW-126	6/30/2011	3796.28	69.55	0.45	3727.06
MW-126	12/15/2011	3796.28	70.21	0.22	3726.23
MW-126	6/27/2012	3796.28	67.72	0.29	3728.77
MW-126	12/1/2012	3796.28	71.19	0	3725.10
MW-126	6/1/2013	3796.28	72.00	0	3724.28
MW-126	12/12/2013	3796.28	53.52	0.11	3742.84
MW-126	6/25/2014	3796.28	63.63	0.08	3732.71
MW-126	12/16/2014	3796.28	44.65	0.19	3751.77
MW-126	4/28/2015	3796.28	52.46	0.21	3743.97
MW-126	10/13/2015	3796.28	65.03	0.27	3731.45
MW-126	5/24/2016	3796.28	66.50	0.27	3729.98
MW-126	12/6/2016	3796.28	62.04	0.69	3734.74
MW-126	7/12/2017	3796.28	69.83	0.3	3726.67
MW-126	12/17/2017	3796.28	66.64	0.21	3729.79
MW-126	7/8/2018	3796.28	69.72	0.2	3726.71
MW-126	11/13/2018	3796.28	67.79	0.16	3728.61
MW-126	6/24/2019	3796.28	69.73	0.20	3726.70
MW-126	12/10/2019	3796.28	53.72	0.12	3742.65

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
Lower Queen Wells					
MW-58	7/16/1991	3824.07	197.91	0	3626.16
MW-58	8/21/1991	3824.07	193.76	0	3630.31
MW-58	9/18/1991	3824.07	193.26	0	3630.81
MW-58	10/22/1991	3824.07	194.45	0	3629.62
MW-58	11/15/1991	3824.07	194.77	0	3629.30
MW-58	1/16/1996	3824.07	D	--	--
MW-58	7/16/1996	3824.07	D	--	--
MW-58	10/14/1996	3824.07	196.01	0.01	3628.06
MW-58	2/4/1997	3824.07	203.00	0	3621.07
MW-58	4/28/1997	3824.07	204.14	0	3619.93
MW-58	7/15/1997	3824.07	197.66	0	3626.41
MW-58	10/1/1997	3824.07	199.20	0.3	3625.08
MW-58	10/9/1997	3824.07	199.52	0.67	3625.03
MW-58	10/14/1997	3824.07	196.10	0	3627.97
MW-58	1/28/1998	3824.07	198.55	0	3625.52
MW-58	5/28/1998	3824.07	205.14	0	3618.93
MW-58	10/11/1998	3824.07	200.48	0	3623.59
MW-58	1/27/1999	3824.07	D	--	--
MW-58	4/19/1999	3824.07	217.17	0	3606.90
MW-58	1/5/2000	3824.07	210.57	0	3613.50
MW-58	4/26/2000	3824.07	223.51	0	3600.56
MW-58	9/27/2000	3824.07	220.18	0	3603.89
MW-58	4/16/2001	3824.07	114.83	0	3709.24
MW-58	10/29/2001	3824.07	177.31	0	3644.41
MW-58	4/15/2002	3824.07	201.92	0	3622.15
MW-58	10/14/2002	3824.07	199.69	0	3624.38
MW-58	2/13/2003	3824.07	201.08	0	3622.99
MW-58	3/10/2003	3824.07	202.20	0	3621.87
MW-58	04/15/2003	3824.07	201.17	0	3622.90
MW-58	5/15/2003	3824.07	201.82	0	3622.25
MW-58	6/24/2003	3824.07	201.71	0	3622.36
MW-58	7/15/2003	3824.07	202.89	0	3621.18
MW-58	8/8/2003	3824.07	201.98	0	3622.09
MW-58	9/12/2005	3824.07	202.20	0	3621.87
MW-58	10/14/2003	3824.07	202.19	0	3621.88
MW-58	11/7/2003	3824.07	202.29	0	3621.78
MW-58	12/4/2003	3824.07	202.26	0	3621.81
MW-58	1/8/2004	3824.07	202.38	0.1	3621.76
MW-58	2/12/2004	3824.07	202.47	0	3621.60
MW-58	3/25/2004	3824.07	202.49	0	3621.58
MW-58	4/5/2004	3824.07	202.32	0	3621.75
MW-58	5/27/2004	3824.07	201.37	0.01	3622.71
MW-58	6/17/2004	3824.07	202.00	0	3622.07
MW-58	7/15/2004	3824.07	202.08	0	3621.99
MW-58	8/19/2004	3824.07	202.98	0.06	3621.13
MW-58	9/9/2004	3824.07	201.74	0	3622.33
MW-58	10/5/2004	3824.07	198.82	0	3625.25
MW-58	11/19/2004	3824.07	199.30	0.28	3624.97
MW-58	12/7/2004	3824.07	202.14		3621.93

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-58	1/11/2005	3824.07	200.70	0.58	3623.79
MW-58	2/8/2005	3824.07	200.56	0	3623.51
MW-58	3/8/2005	3824.07	200.87	0	3623.20
MW-58	4/19/2005	3824.07	207.19	0	3616.88
MW-58	5/9/2005	3824.07	207.19	0	3616.88
MW-58	6/21/2005	3824.07	200.04	0	3624.03
MW-58	7/19/2005	3824.07	199.94	0	3624.13
MW-58	8/8/2005	3824.07	200.03	0	3624.04
MW-58	9/20/2005	3824.07	199.02	0	3625.05
MW-58	10/24/2005	3824.07	199.84	0.46	3624.57
MW-58	4/18/2006	3824.07	200.05	0	3624.02
MW-58	10/11/2006	3824.07	199.04	0.2	3625.18
MW-58	4/16/2007	3824.07	200.49	0.52	3623.20
MW-58	10/22/2007	3824.07	199.65	0	3624.42
MW-58	5/27/2009	3824.07	200.73	5.26	3627.18
MW-58	6/21/2010	3824.07	200.74	0.11	3623.41
MW-58	12/28/2010	3824.07	200.71	0.40	3623.65
MW-58	6/30/2011	3824.07	198.01	2.29	3627.73
MW-58	12/15/2011	3824.07	201.30	0.13	3622.86
MW-58	6/27/2012	3824.07	197.05	2.35	3628.74
MW-58	12/1/2012	3824.07	201.80	0.63	3622.73
MW-58	6/1/2013	3824.07	202.38	0.53	3622.08
MW-58	12/12/2013	3824.07	201.15	0.31	3623.15
MW-58	6/25/2014	3824.07	201.56	0	3622.51
MW-58	12/16/2014	3824.07	199.18	0	3624.89
MW-58	4/28/2015	3824.07	199.71	0.02	3624.37
MW-58*	10/13/2015	3824.07	160.00	0	3664.07
MW-58*	5/24/2016	3824.07	195.31	0.001	3628.76
MW-58*	12/6/2016	3824.07	130.48	0.001	3693.59
MW-58*	7/12/2017	3824.07	189.15	0.001	3634.92
MW-58	12/17/2017	3824.07	200.16	0	3623.91
MW-58	7/8/2018	3824.07	184.53	0	3639.54
MW-58	11/13/2018	3824.07	200.56	0	3623.51
MW-58	6/24/2019	3824.07	200.50	0.3	3623.79
MW-58	12/10/2019	3824.07	199.40	0.2	3624.82
MW-66	8/21/1991	3828.98	196.77	0	3632.21
MW-66	9/18/1991	3828.98	198.73	0	3630.25
MW-66	10/22/1991	3828.98	199.70	0	3629.28
MW-66	11/15/1991	3828.98	199.88	0	3629.10
MW-66	3/1/1992	3828.98	200.37	0	3628.61
MW-66	4/1/1992	3828.98	200.25	0	3628.73
MW-66	5/1/1992	3828.98	195.25	0	3633.73
MW-66	6/1/1992	3828.98	196.08	0	3632.90
MW-66	7/1/1992	3828.98	197.35	0	3631.63
MW-66	8/1/1992	3828.98	197.77	0	3631.21
MW-66	9/1/1992	3828.98	198.17	0	3630.81
MW-66	10/1/1992	3828.98	198.40	0	3630.58
MW-66	11/1/1992	3828.98	198.76	0	3630.22
MW-66	12/1/1992	3828.98	198.98	0	3630.00
MW-66	1/1/1993	3828.98	199.10	0	3629.88
MW-66	2/1/1993	3828.98	199.23	0	3629.75

D = Dry
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Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-66	3/1/1993	3828.98	199.49	0	3629.49
MW-66	4/1/1993	3828.98	199.38	0	3629.60
MW-66	5/1/1993	3828.98	199.63	0	3629.35
MW-66	6/1/1993	3828.98	199.59	0	3629.39
MW-66	7/1/1993	3828.98	199.82	0	3629.16
MW-66	8/1/1993	3828.98	199.78	0	3629.20
MW-66	9/1/1993	3828.98	200.01	0	3628.97
MW-66	10/1/1993	3828.98	200.09	0	3628.89
MW-66	11/1/1993	3828.98	200.35	0	3628.63
MW-66	12/1/1993	3828.98	200.42	0	3628.56
MW-66	1/1/1994	3828.98	200.33	0	3628.65
MW-66	2/1/1994	3828.98	201.39	0	3627.59
MW-66	3/1/1994	3828.98	201.44	0	3627.54
MW-66	4/1/1994	3828.98	201.36	0	3627.62
MW-66	5/1/1994	3828.98	201.26	0	3627.72
MW-66	7/1/1994	3828.98	200.91	0	3628.07
MW-66	8/1/1994	3828.98	199.86	0	3629.12
MW-66	9/1/1994	3828.98	200.66	0	3628.32
MW-66	10/1/1994	3828.98	200.83	0	3628.15
MW-66	12/1/1994	3828.98	201.96	0	3627.02
MW-66	1/1/1995	3828.98	201.04	0	3627.94
MW-66	4/1/1995	3828.98	202.26	0	3626.72
MW-66	7/1/1995	3828.98	201.59	0	3627.39
MW-66	10/1/1995	3828.98	201.62	0	3627.36
MW-66	1/16/1996	3828.98	200.89	0	3628.09
MW-66	4/17/1996	3828.98	202.29	0	3626.69
MW-66	7/16/1996	3828.98	202.45	0	3626.53
MW-66	10/13/1996	3828.98	200.80	0	3628.18
MW-66	2/4/1997	3828.98	202.60	0	3626.38
MW-66	4/28/1997	3828.98	202.84	0	3626.14
MW-66	7/14/1997	3828.98	202.72	0	3626.26
MW-66	9/30/1997	3828.98	204.00	0	3624.98
MW-66	10/9/1997	3828.98	204.20	0	3624.78
MW-66	10/13/1997	3828.98	203.77	0	3625.21
MW-66	1/27/1998	3828.98	203.79	0	3625.19
MW-66	4/27/1998	3828.98	204.09	0	3624.89
MW-66	5/28/1998	3828.98	204.18	0	3624.80
MW-66	6/15/1998	3828.98	204.37	0	3624.61
MW-66	10/10/1998	3828.98	204.86	0	3624.12
MW-66	1/27/1999	3828.98	205.05	0	3623.93
MW-66	4/19/1999	3828.98	205.10	0	3623.88
MW-66	1/5/1999	3828.98	205.13	0	3623.85
MW-66	4/26/2000	3828.98	205.41	0	3623.57
MW-66	9/27/2000	3828.98	205.78	0	3623.20
MW-66	4/16/2001	3828.98	205.59	0	3623.39
MW-66	10/29/2001	3828.98	206.04	0	3622.94
MW-66	4/15/2002	3828.98	205.98	0	3623.00
MW-66	10/14/2002	3828.98	199.87	0	3629.11
MW-66	04/15/2003	3828.98	205.39	0	3623.59
MW-66	10/14/2003	3828.98	206.41	0	3622.57
MW-66	4/5/2004	3828.98	206.65	0	3622.33
MW-66	10/5/2004	3828.98	203.05	0	3625.93

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OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-66	4/19/2005	3828.98	205.48	0	3623.50
MW-66	10/24/2005	3828.98	204.97	0	3624.01
MW-66	4/18/2006	3828.98	205.44	0	3623.54
MW-66	10/11/2006	3828.98	204.64	0	3624.34
MW-66	4/16/2007	3828.98	205.51	0	3623.47
MW-66	10/22/2007	3828.98	205.29	0	3623.69
MW-66	5/27/2009	3828.98	206.47	0	3622.51
MW-66	6/21/2010	3828.98	206.82	0	3622.16
MW-66	12/28/2010	3828.98	206.46	0	3622.52
MW-66	6/30/2011	3828.98	206.94	0	3622.04
MW-66	12/15/2011	3828.98	207.46	0	3621.52
MW-66	6/27/2012	3828.98	208.46	0	3620.52
MW-66	12/1/2012	3828.98	208.19	0	3620.79
MW-66	6/1/2013	3828.98	208.46	0	3620.52
MW-66	12/12/2013	3828.98	207.25	0	3621.73
MW-66	6/25/2014	3828.98	208.02	0	3620.96
MW-66	12/16/2014	3828.98	205.98	0	3623.00
MW-66	4/28/2015	3828.98	206.73	0	3622.25
MW-66	10/13/2015	3828.98	206.90	0	3622.08
MW-66	5/24/2016	3828.98	207.28	0	3621.70
MW-66	12/6/2016	3828.98	207.91	0	3621.07
MW-66	7/12/2017	3828.98	207.28	0	3621.70
MW-66	12/17/2017	3828.98	206.75	0	3622.23
MW-66	7/8/2018	3828.98	209.58	0	3619.40
MW-66	11/13/2018	3828.98	206.90	0	3622.08
MW-66	6/24/2019	3828.98	206.78	0	3622.20
MW-66	12/10/2019	3828.98	205.96	0	3623.02
MW-70	9/18/1991	3822.57	191.59	0	3630.98
MW-70	10/22/1991	3822.57	191.68	0	3630.89
MW-70	11/15/1991	3822.57	192.20	0	3630.37
MW-70	3/1/1992	3822.57	192.74	0	3629.83
MW-70	4/1/1992	3822.57	192.62	0	3629.95
MW-70	5/1/1992	3822.57	189.97	0	3632.60
MW-70	6/1/1992	3822.57	188.42	0	3634.15
MW-70	7/1/1992	3822.57	188.87	0	3633.70
MW-70	8/1/1992	3822.57	189.54	0	3633.03
MW-70	9/1/1992	3822.57	190.02	0	3632.55
MW-70	10/1/1992	3822.57	190.48	0	3632.09
MW-70	11/1/1992	3822.57	190.86	0	3631.71
MW-70	12/1/1992	3822.57	191.17	0	3631.40
MW-70	1/1/1993	3822.57	191.39	0	3631.18
MW-70	2/1/1993	3822.57	191.54	0	3631.03
MW-70	3/1/1993	3822.57	191.77	0	3630.80
MW-70	4/1/1993	3822.57	191.80	0	3630.77
MW-70	5/1/1993	3822.57	192.09	0	3630.48
MW-70	6/1/1993	3822.57	192.18	0	3630.39
MW-70	7/1/1993	3822.57	192.32	0	3630.25
MW-70	8/1/1993	3822.57	192.30	0	3630.27
MW-70	9/1/1993	3822.57	192.53	0	3630.04
MW-70	10/1/1993	3822.57	192.65	0	3629.92
MW-70	11/1/1993	3822.57	192.91	0	3629.66

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Historic Fluid Level Data

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-70	12/1/1993	3822.57	192.96	0	3629.61
MW-70	1/1/1994	3822.57	192.99	0	3629.58
MW-70	2/1/1994	3822.57	194.02	0	3628.55
MW-70	3/1/1994	3822.57	194.00	0	3628.57
MW-70	4/1/1994	3822.57	193.19	0	3629.38
MW-70	5/1/1994	3822.57	193.86	0	3628.71
MW-70	7/1/1994	3822.57	193.59	0	3628.98
MW-70	8/1/1994	3822.57	193.09	0	3629.48
MW-70	9/1/1994	3822.57	193.17	0	3629.40
MW-70	10/1/1994	3822.57	193.38	0	3629.19
MW-70	12/1/1994	3822.57	194.58	0	3627.99
MW-70	1/1/1995	3822.57	192.83	0	3629.74
MW-70	4/1/1995	3822.57	194.11	0	3628.46
MW-70	7/1/1995	3822.57	194.19	0	3628.38
MW-70	10/1/1995	3822.57	194.19	0	3628.38
MW-70	1/16/1996	3822.57	194.68	0	3627.89
MW-70	4/17/1996	3822.57	194.94	0	3627.63
MW-70	7/15/1996	3822.57	194.70	0	3627.87
MW-70	10/13/1996	3822.57	193.98	0	3628.59
MW-70	2/3/1997	3822.57	194.47	0	3628.10
MW-70	4/28/1997	3822.57	195.01	0	3627.56
MW-70	7/14/1997	3822.57	195.44	0	3627.13
MW-70	10/1/1997	3822.57	196.20	0	3626.37
MW-70	10/13/1997	3822.57	196.05	0	3626.52
MW-70	10/29/1997	3822.57	196.24	0.01	3626.33
MW-70	11/4/1997	3822.57	196.35	0	3626.22
MW-70	11/12/1997	3822.57	196.34	0	3626.23
MW-70	11/19/1997	3822.57	196.36	0.01	3626.21
MW-70	11/24/1997	3822.57	196.36	0	3626.21
MW-70	12/10/1997	3822.57	196.47	0	3626.10
MW-70	1/27/1998	3822.57	196.22	0	3626.35
MW-70	2/25/1998	3822.57	196.45	0	3626.12
MW-70	4/27/1998	3822.57	196.48	0	3626.09
MW-70	5/28/1998	3822.57	196.91	0	3625.66
MW-70	6/15/1998	3822.57	196.74	0	3625.83
MW-70	10/9/1998	3822.57	197.27	0	3625.30
MW-70	1/27/1999	3822.57	199.24	0	3623.33
MW-70	4/19/1999	3822.57	197.40	0	3625.17
MW-70	1/5/2000	3822.57	197.73	0	3624.84
MW-70	4/26/2000	3822.57	197.71	0	3624.86
MW-70	9/27/2000	3822.57	198.02	0	3624.55
MW-70	4/16/2001	3822.57	198.34	0	3624.23
MW-70	10/29/2001	3822.57	198.30	0	3624.27
MW-70	4/15/2002	3822.57	198.85	0	3623.72
MW-70	10/14/2002	3822.57	196.95	0	3625.62
MW-70	04/15/2003	3822.57	198.12	0	3624.45
MW-70	10/14/2003	3822.57	199.14	0	3623.43
MW-70	4/5/2004	3822.57	199.41	0	3623.16
MW-70	10/5/2004	3822.57	197.30	0	3625.27
MW-70	4/19/2005	3822.57	197.70	0	3624.87
MW-70	10/24/2005	3822.57	197.24	0	3625.33
MW-70	4/18/2006	3822.57	198.46	0	3624.11

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Appendix A

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-70	10/11/2006	3822.57	196.99	0	3625.58
MW-70	4/17/2007	3822.57	198.51	0	3624.06
MW-70	10/22/2007	3822.57	198.03	0	3624.54
MW-70	5/27/2009	3822.57	199.45	0	3623.12
MW-70	6/21/2010	3822.57	199.54	0	3623.03
MW-70	12/28/2010	3822.57	199.13	0	3623.44
MW-70	6/30/2011	3822.57	199.75	0	3622.82
MW-70	12/15/2011	3822.57	204.65	0	3617.92
MW-70	6/27/2012	3822.57	201.46	0	3621.11
MW-70	12/1/2012	3822.57	200.14	0	3622.43
MW-70	6/1/2013	3822.57	200.49	0	3622.08
MW-70	12/12/2013	3822.57	NM	NM	NM
MW-70	6/25/2014	3822.57	201.74	0	3620.83
MW-70	12/16/2014	3822.57	198.48	0	3624.09
MW-70	4/28/2015	3822.57	199.29	0	3623.28
MW-70	10/13/2015	3822.57	199.69	0	3622.88
MW-70	5/24/2016	3822.57	200.21	0	3622.36
MW-70	12/6/2016	3822.57	199.86	0	3622.71
MW-70	7/12/2017	3822.57	200.27	0	3622.30
MW-70	12/17/2017	3822.57	199.79	0	3622.78
MW-70	7/8/2018	3822.57	200.17	0	3622.40
MW-70	11/13/2018	3822.57	199.47	0	3623.10
MW-70	6/24/2019	3822.57	199.63	0	3622.94
MW-70	12/10/2019	3822.57	199.04	0	3623.53
MW-81	10/1/1995	3817.03	195.77	2.74	3623.26
MW-81	1/16/1996	3817.03	199.04	4.29	3621.12
MW-81	4/17/1996	3817.03	204.35	9.95	3619.94
MW-81	7/16/1996	3817.03	204.26	9.37	3619.61
MW-81	10/13/1996	3817.03	202.11	8.49	3621.11
MW-81	2/4/1997	3817.03	197.25	2.11	3621.32
MW-81	4/28/1997	3817.03	204.40	9.15	3619.30
MW-81	7/14/1997	3817.03	196.19	1.45	3621.89
MW-81	10/9/1997	3817.03	200.02	0.02	3617.02
MW-81	10/14/1997	3817.03	200.96	0.06	3616.11
MW-81	10/29/1997	3817.03	202.44	1.44	3615.64
MW-81	11/4/1997	3817.03	200.92	0	3616.11
MW-81	11/12/1997	3817.03	200.95	0.25	3616.26
MW-81	11/19/1997	3817.03	200.94	0.01	3616.09
MW-81	11/24/1997	3817.03	200.81	0	3616.22
MW-81	12/10/1997	3817.03	200.85	0	3616.18
MW-81	1/6/1998	3817.03	199.35	0	3617.68
MW-81	1/15/1998	3817.03	199.30	0	3617.73
MW-81	1/20/1998	3817.03	200.89	0.79	3616.71
MW-81	1/27/1998	3817.03	200.14	0.89	3617.53
MW-81	2/3/1998	3817.03	200.88	0.58	3616.57
MW-81	2/10/1998	3817.03	206.74	1.64	3611.48
MW-81	2/17/1998	3817.03	218.70	12.08	3607.14
MW-81	2/25/1998	3817.03	217.41	11.41	3607.94
MW-81	4/27/1998	3817.03	197.05	0	3619.98
MW-81	5/28/1998	3817.03	192.28	0	3624.75
MW-81	6/15/1998	3817.03	197.58	0	3619.45

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Historic Fluid Level Data

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OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-81	10/11/1998	3817.03	193.23	0	3623.80
MW-81	1/27/1999	3817.03	200.12	0	3616.91
MW-81	4/19/1999	3817.03	200.84	0	3616.19
MW-81	1/5/2000	3817.03	199.38	0	3617.65
MW-81	4/26/2000	3817.03	201.35	0	3615.68
MW-81	9/27/2000	3817.03	202.99	0	3614.04
MW-81	4/16/2001	3817.03	201.94	0	3615.09
MW-81	10/29/2001	3817.03	204.69	0	3609.04
MW-81	4/15/2002	3817.03	193.94	0	3623.09
MW-81	10/14/2002	3817.03	192.80	0	3624.23
MW-81	04/15/2003	3817.03	193.41	0	3623.62
MW-81	10/14/2003	3817.03	194.42	0	3622.61
MW-81	4/5/2004	3817.03	194.58	0	3622.45
MW-81	10/5/2004	3817.03	192.67	2.96	3626.52
MW-81	4/19/2005	3817.03	193.75	0	3623.28
MW-81	10/24/2005	3817.03	192.46	0	3624.57
MW-81	4/18/2006	3817.03	192.78	0	3624.25
MW-81	10/11/2006	3817.03	194.15	2.56	3624.75
MW-81	4/16/2007	3817.03	198.12	6.32	3614.30
MW-81	10/22/2007	3817.03	189.54	0	3627.49
MW-81	5/27/2009	3817.03	193.97	0.10	3623.13
MW-81	6/21/2010	3817.03	194.21	0.22	3622.98
MW-81	12/28/2010	3817.03	193.88	0.26	3623.34
MW-81	6/30/2011	3817.03	194.10	1.23	3623.83
MW-81	12/15/2011	3817.03	194.85	0.3	3622.40
MW-81	6/27/2012	3817.03	195.21	0.32	3622.05
MW-81	12/1/2012	3817.03	195.61	0.29	3621.63
MW-81	6/1/2013	3817.03	196.13	0.2	3621.05
MW-81	12/12/2013	3817.03	194.77	0.23	3622.43
MW-81	6/25/2014	3817.03	195.45	0.24	3621.76
MW-81	12/16/2014	3817.03	183.04	0	3633.99
MW-81	4/28/2015	3817.03	193.71	0	3623.32
MW-81	10/13/2015	3817.03	189.27	0	3627.76
MW-81	5/24/2016	3817.03	194.25	0.001	3622.78
MW-81	12/6/2016	3817.03	193.80	0.001	3623.23
MW-81	7/12/2017	3817.03	195.00	0.73	3622.56
MW-81	12/17/2017	3817.03	193.76	0.001	3623.27
MW-81	7/8/2018	3817.03	192.53	0.001	3624.50
MW-81	11/13/2018	3817.03	193.89	0.001	3623.14
MW-81	6/24/2019	3817.03	194.48	0.69	3623.05
MW-81	12/10/2019	3817.03	193.50	0.45	3623.86
MW-88	8/1/1996	3789.70	163.59	0	3626.11
MW-88	10/13/1996	3789.70	162.22	0	3627.48
MW-88	2/4/1997	3789.70	163.38	0	3626.32
MW-88	4/28/1997	3789.70	163.54	0	3626.16
MW-88	7/14/1997	3789.70	163.84	0	3625.86
MW-88	10/1/1997	3789.70	164.40	0	3625.30
MW-88	10/9/1997	3789.70	164.38	0	3625.32
MW-88	10/13/1997	3789.70	164.34	0	3625.36
MW-88	1/27/1998	3789.70	164.41	0	3625.29
MW-88	4/27/1998	3789.70	164.84	0	3624.86

D = Dry
NA = Not Available
NG = Not Gauged
NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-88	5/28/1998	3789.70	164.00	0	3625.70
MW-88	6/15/1998	3789.70	164.87	0	3624.83
MW-88	10/10/1998	3789.70	165.38	0	3624.32
MW-88	1/27/1999	3789.70	165.49	0	3624.21
MW-88	4/19/1999	3789.70	165.54	0	3624.16
MW-88	1/5/2000	3789.70	165.62	0	3624.08
MW-88	4/26/2000	3789.70	165.87	0	3623.83
MW-88	9/27/2000	3789.70	166.25	0	3623.45
MW-88	4/16/2001	3789.70	166.21	0	3623.49
MW-88	10/29/2001	3789.70	166.49	0	3623.21
MW-88	4/15/2002	3789.70	166.53	0	3623.17
MW-88	10/14/2002	3789.70	165.52	0	3624.18
MW-88	04/15/2003	3789.70	165.98	0	3623.72
MW-88	10/14/2003	3789.70	166.89	0	3622.81
MW-88	4/5/2004	3789.70	167.15	0	3622.55
MW-88	10/5/2004	3789.70	163.52	0	3626.18
MW-88	4/19/2005	3789.70	166.38	0	3623.32
MW-88	10/24/2005	3789.70	165.67	0	3624.03
MW-88	4/18/2006	3789.70	166.15	0	3623.55
MW-88	10/11/2006	3789.70	165.49	0	3624.21
MW-88	4/16/2007	3789.7	166.11	0	3623.59
MW-88	10/22/2007	3789.70	165.92	0	3623.78
MW-88	5/27/2009	3789.70	166.91	0	3622.79
MW-88	6/21/2010	3789.70	167.28	0	3622.42
MW-88	12/28/2010	3789.70	166.92	0	3622.78
MW-88	6/30/2011	3789.70	167.45	0	3622.25
MW-88	12/15/2011	3789.70	167.81	0	3621.89
MW-88	6/27/2012	3789.70	169.00	0	3620.70
MW-88	12/1/2012	3789.70	168.65	0	3621.05
MW-88	6/1/2013	3789.70	168.96	0	3620.74
MW-88	12/12/2013	3789.70	167.90	0	3621.80
MW-88	6/25/2014	3789.70	178.46	0	3611.24
MW-88	12/16/2014	3789.70	166.55	0	3623.15
MW-88	4/28/2015	3789.70	167.16	0	3622.54
MW-88	10/13/2015	3789.70	167.38	0	3622.32
MW-88	5/24/2016	3789.70	167.77	0	3621.93
MW-88	12/6/2016	3789.70	167.37	0	3622.33
MW-88	7/12/2017	3789.70	167.68	0	3622.02
MW-88	12/17/2017	3789.70	167.20	0	3622.50
MW-88	7/8/2018	3789.70	167.54	0	3622.16
MW-88	11/13/2018	3789.70	167.30	0	3622.40
MW-88	6/24/2019	3789.70	167.14	0	3622.56
MW-88	12/10/2019	3789.70	166.49	0	3623.21
MW-111	6/19/1998	3824.44	200.24	0	3624.20
MW-111	10/10/1998	3824.44	200.89	0	3623.55
MW-111	1/27/1999	3824.44	201.24	0	3623.20
MW-111	4/19/1999	3824.44	201.26	0	3623.18
MW-111	1/5/2000	3824.44	201.21	0	3623.23
MW-111	4/26/2000	3824.44	201.48	0	3622.96
MW-111	9/27/2000	3824.44	201.66	0	3622.78
MW-111	4/16/2001	3824.44	201.74	0	3622.70

D = Dry
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 NG = Not Gauged
 NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-111	10/29/2001	3824.44	201.64	0	3622.80
MW-111	4/15/2002	3824.44	201.83	0	3622.61
MW-111	10/14/2002	3824.44	200.52	0	3623.92
MW-111	04/15/2003	3824.44	201.21	0	3623.23
MW-111	10/14/2003	3824.44	202.50	0	3621.94
MW-111	4/5/2004	3824.44	202.54	0	3621.90
MW-111	10/5/2004	3824.44	200.25	0	3624.19
MW-111	4/19/2005	3824.44	201.09	0	3623.35
MW-111	10/24/2005	3824.44	200.61	0	3623.83
MW-111	4/18/2006	3824.44	201.17	0	3623.27
MW-111	10/11/2006	3824.44	200.06	0	3624.38
MW-111	4/16/2007	3824.44	201.28	0	3623.16
MW-111	10/22/2007	3824.44	201.24	0	3623.20
MW-111	5/27/2009	3824.44	202.50	0	3621.94
MW-111	6/21/2010	3824.44	202.92	0	3621.52
MW-111	12/28/2010	3824.44	202.48	0	3621.96
MW-111	6/30/2011	3824.44	202.94	0	3621.50
MW-111	12/15/2011	3824.44	203.51	0	3620.93
MW-111	6/27/2012	3824.44	204.58	0	3619.86
MW-111	12/1/2012	3824.44	204.20	0	3620.24
MW-111	6/1/2013	3824.44	204.58	0	3619.86
MW-111	12/12/2013	3824.44	202.99	0	3621.45
MW-111	6/25/2014	3824.44	204.10	0	3620.34
MW-111	12/16/2014	3824.44	201.65	0	3622.79
MW-111	4/28/2015	3824.44	202.64	0	3621.80
MW-111	10/13/2015	3824.44	202.92	0	3621.52
MW-111	5/24/2016	3824.44	203.21	0	3621.23
MW-111	12/6/2016	3824.44	202.95	0	3621.49
MW-111	7/12/2017	3824.44	203.34	0	3621.10
MW-111	12/17/2017	3824.44	202.95	0	3621.49
MW-111	7/8/2018	3824.44	203.27	0	3621.17
MW-111	11/13/2018	3824.44	203.14	0	3621.30
MW-111	6/24/2019	3824.44	203.20	0	3621.24
MW-111	12/10/2019	3824.44	203.85	0	3620.59
MW-113	1/5/2000	3772.67	147.43	0	3625.24
MW-113	4/26/2000	3772.67	148.28	0.88	3625.03
MW-113	9/27/2000	3772.67	147.72	0	3624.95
MW-113	4/16/2001	3772.67	148.11	0.13	3624.65
MW-113	10/29/2001	3772.67	148.95	0.2	3623.87
MW-113	4/15/2002	3772.67	148.72	0.14	3624.05
MW-113	10/14/2002	3772.67	147.33	0	3625.34
MW-113	04/15/2003	3772.67	148.69	0.53	3624.37
MW-113	10/14/2003	3772.67	149.24	0.21	3623.58
MW-113	4/5/2004	3772.67	142.42	0.2	3630.40
MW-113	10/5/2004	3772.67	144.58	0	3628.09
MW-113	4/19/2005	3772.67	147.90	0	3624.77
MW-113	10/24/2005	3772.67	147.51	0	3625.16
MW-113	4/18/2006	3772.67	148.21	0	3624.46
MW-113	10/11/2006	3772.67	147.29	0	3625.38
MW-113	4/17/2007	3772.67	148.61	0.31	3623.83
MW-113	10/22/2007	3772.67	NA	--	--

D = Dry
NA = Not Available
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NR = No Record

Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-113	5/27/2009	3772.67	149.10	T	3623.57
MW-113	6/21/2010	3772.67	149.47	0.05	3623.16
MW-113	12/28/2010	3772.67	149.09	0.04	3623.55
MW-113	6/30/2011	3772.67	149.55	0.05	3623.08
MW-113	12/15/2011	3772.67	150.10	0.04	3622.54
MW-113	6/27/2012	3772.67	150.34	0.14	3622.23
MW-113	12/1/2012	3772.67	150.87	0.81	3622.39
MW-113	6/1/2013	3772.67	151.07	0.79	3622.18
MW-113	12/12/2013	3772.67	150.03	0	3622.64
MW-113	6/25/2014	3772.67	150.51	0.01	3622.15
MW-113	12/16/2014	3772.67	148.65	0	3624.02
MW-113	4/28/2015	3772.67	149.34	0	3623.33
MW-113	10/13/2015	3772.67	149.42	0	3623.25
MW-113	5/24/2016	3772.67	149.97	0.001	3622.70
MW-113	12/6/2016	3772.67	149.41	0.001	3623.26
MW-113	7/12/2017	3772.67	149.80	0.001	3622.87
MW-113	12/17/2017	3772.67	149.31	0.001	3623.36
MW-113	7/8/2018	3772.67	149.62	0.001	3623.05
MW-113	11/13/2018	3772.67	149.30	0.001	3623.37
MW-113	6/24/2019	3772.67	149.22	0	3623.45
MW-113	12/10/2019	3772.67	148.62	0	3624.05
MW-127	1/5/2000	3825.17	202.12	0	3623.05
MW-127	4/26/2000	3825.17	202.34	0.46	3623.17
MW-127	9/27/2000	3825.17	202.00	0	3623.17
MW-127	4/16/2001	3825.17	202.70	0.07	3622.52
MW-127	10/29/2001	3825.17	202.51	0.03	3622.68
MW-127	4/15/2002	3825.17	202.74	0	3622.43
MW-127	10/14/2002	3825.17	200.92	0	3624.25
MW-127	04/15/2003	3825.17	202.50	0	3622.67
MW-127	10/14/2003	3825.17	202.99	0	3622.18
MW-127	4/5/2004	3825.17	203.15	0	3622.02
MW-127	10/5/2004	3825.17	200.48	0	3624.69
MW-127	4/19/2005	3825.17	201.81	0	3623.36
MW-127	10/24/2005	3825.17	201.00	0	3624.17
MW-127	4/18/2006	3825.17	201.80	0	3623.37
MW-127	10/11/2006	3825.17	200.66	0	3624.51
MW-127	4/17/2007	3825.17	202.3	0	3622.87
MW-127	10/22/2007	3825.17	201.97	0	3623.20
MW-127	5/27/2009	3825.17	203.10	0	3622.07
MW-127	6/21/2010	3825.17	203.46	0	3621.71
MW-127	12/28/2010	3825.17	202.88	0	3622.29
MW-127	6/30/2011	3825.17	203.27	0	3621.90
MW-127	12/15/2011	3825.17	203.87	0	3621.30
MW-127	6/27/2012	3825.17	204.95	0	3620.22
MW-127	12/1/2012	3825.17	204.14	0	3621.03
MW-127	6/1/2013	3825.17	204.95	0	3620.22
MW-127	12/12/2013	3825.17	203.39	0	3621.78
MW-127	6/25/2014	3825.17	204.47	0	3620.70
MW-127	12/16/2014	3825.17	202.08	0	3623.09
MW-127	4/28/2015	3825.17	203.03	0	3622.14
MW-127	10/13/2015	3825.17	203.13	0	3622.04

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Appendix A

Historic Fluid Level Data

May 1991 - December 2018

OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-127	5/24/2016	3825.17	203.56	0	3621.61
MW-127	12/6/2016	3825.17	203.26	0	3621.91
MW-127	7/12/2017	3825.17	203.70	0	3621.47
MW-127	12/17/2017	3825.17	203.27	0	3621.90
MW-127	7/8/2018	3825.17	203.63	0	3621.54
MW-127	11/13/2018	3825.17	203.30	0	3621.87
MW-127	6/24/2019	3825.17	208.23	0	3616.94
MW-127	12/10/2019	3825.17	202.18	0	3622.99

Notes:

* MW-77 DTW does not agree with historical data.

D = Dry
NA = Not Available
NG = Not Gauged
NR = No Record

APPENDIX B

Historical Analytical Data

Appendix B

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
		New Mexico Standards 1,000	250
MW-014	6/22/1998	<u>1,400</u>	<u>330</u>
MW-014	4/18/2002	<u>1,200</u>	<u>300</u>
MW-014	10/24/2003	<u>1,100</u>	150
MW-014 (Dup 1)	10/24/2003	<u>1,000</u>	140
MW-014	4/25/2005	<u>1,130</u>	230
MW-014 (Dup 1)	4/25/2005	<u>1,100</u>	232
MW-014	4/27/2006	<u>1,110</u>	209
MW-014 (Dup 1)	4/27/2006	<u>1,110</u>	207
MW-014	4/20/2007	<u>1,060</u>	196
MW-014 (Dup 1)	4/20/2007	<u>1,010</u>	194
MW-014	6/25/2014	<u>1,430</u>	61.6
MW-014	4/30/2015	<u>1,320</u>	<u>268</u>
MW-014	5/25/2016	<u>1,400</u>	<u>266</u>
MW-014	7/12/2017	<u>1,610</u>	240
MW-014	6/25/2019	<u>2,530</u>	124
MW-045	6/1/1991	<u>5,440</u>	<u>507</u>
MW-045	9/1/1991	<u>3,920</u>	NA
MW-045	12/1/1991	NA	<u>354</u>
MW-045	7/15/1993	NA	<u>434</u>
MW-045	10/14/1993	NA	<u>408</u>
MW-045	1/13/1994	NA	<u>440</u>
MW-045	4/6/1994	NA	<u>430</u>
MW-045	7/20/1994	NA	<u>429</u>
MW-045	5/29/2009	<u>2,540</u>	174
MW-045	6/23/2010	<u>4,190</u>	<u>473</u>
MW-045	7/1/2011	<u>3,630</u>	208
MW-045	6/28/2012	<u>3,840</u>	<u>314</u>
MW-045	6/25/2014	<u>4,120</u>	98.7
MW-045	4/30/2015	<u>5,990</u>	209
MW-045	5/25/2016	<u>5,400</u>	238
MW-045 (Dup 1)	5/25/2016	<u>5,340</u>	245
MW-045	7/13/2017	<u>5,620</u>	<u>308</u>
MW-045	6/13/2018	<u>5,090</u>	<u>256</u>
MW-045	6/24/2019	<u>5,500</u>	177
MW-045 (Dup 1)	6/24/2019	<u>5,300</u>	127
MW-046	6/1/1991	<u>1,220</u>	<u>152</u>
MW-046	7/1/1991	NA	45
MW-046	10/1/1996	NA	170
MW-046	2/11/1997	NA	220
MW-046	5/29/1997	<u>1,300</u>	132
MW-046	7/18/1997	NA	180
MW-046	6/21/1998	940	140

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

Appendix B

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-046	4/20/1999	580	31
MW-046	4/28/2000	565	25.8
MW-046	4/19/2001	570	47
MW-046	4/17/2002	490	37
MW-046	4/8/2004	<u>2,300</u>	<u>340</u>
MW-046	4/27/2005	<u>1,090</u>	116
MW-046	4/23/2007	<u>1,770</u>	132
MW-046	6/25/2014	870	103
MW-046	6/25/2019	<u>3,880</u>	192
MW-049	6/1/1991	<u>3,910</u>	<u>365</u>
MW-049	6/25/1991	NA	NA
MW-049	7/15/1993	NA	<u>399</u>
MW-049	10/14/1993	NA	<u>397</u>
MW-049	1/13/1994	NA	<u>400</u>
MW-049	4/6/1994	NA	<u>380</u>
MW-049	7/20/1994	NA	<u>368</u>
MW-049	10/5/1994	NA	<u>380</u>
MW-049	1/11/1995	NA	<u>389</u>
MW-049	4/6/1995	NA	<u>390</u>
MW-049	7/21/1995	NA	<u>380</u>
MW-049	10/12/1995	NA	<u>350</u>
MW-049	1/20/1996	NA	<u>410</u>
MW-049	4/19/1996	NA	<u>400</u>
MW-049	7/1/1996	NA	<u>360</u>
MW-049	10/1/1996	NA	36
MW-049	2/7/1997	NA	<u>410</u>
MW-049	3/20/1997	<u>3,100</u>	NA
MW-049	7/18/1997	NA	<u>350</u>
MW-049	6/21/1998	<u>2,800</u>	<u>630</u>
MW-049	4/20/1999	<u>3,000</u>	<u>410</u>
MW-049	4/27/2000	<u>3,320</u>	<u>379</u>
MW-049	4/17/2001	<u>3,100</u>	<u>350</u>
MW-049	4/17/2002	<u>2,600</u>	<u>450</u>
MW-049	10/28/2003	<u>2,900</u>	<u>570</u>
MW-049	4/9/2004	<u>2,900</u>	<u>440</u>
MW-049 (Dup-1)	4/9/2004	<u>3,000</u>	<u>410</u>
MW-049	4/25/2005	<u>3,960</u>	<u>345</u>
MW-049	4/26/2006	<u>3,400</u>	<u>318</u>
MW-049	4/20/2007	<u>2,990</u>	<u>325</u>
MW-049	5/28/2009	<u>3,090</u>	<u>370</u>
MW-049	6/23/2010	<u>2,650</u>	<u>408</u>
MW-049	7/1/2011	<u>3,250</u>	<u>347</u>
MW-049	6/28/2012	<u>3,640</u>	<u>325</u>
MW-049	6/28/2013	<u>4,290</u>	<u>289</u>
MW-049	6/25/2014	<u>3,570</u>	<u>356</u>
MW-049	4/30/2015	<u>5,220</u>	<u>464</u>

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

Appendix B

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-049	5/25/2016	<u>4,900</u>	<u>379</u>
MW-049	7/12/2017	<u>4,390</u>	<u>355</u>
MW-049	6/13/2018	<u>3,780</u>	<u>314</u>
MW-049	6/24/2019	<u>3,540</u>	<u>285</u>
MW-058	12/1/1991	NA	124
MW-058	4/1/1992	NA	156
MW-058	7/1/1992	NA	149
MW-058	10/1/1992	NA	155
MW-058	1/1/1993	NA	175
MW-058	4/13/1993	NA	133
MW-058	7/13/1993	NA	133
MW-058	10/13/1993	NA	59
MW-058	4/5/1994	NA	48
MW-058	7/19/1994	NA	38
MW-058	10/6/1994	NA	36
MW-058	1/11/1995	NA	26
MW-058	4/8/1995	NA	39
MW-058	4/18/1996	NA	29
MW-058	10/1/1996	NA	38
MW-058	6/22/1998	760	42
MW-058	12/1/1991	NA	124
MW-058	4/1/1992	NA	156
MW-058	7/1/1992	NA	149
MW-058	10/1/1992	NA	155
MW-058	1/1/1993	NA	175
MW-058	4/13/1993	NA	133
MW-058	7/13/1993	NA	133
MW-058	10/13/1993	NA	59
MW-058	4/5/1994	NA	48
MW-058	7/19/1994	NA	38
MW-058	10/6/1994	NA	36
MW-058	1/11/1995	NA	26
MW-058	4/8/1995	NA	39
MW-058	4/18/1996	NA	29
MW-058	10/1/1996	NA	38
MW-058	6/22/1998	760	42
MW-066	12/1/1991	NA	9
MW-066	4/1/1992	NA	8
MW-066	7/1/1991	NA	8
MW-066	10/1/1992	NA	8
MW-066	1/1/1993	NA	12
MW-066	4/13/1993	NA	8
MW-066	7/13/1993	NA	15
MW-066	10/12/1993	NA	7
MW-066	1/1/1994	NA	9

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

Appendix B

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-066	4/7/1994	NA	8.7
MW-066	7/19/1994	NA	<5
MW-066	104/94	NA	8.8
MW-066	1/9/1995	NA	6
MW-066	4/11/1995	NA	8.9
MW-066	7/19/1995	NA	8
MW-066	10/10/1995	NA	9
MW-066	1/19/1996	NA	10
MW-066	4/17/1996	NA	9.6
MW-066	7/1/1996	NA	6
MW-066	10/1/1996	NA	7
MW-066	2/5/1997	NA	9
MW-066	5/6/1997	NA	9
MW-066	7/16/1997	NA	8
MW-066	10/15/1997	NA	NA
MW-066	6/17/1998	760	13
MW-066	4/21/1999	730	10
MW-066	4/27/2000	848	8.61
MW-066	4/18/2001	660	9.3
MW-066	4/19/2002	790	8.8
MW-066	10/22/2003	770	8.4
MW-066	4/6/2004	810	8.0
MW-066	4/21/2005	867	10.8
MW-066	4/19/2006	797	11.1
MW-066	4/18/2007	795	10.5
MW-066	5/27/2009	865	8.29
MW-066	6/22/2010	768	9.09
MW-066	6/30/2011	817	8.60
MW-066	6/28/2012	687	9.6
MW-066	6/25/2014	793	8.5
MW-066	4/29/2015	822	9.5
MW-066	5/24/2016	839	8.1
MW-066	7/13/2017	808	8.4
DUP-1	7/13/2017	819	8.5
MW-066	6/12/2018	857	8.6
MW-066	6/25/2019	860	8.1
MW-070	12/1/1991	NA	10
MW-070	4/1/1992	NA	8
MW-070	7/1/1992	NA	9.2
MW-070	10/1/1992	NA	17
MW-070	1/1/1993	NA	8
MW-070	4/14/1993	NA	8
MW-070	7/13/1993	NA	8
MW-070	10/12/1993	NA	11
MW-070	1/11/1994	NA	10
MW-070	4/6/1994	NA	9.5

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-070	7/18/1994	NA	8
MW-070	10/4/1994	NA	9.5
MW-070	1/9/1995	NA	9
MW-070	4/5/1995	NA	9.7
MW-070	7/18/1995	NA	9
MW-070	10/10/1995	NA	10
MW-070	1/18/1996	NA	11
MW-070	4/17/1996	NA	9.7
MW-070	7/1/1996	NA	8
MW-070	10/1/1996	NA	10
MW-070	2/5/1997	NA	10
MW-070	10/15/1997	NA	NA
MW-070	6/16/1998	370	12
MW-070	4/22/1999	310	11
MW-070	4/27/2000	385	8.61
MW-070	4/24/2001	270	9.8
MW-070	4/18/2002	310	15
MW-070	10/23/2003	350	10
MW-070	4/12/2004	420	9.9
MW-070	4/26/2005	336	11.6
MW-070	4/20/2006	328	11.5
MW-070	4/24/2007	<u>1,150</u>	21.9
MW-070	5/27/2009	508	10.2
MW-070	6/23/2010	350	9.96
MW-070	6/30/2011	426	9.5
MW-070	6/28/2012	509	33.3
MW-070	4/29/2015	377	109
MW-070	5/24/2016	402	9.6
MW-070	7/13/2017	333	9.9
MW-070	6/13/2018	498	10.3
MW-070	6/25/2019	<u>1,750</u>	9.87
MW-077	7/21/1995	NA	110
MW-077	1/20/1996	NA	120
MW-077	4/19/1996	NA	120
MW-077	7/1/1996	NA	100
MW-077	10/1/1996	NA	140
MW-077	5/7/1997	NA	150
MW-077	7/18/1997	NA	150
MW-077	10/24/2003	590	57
MW-077	4/7/2004	550	40
MW-077	4/27/2005	<u>1,110</u>	180
MW-077	4/26/2006	521	55
MW-077	6/23/2010	545	48
MW-077	6/30/2011	467	26.9
MW-077	6/25/2014	537	39.9

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-081	6/29/1998	800	16
MW-088	2/5/1997	970	30
MW-088	4/30/1997	NA	26
MW-088	10/15/1997	NA	NA
MW-088	6/18/1998	840	22
MW-088	4/21/1999	800	24
MW-088	4/28/2000	876	43.1
MW-088	4/17/2001	770	23
MW-088	4/19/2002	750	35
MW-088	10/21/2003	810	22
MW-088	4/6/2004	820	19
MW-088	4/21/2005	945	27.8
MW-088	4/20/2006	780	29.7
MW-088	4/19/2007	861	32.8
MW-088	5/27/2009	937	48.1
MW-088	6/22/2010	919	35.2
MW-088	6/30/2011	946	41.1
MW-088	6/28/2012	912	29.8
MW-088	6/25/2014	863	26.2
MW-088	4/29/2015	914	30.6
MW-088	5/24/2016	975	27.4
MW-088	7/13/2017	984	29.8
MW-088	6/13/2018	1,030	28.9
MW-088	6/25/2019	920	28.4
MW-106	2/11/1997	430	10
MW-106	5/7/1997	NA	4
MW-106	7/18/1997	NA	5
MW-106	6/18/1998	380	4
MW-106	4/29/1999	NA	12
MW-106	5/1/2000	350	3.45
MW-106	4/18/2001	340	5.6
MW-106	4/17/2002	350	12
MW-106	10/21/2003	350	3.1
MW-106	4/5/2004	540	3.3
MW-106	4/20/2005	405	3.58
MW-106	4/19/2006	371	4.34
MW-106	4/18/2007	396	4.17
MW-106	6/23/2010	349	3.12
MW-106	6/30/2011	368	2.3
MW-106	6/28/2012	374	3.8
MW-106	6/28/2013	387	2.5
MW-106	6/25/2014	374	2.5
MW-106	4/30/2015	388	4.8
MW-106	5/23/2016	388	2.9
MW-106	7/13/2017	364	3.1

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

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Wet Chemistry, 1991 through 2017
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

	Constituent	Wet Chemistry Analytical Data (mg/L)	
		Total Dissolved Solids (TDS)	Chloride
	New Mexico Standards	1,000	250
MW-106	6/13/2018	404	3.1
MW-106	6/25/2019	368	3.72
MW-111	6/29/1998	900	100
MW-111	4/21/1999	760	120
MW-111	4/27/2000	994	103
MW-111	4/18/2001	800	100
MW-111	4/19/2002	750	100
MW-111	10/22/2003	800	98
MW-111	4/7/2004	790	70
MW-111	4/21/2005	932	101
MW-111	4/19/2006	872	88.6
MW-111	4/18/2007	874	86.4
MW-111	5/27/2009	886	67.9
MW-111	6/22/2010	750	70.2
MW-111	6/30/2011	798	92.8
MW-111	6/28/2012	695	58.4
MW-111	6/28/2013	787	56.8
MW-111	6/25/2014	703	59.9
MW-111	4/30/2015	695	68.7
MW-111	5/27/2016	677	43.3
MW-111	7/13/2017	687	39.1
MW-111	6/13/2018	708	45.9
MW-111	6/25/2019	688	40
MW-127	5/28/2009	766	77.1
MW-127	6/23/2010	746	44.4
MW-127	7/1/2011	715	42.3
MW-127	6/28/2012	720	42.5
MW-127	6/28/2013	779	42.5
MW-127	6/25/2014	863	26.1
MW-127	4/30/2015	665	49.1
MW-127	5/25/2016	665	45.9
MW-127	7/13/2017	730	48.7
MW-127	6/14/2018	830	58.4
MW-127	6/25/2019	750	53

Notes:

NA No analysis performed

mg/L Milligrams per liter

1,100 Indicates result at/above the applicable standard

<5 Indicates the result is below the specified laboratory detection limit

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-14	09/01/91	5100	--	--	--
MW-14	06/22/98	820	<10	840	<10
MW-14	04/18/02	116	9	<5	<5
MW-14	10/16/02	23	<5	5	<5
MW-14	04/09/03	<5	<5	<5	<5
MW-14	10/24/03	330	<5	<5	<5
MW-14		Not Sampled - Condensate Present			
MW-14	04/25/05	174	<5	<5	<15
MW-14	04/27/06	31.9	<2.74	<2.03	<5.81
MW-14	04/20/07	30	<5	<5	<15
MW-14	05/27/09	1.1	<1	1.1	17
MW-14	06/23/10	1.1	<1	2.9	19.4
MW-14	06/30/11	Not Sampled - not enough water to collect sample			
MW-14	06/28/12	Not Sampled - not enough water to collect sample			
MW-14	06/28/13	Not Sampled - not enough water to collect sample			
MW-14	06/26/14	2.6	<1	<1	<3
MW-14	04/30/15	2.6	<1	<1	<3
MW-14	05/25/16	<1	<1	<1	<3
MW-14	07/12/17	<1	<1	<1	<3
MW-14	06/13/18	Not Sampled - not enough water to collect sample			
MW-14	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-45	06/01/91	<1	--	--	--
MW-45	06/22/91	--	<1	<1	<1
MW-45	09/01/91	<1	--	--	--
MW-45	12/01/91	<1	<1	<1	<1
MW-45	07/15/93	<3	6	7	4
MW-45	10/14/93	<3	3	<3	3
MW-45	01/13/94	<0.5	<0.5	<0.5	<0.5
MW-45	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-45	07/20/94	<0.5	<0.5	<0.5	<0.5
MW-45	05/29/09	<1	<1	<1	1.7
MW-45	06/23/10	<1	<1	<1	<1
MW-45	07/01/11	<1	<1	<1	<3
MW-45	06/28/12	28.7	<1	0.57	<3
MW-45	06/28/13	Not Sampled - not enough water to collect sample			
MW-45	06/26/14	<1	<1	<1	<3
MW-45	04/30/15	<1	<1	<1	<3
MW-45	05/25/16	<1	<1	<1	<3
MW-45	07/13/17	<1	<1	<1	<3
MW-45	06/13/18	<1	<1	<1	<1
MW-45	06/24/19	<0.56	<0.55	<1.29	<1.98
MW-46	06/01/91	3200	--	--	--
MW-46	06/22/91	--	<50	900	<50
MW-46	07/01/91	300	--	--	--
MW-46	07/19/91	--	<50	250	--
MW-46	07/30/91	--	--	--	250
MW-46	09/01/91	140	--	--	--
MW-46	10/01/96	900	33	440	59
MW-46	02/11/97	3300	550	1000	1400
MW-46	05/29/97	5000	1200	230	<100
MW-46	07/18/97	6100	1900	270	130
MW-46	04/30/98	1600	41	140	290
MW-46	07/01/98	1700	<5	97	120
MW-46	04/20/99	210	<5	11	20
MW-46	12/08/99	50	43	34	129

Notes:

Concentrations listed in micrograms per liter (µg/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-46	04/28/00	17	<1	<1	<1
MW-46	10/02/00	12	39	19	128
MW-46	04/19/01	<5	<5	<5	<10
MW-46	10/31/01	<100	<100	<100	<200
MW-46	04/17/02	<5	<5	<5	<5
MW-46	10/16/02	14	<5	<5	<5
MW-46	04/09/03	<5	<5	<5	<5
MW-46		Not Sampled - Dry			
MW-46	04/08/04	10	<5	<5	<5
MW-46	04/27/05	<5	<5	<5	<15
MW-46		Not Sampled - Dry			
MW-46	04/23/07	81.4	<5	<5	<15
MW-46	05/27/09	<1	<1	<1	1.1
MW-46	06/23/10	<1	<1	<1	<1
MW-46	06/30/11	Not Sampled - not enough water to collect sample			
MW-46	06/28/12	Not Sampled - not enough water to collect sample			
MW-46	06/28/13	Not Sampled - not enough water to collect sample			
MW-46	06/26/14	220	<1	32.9	68.2
MW-46	04/30/15	Not Sampled - not enough water to collect sample			
MW-46	07/13/17	Not Sampled - not enough water to collect sample			
MW-46	06/13/18	Not Sampled - not enough water to collect sample			
MW-46	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-49	06/01/91	60	--	--	--
MW-49	06/22/91	--	<10	60	40
MW-49	09/01/91	35	--	--	--
MW-49	07/15/93	210	27	42	30
MW-49	10/14/93	68	26	9	20
MW-49	01/13/94	13	<5	15	110
MW-49	04/06/94	82	<0.5	11	10
MW-49	07/20/94	150	<5	32	27
MW-49	10/05/94	78	49	40	300
MW-49	01/11/95	220	<5	46	97
MW-49	04/06/95	120	<0.5	24	26
MW-49	07/21/95	17	<0.5	3.5	3.4
MW-49	10/12/95	240	<50	59	130
MW-49	01/20/96	160	130	120	570
MW-49	04/19/96	87	23	18	32
MW-49	07/01/96	370	220	190	630
MW-49	10/01/96	95	16	36	12
MW-49	02/07/97	79	66	45	160
MW-49	07/18/97	130	<1	35	9.8
MW-49	04/30/98	130	39	41	69
MW-49	07/01/98	78	<1	15	<1
MW-49	04/20/99	81	<5	32	<10
MW-49	12/08/99	32	68	58	380
MW-49	04/27/00	24	<1	12	<1
MW-49	10/02/00	35	38	18	107
MW-49	04/17/01	21	36	16	117
MW-49	10/31/01	21	<5	<5	<10
MW-49	04/17/02	19	<5	<5	<5
MW-49	10/16/02	31	<5	<5	<5
MW-49	04/08/03	71	<5	<5	<5
MW-49	10/28/03	97	<5	<5	<5
MW-49	04/08/04	76	<5	<5	<5
MW-49	04/25/05	<5	<5	<5	<15
MW-49	04/26/06	23	<2.74	<2.03	<5.81
MW-49	04/20/07	26	<5	<5	<15
MW-49	05/28/09	37	<1	<1	1.2
MW-49	06/23/10	24	<1	<1	<1
MW-49	07/01/11	48	<1	<1	<3

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-49	06/28/12	<1	<1	<1	<3
MW-49	06/28/13	34.1	<1	<1	<3
MW-49	06/26/14	44.1	<1	<1	<3
MW-49	04/30/15	1.3	<1	<1	<3
MW-49	05/25/16	13.4	<1	<1	<3
MW-49	07/12/17	13.6	<1	0.38 J	<3
MW-49	06/13/18	20.8	<1	<1	<1
MW-49	06/24/19	11.5	<0.55	<1.29	<1.98
MW-58	09/01/91	40	--	--	--
MW-58	12/01/91	90	40	20	80
MW-58	04/01/92	203	32	56	68
MW-58	07/01/92	178	58	32	44
MW-58	10/01/92	190	49	26	57
MW-58	01/01/93	192	30	23	39
MW-58	04/13/93	55	16	31	9
MW-58	07/13/93	25	42	14	13
MW-58	10/13/93	50	21	212	555
MW-58	04/05/94	<2.5	<2.5	7.4	27
MW-58	07/19/94	2	29	4.5	27
MW-58	10/06/94	6.7	<5	15	39
MW-58	04/08/95	2.2	<0.5	2.1	6.8
MW-58	10/01/96	110	320	940	10000
MW-58	01/30/98	350	23	42	96
MW-58	06/22/98	22	<1	28	35
MW-58	06/28/13	Not Sampled - Condensate Present			
MW-58	06/28/14	Not Sampled - Condensate Present			
MW-58	04/30/15	Not Sampled - Condensate Present			
MW-58	07/13/17	Not Sampled - Condensate Present			
MW-58	06/13/18	Not Sampled - Condensate Present			
MW-58	06/25/19	Not Sampled - Condensate Present			
MW-66	09/01/91	<1	--	--	--
MW-66	12/01/91	<1	<1	<1	<1
MW-66	04/01/92	4	7	<3	4
MW-66	07/01/92	8	25	7	11
MW-66	10/01/92	12	36	<3	34
MW-66	01/01/93	3	6	3	20
MW-66	04/13/93	<3	5	5	<3
MW-66	07/13/93	8	4	<3	<3
MW-66	10/12/93	13	60	4	29
MW-66	11/10/93	<4	<4	<4	<4
MW-66	01/11/94	<0.5	<0.5	<0.5	0.6
MW-66	04/07/94	<0.5	<0.5	<0.5	<0.5
MW-66	07/19/94	<0.5	0.6	<0.5	0.8
MW-66	10/04/94	<0.5	3	1.5	17
MW-66	01/09/95	<0.5	<0.5	<0.5	<0.5
MW-66	04/11/95	<0.5	<0.5	<0.5	<0.5
MW-66	07/19/95	<0.5	0.9	<0.5	<0.5
MW-66	10/10/95	<0.5	<0.5	<0.5	3.5
MW-66	01/19/96	<0.5	<0.5	<0.5	<0.5
MW-66	04/17/96	<0.5	0.8	<0.5	1
MW-66	07/01/96	<0.5	<0.5	<0.5	0.5
MW-66	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-66	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-66	05/06/97	<0.5	<0.5	<0.5	<0.5
MW-66	07/16/97	<0.5	<0.5	<0.5	<0.5
MW-66	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-66	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-66	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-66	06/17/98	<1	1.6	<1	<1
MW-66	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-66	02/01/99	<0.5	<0.5	<0.5	<0.5
MW-66	04/21/99	<5	<5	<5	<10

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix B
 Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

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Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-66	12/10/99	<5	<5	<5	<10
MW-66	04/27/00	<1	<1	<1	<1
MW-66	10/05/00	<5	<5	<5	<10
MW-66	04/18/01	<5	<5	<5	<15
MW-66	11/01/01	<5	<5	<5	<10
MW-66	04/19/02	<5	<5	<5	<5
MW-66	10/16/02	<5	<5	<5	<5
MW-66	04/08/03	<5	<5	<5	<5
MW-66	10/22/03	<5	<5	<5	<5
MW-66	04/06/04	<5	<5	<5	<5
MW-66	04/21/05	<5	<5	<5	<15
MW-66	04/19/06	<2.57	<2.74	<2.03	<5.81
MW-66	04/18/07	<5	<5	<5	<15
MW-66	05/27/09	<1	<1	<1	<1
MW-66	06/22/10	<1	<1	<1	<1
MW-66	06/30/11	<1	<1	<1	<3
MW-66	06/28/12	<1	<1	<1	<3
MW-66	06/28/13	<1	17.9	<1	<3
MW-66	06/27/14	<1	<1	<1	<3
MW-66	04/29/15	<1	<1	<1	<3
MW-66	05/24/16	<1	<1	<1	<3
MW-66	07/13/17	<1	<1	<1	<3
DUP-1	07/13/17	<1	<1	<1	<3
MW-66	06/12/18	<1	0.38 J	<1	<1
MW-66	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-70	09/01/91	<1	--	--	--
MW-70	12/01/91	<1	<1	<1	<1
MW-70	04/01/92	3	17	<3	8
MW-70	07/01/92	<1	3	1	13
MW-70	10/01/92	11	40	63	60
MW-70	01/01/93	<3	<3	8	5
MW-70	04/14/93	9	20	<3	4
MW-70	07/13/93	<1	11	3	<3
MW-70	10/12/93	25	19	19	18
MW-70	11/10/93	<4	<4	<4	40
MW-70	01/11/94	<0.5	0.6	<0.5	<0.5
MW-70	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-70	07/18/94	<0.5	<0.5	<0.5	<0.5
MW-70	10/04/94	1.2	4.3	1.3	12
MW-70	01/09/95	<0.5	2.3	<0.5	2.4
MW-70	04/05/95	<0.5	<0.5	<0.5	1.1
MW-70	07/18/95	<0.5	0.8	<0.5	<0.5
MW-70	10/10/95	<0.5	<0.5	<0.5	<0.5
MW-70	01/18/96	<0.5	<0.5	<0.5	<0.5
MW-70	04/17/96	<0.5	<0.5	<0.5	<0.5
MW-70	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-70	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-70	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-70	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-70	06/16/98	<1	<1	<1	<1
MW-70	04/22/99	<5	<5	<5	<10
MW-70	04/28/00	<1	<1	<1	<1
MW-70	10/03/00	<5	<5	<5	<10
MW-70	04/24/01	<5	<5	<5	<15
MW-70	04/18/02	<5	<5	<5	<5
MW-70	04/06/03	<5	<5	<5	<5
MW-70	04/12/04	<5	<5	<5	<5
MW-70	04/26/05	<5	<5	<5	<15
MW-70	04/20/06	<2.57	<2.74	<2.03	<5.81
MW-70	04/24/07	<5	<5	<5	<15
MW-70	05/27/09	<1	<1	<1	<1
MW-70	06/23/10	<1	<1	<1	<1

Notes:

Concentrations listed in micrograms per liter (µg/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix B

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-70	06/30/11	<1	<1	<1	<3
MW-70	06/28/12	<1	<1	<1	<3
MW-70	06/28/13	<1	1.5	<1	<3
MW-70	06/27/14	NS - Well not accessible due to flooding			
MW-70	04/29/15	<1	<1	<1	<3
MW-70	05/24/16	<1	<1	<1	<3
MW-70	07/13/17	<1	<1	<1	<3
MW-70	06/13/18	<1	<1	<1	<1
MW-70	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-77	07/21/95	<0.5	<0.5	1.9	2.8
MW-77	01/20/96	<0.5	3.1	<0.5	7.1
MW-77	04/19/96	<0.5	3.8	0.8	2.5
MW-77	07/01/96	8	14	19	35
MW-77	10/01/96	160	320	150	1000
MW-77	05/07/97	8.4	70	8.3	52
MW-77	07/18/97	14	30	11	71
MW-77	12/09/99	<5	<5	<5	<10
MW-77	10/03/00	<5	<5	<5	24
MW-77		Not Sampled - Condensate Present			
MW-77		Not Sampled - Dry			
MW-77	10/21/02	<5	<5	<5	<5
MW-77	04/10/03	<5	<5	<5	<5
MW-77	10/24/03	<5	<5	<5	<5
MW-77	04/07/04	<5	<5	<5	<5
MW-77	04/27/05	<5	<5	<5	<15
MW-77	04/26/06	<2.57	<2.74	<2.03	<5.81
MW-77	04/18/07	<5	<5	<5	<15
MW-77	06/23/10	<1	<1	<1	<1
MW-77	06/30/11	<1	<1	<1	<3
MW-77	06/28/12	Not Sampled - not enough water to collect sample			
MW-77	06/28/13	Not Sampled - not enough water to collect sample			
MW-77	06/26/14	<1	<1	<1	<3
MW-77	04/30/15	Not Sampled - not enough water to collect sample			
MW-77	07/13/17	Not Sampled - not enough water to collect sample			
MW-77	06/13/18	Not Sampled - not enough water to collect sample			
MW-77	06/25/19	Not Sampled - not enough water to collect sample			
MW-81	06/29/98	<1	<1	<1	1.5
MW-81	06/26/14	Not Sampled - Condensate Present			
MW-81	04/30/15	Not Sampled - Condensate Present			
MW-81	05/24/16	Not Sampled - Condensate Present			
MW-81	07/13/17	Not Sampled - Condensate Present			
MW-81	06/13/18	Not Sampled - Condensate Present			
MW-81	06/25/19	Not Sampled - Condensate Present			
MW-88	08/01/96	<0.5	1.1	0.5	1
MW-88	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-88	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-88	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-88	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-88	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-88	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-88	06/27/98	<1	<1	<1	<1
MW-88	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-88	02/01/99	1.6	1.8	1.6	4.8
MW-88	04/21/99	<5	<5	<5	<10
MW-88	12/10/99	<5	<5	<5	<10
MW-88	04/28/00	<1	<1	<1	<1
MW-88	10/02/00	<5	<5	<5	<5
MW-88	04/17/01	<5	<5	<5	<15
MW-88	10/31/01	<5	<5	<5	<10
MW-88	04/19/02	<5	<5	<5	<5
MW-88	10/16/02	<5	<5	<5	<5
MW-88	04/08/03	<5	<5	<5	<5
MW-88	10/21/03	<5	<5	<5	<5
MW-88	04/06/04	<5	<5	<5	<5

Notes:

Concentrations listed in micrograms per liter (µg/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix B

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-88	04/21/05	<5	<5	<5	<15
MW-88	04/20/06	<2.57	<2.74	<2.03	<5.81
MW-88	04/19/07	<5	<5	<5	<15
MW-88	05/27/09	<1	<1	<1	<1
MW-88	06/22/10	<1	<1	<1	<1
MW-88	06/30/11	<1	<1	<1	<3
MW-88	06/28/12	<1	<1	<1	<3
MW-88	06/28/13	<1	5.3	<1	<3
MW-88	06/26/14	<1	<1	<1	<3
MW-88	04/29/15	<1	<1	<1	<3
MW-88	05/24/16	<1	<1	<1	<3
MW-88	07/13/17	<1	<1	<1	<3
MW-88	06/13/18	<1	<1	<1	<1
MW-88	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-106	02/11/97	<0.5	<0.5	<0.5	<0.5
MW-106	05/07/97	<0.5	<0.5	<0.5	<0.5
MW-106	07/18/97	<0.5	<0.5	<0.5	<0.5
MW-106	04/30/98	<0.5	<0.5	<0.5	<0.5
MW-106	06/28/98	<1	<1	<1	<1
MW-106	04/29/99	<5	<5	<5	<10
MW-106	12/08/99	<5	<5	<5	<10
MW-106	05/01/00	<1	<1	<1	<1
MW-106	10/02/00	<5	<5	<5	<10
MW-106	04/18/01	<5	9.4	<5	<15
MW-106	10/31/01	<5	<5	<5	<10
MW-106	04/17/02	<5	<5	<5	<5
MW-106	10/16/02	<5	7	<5	<5
MW-106	04/09/03	<5	<5	<5	<5
MW-106	10/21/03	<5	<5	<5	<5
MW-106	04/05/04	<5	<5	<5	<5
MW-106	04/20/05	<5	<5	<5	<15
MW-106	04/19/06	<2.57	<2.74	<2.03	<5.81
MW-106	04/18/07	<5	<5	<5	<15
MW-106	06/23/10	<1	<1	<1	<1
MW-106	06/30/11	<1	<1	<1	<3
MW-106	06/28/12	<1	<1	<1	<3
MW-106	06/28/13	<1	1.8	<1	<3
MW-106	06/26/14	<1	<1	<1	<3
MW-106	04/30/15	<1	<1	<1	<3
MW-106	05/23/16	<1	<1	<1	<3
MW-106	07/13/17	<1	<1	<1	<3
MW-106	06/13/18	<1	<1	<1	<1
MW-106	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-111	06/29/98	<1	<1	<1	<1
MW-111	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-111	02/01/99	<0.5	0.8	<0.5	<0.5
MW-111	04/21/99	<5	<5	<5	<10
MW-111	12/13/99	<5	<5	<5	<10
MW-111	04/27/00	<1	<1	<1	<1
MW-111	10/05/00	<5	<5	<5	<10
MW-111	04/18/01	<5	<5	<5	<15
MW-111	11/02/01	<5	<5	<5	<10
MW-111	04/19/02	<5	<5	<5	<5
MW-111	10/16/02	<5	<5	<5	<5
MW-111	04/07/03	<5	<5	<5	6
MW-111	10/22/03	<5	<5	<5	<5
MW-111	04/07/04	<5	<5	<5	5
MW-111	04/21/05	<5	<5	<5	<15
MW-111	04/19/06	<2.57	<2.74	<2.03	<5.81
MW-111	04/18/07	<5	<5	<5	<15
MW-111	05/27/09	<1	<1	<1	<1
MW-111	06/22/10	<1	<1	<1	<1
MW-111	06/30/11	<1	<1	<1	<3
MW-111	06/28/12	<1	<1	<1	<3
MW-111	06/28/13	<1	3.9	<1	<3

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix B

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Historical BTEX Analytical Data, May 1991 - July 2018
 OXY USA WTP Limited Partnership, Indian Basin Gas Plant, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results (µg/L)			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-111	06/27/14	<1	<1	<1	<3
MW-111	04/30/15	<1	<1	<1	<3
MW-111	05/24/16	<1	<1	<1	<3
MW-111	07/13/17	<1	<1	<1	<3
MW-111	06/13/18	<1	<1	<1	<1
MW-111	06/25/19	<0.56	<0.55	<1.29	<1.98
MW-113	08/11/99	140	<5	59	390
MW-113	06/27/14		NS - Condensate Present		
MW-113	04/30/15		NS - Condensate Present		
MW-113	07/13/17		NS - Condensate Present		
MW-113	06/13/18		NS - Condensate Present		
MW-113	06/25/19		NS - Condensate Present		
MW-127	12/28/99	190	7.1	38	16
MW-127	05/28/09	<1	<1	<1	1.4
MW-127	06/23/10	<1	<1	<1	2.2
MW-127	07/01/11	<1	<1	<1	<3
MW-127	06/28/12	<1	<1	<1	<3
MW-127	06/28/13	<1	2.8	0.48 J	<3
MW-127	06/26/14	<1	<1	<1	<3
MW-127	04/30/15	<1	<1	<1	<3
MW-127	05/24/16	<1	<1	<1	<3
MW-127	07/13/17	<1	<1	<1	<3
MW-127	06/14/18	<1	<1	<1	<1
MW-127	06/25/19	<0.56	<0.55	<1.29	<1.98

Notes:

Concentrations listed in micrograms per liter (µg/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

APPENDIX C

Laboratory Analytical Reports



Environment Testing
TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 600-187762-1

Client Project/Site: Indian Basin, NM Groundwaters 06-25-19

For:

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

Attn: Hugh Robotham

Authorized for release by:
7/17/2019 5:13:03 PM

Dean Joiner, Project Manager II
(713)690-4444
dean.joiner@testamericainc.com

LINKS

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results through
TotalAccess

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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.

Client: ARCADIS U.S., Inc.
Project/Site: Indian Basin, NM Groundwaters 06-25-19

Laboratory Job ID: 600-187762-1

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Method Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
RSK-175	Dissolved Gases (GC)	RSK	TAL BUR
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
2320B-1997	Alkalinity, Total - SM Online, 2011	SM-Online	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU
4500 S2 D-2000	Sulfide, Total	SM	TAL HOU
5310 D-2000	Organic Carbon, Total (TOC)	SM	TAL HOU
9034	Reactive Sulfide	SW846	TAL HOU
3010A	Acid Digestion of Aqueous Samples and Extracts for Total Metals	SW846	TAL HOU
5030B	Purge and Trap	SW846	TAL HOU
7.3.4	Sulfide, Reactive (SW7.3.4)	SW846	TAL HOU
FILTRATION	Sample Filtration	None	TAL HOU

Protocol References:

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

None = None

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175,

Rev. 0, 8/11/94, USEPA Research Lab

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

SM-Online = Standard Methods Online

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

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

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

Eurofins TestAmerica, Houston

Sample Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-187762-1	MW - 45	Water	06/24/19 15:38	06/27/19 09:57	
600-187762-2	MW - 49	Water	06/24/19 16:47	06/27/19 09:57	
600-187762-3	MW - 46	Water	06/25/19 07:19	06/27/19 09:57	
600-187762-4	MW - 14	Water	06/25/19 08:18	06/27/19 09:57	
600-187762-5	MW - 106	Water	06/25/19 09:35	06/27/19 09:57	
600-187762-6	MW - 88	Water	06/25/19 11:15	06/27/19 09:57	
600-187762-7	MW - 66	Water	06/25/19 12:19	06/27/19 09:57	
600-187762-8	MW- 70	Water	06/25/19 14:00	06/27/19 09:57	
600-187762-9	MW - 111	Water	06/25/19 15:26	06/27/19 09:57	
600-187762-10	MW - 127	Water	06/25/19 16:44	06/27/19 09:57	
600-187762-11	DUP -1	Water	06/24/19 00:00	06/27/19 09:57	
600-187762-12	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	
600-187762-13	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	
600-187762-14	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	
600-187762-15	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	
600-187762-16	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	
600-187762-17	Trip Blank	Water	06/25/19 00:00	06/27/19 09:57	

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 45

Lab Sample ID: 600-187762-1

Date Collected: 06/24/19 15:38

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/04/19 04:02	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 04:02	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 04:02	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 04:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		50 - 134		07/04/19 04:02	1
Dibromofluoromethane	87		62 - 130		07/04/19 04:02	1
Toluene-d8 (Surr)	93		70 - 130		07/04/19 04:02	1
4-Bromofluorobenzene	122		67 - 139		07/04/19 04:02	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	80200		5000	1820	ug/L			06/29/19 19:08	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 13:23	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	177		80.0	10.7	mg/L			07/12/19 19:57	200
Nitrate as N	15.1	H	0.200	0.0251	mg/L			07/09/19 19:50	1
Fluoride	1.44	F1	0.200	0.0601	mg/L			07/12/19 18:57	1
Nitrate Nitrite as N	15.1	H	0.200	0.0251	mg/L			07/09/19 19:50	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 19:50	1
Sulfate	3280		100	19.1	mg/L			07/12/19 19:57	200

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	517		10.0	0.240	mg/L		07/08/19 05:39	07/10/19 12:43	10
Iron	0.284	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 14:45	1
Magnesium	442		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 14:45	1
Potassium	5.51		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 14:45	1
Sodium	407	B	10.0	0.214	mg/L		07/08/19 05:39	07/10/19 12:43	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 14:53	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	510		20.0	20.0	mg/L			07/03/19 17:29	1
Bicarbonate Alkalinity as CaCO3	510		20.0	20.0	mg/L			07/03/19 17:29	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 17:29	1
Total Dissolved Solids	5500		40.0	40.0	mg/L			07/01/19 12:15	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	7.35		1.00	0.559	mg/L			07/05/19 18:46	1
Sulfide, Reactive	1.38	U	49.2	1.38	mg/L		07/02/19 09:25	07/05/19 16:46	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 49

Lab Sample ID: 600-187762-2

Date Collected: 06/24/19 16:47

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	11.5		5.00	0.560	ug/L			07/04/19 04:52	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 04:52	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 04:52	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 04:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		50 - 134		07/04/19 04:52	1
Dibromofluoromethane	83		62 - 130		07/04/19 04:52	1
Toluene-d8 (Surr)	89		70 - 130		07/04/19 04:52	1
4-Bromofluorobenzene	113		67 - 139		07/04/19 04:52	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	289000		5000	1820	ug/L			06/29/19 19:16	1
Methane	1540		2.00	0.800	ug/L			07/01/19 13:31	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	285		40.0	5.34	mg/L			07/12/19 20:57	100
Nitrate as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 20:08	1
Fluoride	0.913		0.200	0.0601	mg/L			07/12/19 20:37	1
Nitrate Nitrite as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 20:08	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 20:08	1
Sulfate	1590		50.0	9.57	mg/L			07/12/19 20:57	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	402		10.0	0.240	mg/L		07/08/19 05:39	07/10/19 12:45	10
Iron	1.80		0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 14:47	1
Magnesium	351		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 14:47	1
Potassium	6.68		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 14:47	1
Sodium	415 B		10.0	0.214	mg/L		07/08/19 05:39	07/10/19 12:45	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0754 J		0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 14:57	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	1230		20.0	20.0	mg/L			07/03/19 17:45	1
Bicarbonate Alkalinity as CaCO3	1230		20.0	20.0	mg/L			07/03/19 17:45	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 17:45	1
Total Dissolved Solids	3540		40.0	40.0	mg/L			07/01/19 12:15	1
Total Sulfide	8.68		0.250	0.225	mg/L			07/01/19 17:41	25
Total Organic Carbon	14.7		4.00	2.24	mg/L			07/05/19 16:08	4
Sulfide, Reactive	1.39	U	49.7	1.39	mg/L		07/02/19 09:25	07/05/19 16:46	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 46

Lab Sample ID: 600-187762-3

Date Collected: 06/25/19 07:19

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 05:01	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 05:01	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 05:01	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 05:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		50 - 134		07/03/19 05:01	1
Dibromofluoromethane	99		62 - 130		07/03/19 05:01	1
Toluene-d8 (Surr)	106		70 - 130		07/03/19 05:01	1
4-Bromofluorobenzene	136		67 - 139		07/03/19 05:01	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	249000		5000	1820	ug/L			06/29/19 19:25	1
Methane	14.6		2.00	0.800	ug/L			07/01/19 13:40	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	192		40.0	5.34	mg/L			07/11/19 22:58	100
Nitrate as N	4.23	H	0.200	0.0251	mg/L			07/09/19 20:26	1
Fluoride	6.01	U	20.0	6.01	mg/L			07/11/19 22:58	100
Nitrate Nitrite as N	4.23	H	0.200	0.0251	mg/L			07/09/19 20:26	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 20:26	1
Sulfate	1820		50.0	9.57	mg/L			07/11/19 22:58	100

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	559		10.0	0.240	mg/L		07/08/19 05:39	07/10/19 12:47	10
Iron	21.7		0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 14:49	1
Magnesium	315		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 14:49	1
Potassium	10.3		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 14:49	1
Sodium	190	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 14:49	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0583	J	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:03	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	776		20.0	20.0	mg/L			07/03/19 17:57	1
Bicarbonate Alkalinity as CaCO3	776		20.0	20.0	mg/L			07/03/19 17:57	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 17:57	1
Total Dissolved Solids	3880		40.0	40.0	mg/L			07/02/19 16:06	1
Total Sulfide	0.0283		0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	22.7		4.00	2.24	mg/L			07/05/19 15:07	4
Sulfide, Reactive	1.34	U	47.8	1.34	mg/L		07/02/19 09:25	07/05/19 16:46	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 14

Lab Sample ID: 600-187762-4

Date Collected: 06/25/19 08:18

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/04/19 05:16	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 05:16	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 05:16	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 05:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		50 - 134		07/04/19 05:16	1
Dibromofluoromethane	91		62 - 130		07/04/19 05:16	1
Toluene-d8 (Surr)	97		70 - 130		07/04/19 05:16	1
4-Bromofluorobenzene	127		67 - 139		07/04/19 05:16	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	116000		5000	1820	ug/L			06/29/19 19:34	1
Methane	313		2.00	0.800	ug/L			07/01/19 13:49	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	124		20.0	2.67	mg/L			07/11/19 23:38	50
Nitrate as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 20:44	1
Fluoride	0.271		0.200	0.0601	mg/L			07/11/19 23:18	1
Nitrate Nitrite as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 20:44	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 20:44	1
Sulfate	1340		25.0	4.79	mg/L			07/11/19 23:38	50

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	372		10.0	0.240	mg/L		07/08/19 05:39	07/10/19 12:49	10
Iron	1.81		0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 14:57	1
Magnesium	226		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 14:57	1
Potassium	3.49		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 14:57	1
Sodium	77.5 B		1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 14:57	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:05	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	506		20.0	20.0	mg/L			07/03/19 18:07	1
Bicarbonate Alkalinity as CaCO3	506		20.0	20.0	mg/L			07/03/19 18:07	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:07	1
Total Dissolved Solids	2530		20.0	20.0	mg/L			07/02/19 16:06	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	7.08		4.00	2.24	mg/L			07/05/19 15:19	4
Sulfide, Reactive	1.40	U	49.9	1.40	mg/L		07/02/19 09:25	07/05/19 16:46	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 106

Lab Sample ID: 600-187762-5

Date Collected: 06/25/19 09:35

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 05:25	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 05:25	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 05:25	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 05:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		50 - 134		07/03/19 05:25	1
Dibromofluoromethane	94		62 - 130		07/03/19 05:25	1
Toluene-d8 (Surr)	101		70 - 130		07/03/19 05:25	1
4-Bromofluorobenzene	129		67 - 139		07/03/19 05:25	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	53300		5000	1820	ug/L			06/29/19 19:42	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 13:57	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.72		0.400	0.0534	mg/L			07/09/19 21:38	1
Nitrate as N	2.54	H	0.200	0.0251	mg/L			07/09/19 21:38	1
Fluoride	0.0601	U	0.200	0.0601	mg/L			07/11/19 23:58	1
Nitrate Nitrite as N	2.54	H	0.200	0.0251	mg/L			07/09/19 21:38	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 21:38	1
Sulfate	20.5		0.500	0.0957	mg/L			07/09/19 21:38	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89.0		2.00	0.0480	mg/L		07/08/19 05:39	07/10/19 12:57	2
Iron	0.282	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 14:59	1
Magnesium	28.7		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 14:59	1
Potassium	3.33		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 14:59	1
Sodium	3.42	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 14:59	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:07	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	333		20.0	20.0	mg/L			07/03/19 18:15	1
Bicarbonate Alkalinity as CaCO3	333		20.0	20.0	mg/L			07/03/19 18:15	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:15	1
Total Dissolved Solids	368		10.0	10.0	mg/L			07/02/19 16:06	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	0.798	J	1.00	0.559	mg/L			07/05/19 17:57	1
Sulfide, Reactive	1.35	U	48.4	1.35	mg/L		07/05/19 08:22	07/08/19 12:57	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 88

Lab Sample ID: 600-187762-6

Date Collected: 06/25/19 11:15

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/04/19 04:27	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 04:27	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 04:27	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 04:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		50 - 134		07/04/19 04:27	1
Dibromofluoromethane	84		62 - 130		07/04/19 04:27	1
Toluene-d8 (Surr)	91		70 - 130		07/04/19 04:27	1
4-Bromofluorobenzene	117		67 - 139		07/04/19 04:27	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	51200		5000	1820	ug/L			06/29/19 19:51	1
Methane	12.1		2.00	0.800	ug/L			07/01/19 14:06	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.4		0.400	0.0534	mg/L			07/09/19 21:56	1
Nitrate as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 21:56	1
Fluoride	0.960		0.200	0.0601	mg/L			07/12/19 00:18	1
Nitrate Nitrite as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 21:56	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 21:56	1
Sulfate	417		10.0	1.91	mg/L			07/12/19 00:38	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	152		5.00	0.120	mg/L		07/08/19 05:39	07/10/19 12:59	5
Iron	0.366	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:01	1
Magnesium	68.7		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:01	1
Potassium	2.55		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:01	1
Sodium	27.6	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 15:01	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:15	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	314		20.0	20.0	mg/L			07/03/19 18:24	1
Bicarbonate Alkalinity as CaCO3	314		20.0	20.0	mg/L			07/03/19 18:24	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:24	1
Total Dissolved Solids	920		20.0	20.0	mg/L			07/02/19 16:06	1
Total Sulfide	3.86		0.250	0.225	mg/L			07/01/19 17:41	25
Total Organic Carbon	1.29		1.00	0.559	mg/L			07/09/19 18:58	1
Sulfide, Reactive	1.29	U	46.2	1.29	mg/L		07/05/19 08:22	07/08/19 12:57	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 66

Lab Sample ID: 600-187762-7

Date Collected: 06/25/19 12:19

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 05:49	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 05:49	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 05:49	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 05:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		50 - 134		07/03/19 05:49	1
Dibromofluoromethane	94		62 - 130		07/03/19 05:49	1
Toluene-d8 (Surr)	98		70 - 130		07/03/19 05:49	1
4-Bromofluorobenzene	133		67 - 139		07/03/19 05:49	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	35200		5000	1820	ug/L			06/29/19 20:00	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 14:15	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.11		0.400	0.0534	mg/L			07/09/19 22:14	1
Nitrate as N	0.187	J H	0.200	0.0251	mg/L			07/09/19 22:14	1
Fluoride	0.655		0.200	0.0601	mg/L			07/12/19 00:58	1
Nitrate Nitrite as N	0.187	J H	0.200	0.0251	mg/L			07/09/19 22:14	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 22:14	1
Sulfate	363		10.0	1.91	mg/L			07/12/19 01:58	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	143		2.00	0.0480	mg/L		07/08/19 05:39	07/10/19 13:01	2
Iron	0.195	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:03	1
Magnesium	56.0		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:03	1
Potassium	1.95		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:03	1
Sodium	12.6	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 15:03	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:17	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	259		20.0	20.0	mg/L			07/03/19 18:31	1
Bicarbonate Alkalinity as CaCO3	259		20.0	20.0	mg/L			07/03/19 18:31	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:31	1
Total Dissolved Solids	860		20.0	20.0	mg/L			07/02/19 14:49	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	0.569	J	1.00	0.559	mg/L			07/05/19 17:45	1
Sulfide, Reactive	1.36	U	48.5	1.36	mg/L		07/05/19 08:22	07/08/19 12:57	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW- 70

Lab Sample ID: 600-187762-8

Date Collected: 06/25/19 14:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 06:13	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 06:13	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 06:13	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 06:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		50 - 134		07/03/19 06:13	1
Dibromofluoromethane	90		62 - 130		07/03/19 06:13	1
Toluene-d8 (Surr)	97		70 - 130		07/03/19 06:13	1
4-Bromofluorobenzene	124		67 - 139		07/03/19 06:13	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	23900		5000	1820	ug/L			06/29/19 20:09	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 14:24	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.87		0.400	0.0534	mg/L			07/09/19 22:32	1
Nitrate as N	0.808	H	0.200	0.0251	mg/L			07/09/19 22:32	1
Fluoride	0.874		0.200	0.0601	mg/L			07/12/19 02:58	1
Nitrate Nitrite as N	0.808	H	0.200	0.0251	mg/L			07/09/19 22:32	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 22:32	1
Sulfate	101		2.50	0.479	mg/L			07/12/19 03:18	5

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	78.7		2.00	0.0480	mg/L		07/08/19 05:39	07/10/19 13:03	2
Iron	2.48		0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:05	1
Magnesium	30.2		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:05	1
Potassium	1.30		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:05	1
Sodium	14.8	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 15:05	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	247		20.0	20.0	mg/L			07/03/19 18:39	1
Bicarbonate Alkalinity as CaCO3	247		20.0	20.0	mg/L			07/03/19 18:39	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:39	1
Total Dissolved Solids	1750		40.0	40.0	mg/L			07/02/19 14:49	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	0.559	U	1.00	0.559	mg/L			07/05/19 22:00	1
Sulfide, Reactive	1.37	U	48.9	1.37	mg/L		07/08/19 10:34	07/09/19 12:25	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 111

Lab Sample ID: 600-187762-9

Date Collected: 06/25/19 15:26

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 06:37	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 06:37	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 06:37	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 06:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		50 - 134		07/03/19 06:37	1
Dibromofluoromethane	92		62 - 130		07/03/19 06:37	1
Toluene-d8 (Surr)	100		70 - 130		07/03/19 06:37	1
4-Bromofluorobenzene	130		67 - 139		07/03/19 06:37	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	50900		5000	1820	ug/L			06/29/19 20:17	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 14:32	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.0		4.00	0.534	mg/L			07/12/19 04:38	10
Nitrate as N	1.00	H F1	0.200	0.0251	mg/L			07/09/19 22:50	1
Fluoride	0.516		0.200	0.0601	mg/L			07/12/19 03:38	1
Nitrate Nitrite as N	1.00	H	0.200	0.0251	mg/L			07/09/19 22:50	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 22:50	1
Sulfate	207		5.00	0.957	mg/L			07/12/19 04:38	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	121		2.00	0.0480	mg/L		07/08/19 05:39	07/10/19 13:05	2
Iron	0.104	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:07	1
Magnesium	47.2		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:07	1
Potassium	1.57		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:07	1
Sodium	23.1	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 15:07	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:21	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	305		20.0	20.0	mg/L			07/03/19 18:47	1
Bicarbonate Alkalinity as CaCO3	305		20.0	20.0	mg/L			07/03/19 18:47	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 18:47	1
Total Dissolved Solids	688		20.0	20.0	mg/L			07/02/19 14:49	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	0.745	J	1.00	0.559	mg/L			07/05/19 16:44	1
Sulfide, Reactive	1.32	U	47.3	1.32	mg/L		07/08/19 10:34	07/09/19 12:25	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 127

Lab Sample ID: 600-187762-10

Date Collected: 06/25/19 16:44

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/04/19 05:41	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 05:41	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 05:41	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 05:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		50 - 134		07/04/19 05:41	1
Dibromofluoromethane	87		62 - 130		07/04/19 05:41	1
Toluene-d8 (Surr)	89		70 - 130		07/04/19 05:41	1
4-Bromofluorobenzene	124		67 - 139		07/04/19 05:41	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	59400		5000	1820	ug/L			06/29/19 20:26	1
Methane	935		2.00	0.800	ug/L			07/01/19 14:41	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53.0		4.00	0.534	mg/L			07/12/19 05:18	10
Nitrate as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 23:43	1
Fluoride	0.637		0.200	0.0601	mg/L			07/12/19 04:58	1
Nitrate Nitrite as N	0.0251	U H	0.200	0.0251	mg/L			07/09/19 23:43	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/09/19 23:43	1
Sulfate	232		5.00	0.957	mg/L			07/12/19 05:18	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	131		2.00	0.0480	mg/L		07/08/19 05:39	07/10/19 13:07	2
Iron	0.240	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:09	1
Magnesium	52.8		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:09	1
Potassium	1.91		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:09	1
Sodium	28.7	B	1.00	0.0214	mg/L		07/08/19 05:39	07/09/19 15:09	1

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:23	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	324		20.0	20.0	mg/L			07/08/19 14:54	1
Bicarbonate Alkalinity as CaCO3	324		20.0	20.0	mg/L			07/08/19 14:54	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/08/19 14:54	1
Total Dissolved Solids	750		20.0	20.0	mg/L			07/02/19 14:49	1
Total Sulfide	5.82		0.250	0.225	mg/L			07/01/19 17:41	25
Total Organic Carbon	7.85		4.00	2.24	mg/L			07/05/19 15:31	4
Sulfide, Reactive	1.40	U	50.0	1.40	mg/L		07/08/19 10:34	07/09/19 12:25	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: DUP -1

Lab Sample ID: 600-187762-11

Date Collected: 06/24/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 07:01	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 07:01	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 07:01	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 07:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		50 - 134		07/03/19 07:01	1
Dibromofluoromethane	92		62 - 130		07/03/19 07:01	1
Toluene-d8 (Surr)	96		70 - 130		07/03/19 07:01	1
4-Bromofluorobenzene	131		67 - 139		07/03/19 07:01	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	79400		5000	1820	ug/L			06/29/19 20:35	1
Methane	0.800	U	2.00	0.800	ug/L			07/01/19 14:50	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	127		80.0	10.7	mg/L			07/12/19 05:58	200
Nitrate as N	15.9	H	0.200	0.0251	mg/L			07/10/19 00:01	1
Fluoride	1.48		0.200	0.0601	mg/L			07/12/19 05:38	1
Nitrate Nitrite as N	15.9	H	0.200	0.0251	mg/L			07/10/19 00:01	1
Nitrite as N	0.0297	U H	0.200	0.0297	mg/L			07/10/19 00:01	1
Sulfate	3390		100	19.1	mg/L			07/12/19 05:58	200

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	517		10.0	0.240	mg/L		07/08/19 05:39	07/10/19 13:09	10
Iron	0.247	J	0.400	0.0270	mg/L		07/08/19 05:39	07/09/19 15:11	1
Magnesium	426		1.00	0.0555	mg/L		07/08/19 05:39	07/09/19 15:11	1
Potassium	5.23		1.00	0.0374	mg/L		07/08/19 05:39	07/09/19 15:11	1
Sodium	417	B	10.0	0.214	mg/L		07/08/19 05:39	07/10/19 13:09	10

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 15:25	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	445	F1	20.0	20.0	mg/L			07/08/19 13:51	1
Bicarbonate Alkalinity as CaCO3	445		20.0	20.0	mg/L			07/08/19 13:51	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/08/19 13:51	1
Total Dissolved Solids	5300		40.0	40.0	mg/L			07/01/19 12:15	1
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1
Total Organic Carbon	7.26		1.00	0.559	mg/L			07/05/19 18:58	1
Sulfide, Reactive	1.35	U	48.1	1.35	mg/L		07/08/19 10:34	07/09/19 12:25	1

Eurofins TestAmerica, Houston

Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-12

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L	-		07/03/19 01:23	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 01:23	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 01:23	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 01:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		50 - 134		07/03/19 01:23	1
Dibromofluoromethane	90		62 - 130		07/03/19 01:23	1
Toluene-d8 (Surr)	92		70 - 130		07/03/19 01:23	1
4-Bromofluorobenzene	122		67 - 139		07/03/19 01:23	1

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-13

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L	-		07/03/19 01:47	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 01:47	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 01:47	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		50 - 134		07/03/19 01:47	1
Dibromofluoromethane	89		62 - 130		07/03/19 01:47	1
Toluene-d8 (Surr)	95		70 - 130		07/03/19 01:47	1
4-Bromofluorobenzene	125		67 - 139		07/03/19 01:47	1

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-14

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L	-		07/03/19 02:12	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 02:12	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 02:12	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 02:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		50 - 134		07/03/19 02:12	1
Dibromofluoromethane	89		62 - 130		07/03/19 02:12	1
Toluene-d8 (Surr)	94		70 - 130		07/03/19 02:12	1
4-Bromofluorobenzene	124		67 - 139		07/03/19 02:12	1

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-15

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L	-		07/03/19 02:36	1

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Client Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-15

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 02:36	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 02:36	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 02:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		50 - 134					07/03/19 02:36	1
Dibromofluoromethane	91		62 - 130					07/03/19 02:36	1
Toluene-d8 (Surr)	95		70 - 130					07/03/19 02:36	1
4-Bromofluorobenzene	128		67 - 139					07/03/19 02:36	1

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-16

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 03:00	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 03:00	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 03:00	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 03:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		50 - 134					07/03/19 03:00	1
Dibromofluoromethane	96		62 - 130					07/03/19 03:00	1
Toluene-d8 (Surr)	104		70 - 130					07/03/19 03:00	1
4-Bromofluorobenzene	137		67 - 139					07/03/19 03:00	1

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-17

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 03:24	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 03:24	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 03:24	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 03:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		50 - 134					07/03/19 03:24	1
Dibromofluoromethane	94		62 - 130					07/03/19 03:24	1
Toluene-d8 (Surr)	100		70 - 130					07/03/19 03:24	1
4-Bromofluorobenzene	127		67 - 139					07/03/19 03:24	1

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Definitions/Glossary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Qualifiers

GC/MS VOA

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier Qualifier Description

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier Qualifier Description

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

E Result exceeded calibration range.

F1 MS and/or MSD Recovery is outside acceptance limits.

H Sample was prepped or analyzed beyond the specified holding time

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U Indicates the analyte was analyzed for but not detected.

Metals

Qualifier Qualifier Description

B Compound was found in the blank and sample.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier Qualifier Description

F1 MS and/or MSD Recovery is outside acceptance limits.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U Indicates the analyte was analyzed for but not detected.

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)

Eurofins TestAmerica, Houston

Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (50-134)	DBFM (62-130)	TOL (70-130)	BFB (67-139)
600-187762-1	MW - 45	96	87	93	122
600-187762-2	MW - 49	88	83	89	113
600-187762-3	MW - 46	105	99	106	136
600-187762-4	MW - 14	99	91	97	127
600-187762-5	MW - 106	102	94	101	129
600-187762-6	MW - 88	92	84	91	117
600-187762-7	MW - 66	101	94	98	133
600-187762-8	MW- 70	97	90	97	124
600-187762-9	MW - 111	100	92	100	130
600-187762-10	MW - 127	90	87	89	124
600-187762-11	DUP -1	99	92	96	131
600-187762-12	Trip Blank	95	90	92	122
600-187762-13	Trip Blank	96	89	95	125
600-187762-14	Trip Blank	98	89	94	124
600-187762-15	Trip Blank	97	91	95	128
600-187762-16	Trip Blank	104	96	104	137
600-187762-17	Trip Blank	100	94	100	127
LCS 600-268566/4	Lab Control Sample	101	96	99	126
LCS 600-268687/4	Lab Control Sample	101	95	99	127
LCSD 600-268566/5	Lab Control Sample Dup	101	96	98	128
LCSD 600-268687/5	Lab Control Sample Dup	94	89	91	118
MB 600-268566/6	Method Blank	104	96	103	133
MB 600-268687/7	Method Blank	98	89	94	122

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

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

Lab Sample ID: MB 600-268566/6

Matrix: Water

Analysis Batch: 268566

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/03/19 00:59	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/03/19 00:59	1
Toluene	0.550	U	5.00	0.550	ug/L			07/03/19 00:59	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/03/19 00:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		50 - 134		07/03/19 00:59	1
Dibromofluoromethane	96		62 - 130		07/03/19 00:59	1
Toluene-d8 (Surr)	103		70 - 130		07/03/19 00:59	1
4-Bromofluorobenzene	133		67 - 139		07/03/19 00:59	1

Lab Sample ID: LCS 600-268566/4

Matrix: Water

Analysis Batch: 268566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.43		ug/L		103	70 - 131
Ethylbenzene	50.0	45.63		ug/L		91	70 - 130
Toluene	50.0	49.50		ug/L		99	70 - 130
Xylenes, Total	100	96.71		ug/L		97	70 - 130
m-Xylene & p-Xylene	50.0	48.31		ug/L		97	70 - 130
o-Xylene	50.0	48.40		ug/L		97	69 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		50 - 134
Dibromofluoromethane	96		62 - 130
Toluene-d8 (Surr)	99		70 - 130
4-Bromofluorobenzene	126		67 - 139

Lab Sample ID: LCSD 600-268566/5

Matrix: Water

Analysis Batch: 268566

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.22		ug/L		102	70 - 131	0	20
Ethylbenzene	50.0	44.99		ug/L		90	70 - 130	1	20
Toluene	50.0	48.61		ug/L		97	70 - 130	2	20
Xylenes, Total	100	93.71		ug/L		94	70 - 130	3	20
m-Xylene & p-Xylene	50.0	46.64		ug/L		93	70 - 130	4	20
o-Xylene	50.0	47.07		ug/L		94	69 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		50 - 134
Dibromofluoromethane	96		62 - 130
Toluene-d8 (Surr)	98		70 - 130
4-Bromofluorobenzene	128		67 - 139

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QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

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

Lab Sample ID: MB 600-268687/7

Matrix: Water

Analysis Batch: 268687

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.560	U	5.00	0.560	ug/L			07/04/19 03:12	1
Ethylbenzene	1.29	U	5.00	1.29	ug/L			07/04/19 03:12	1
Toluene	0.550	U	5.00	0.550	ug/L			07/04/19 03:12	1
Xylenes, Total	1.98	U	5.00	1.98	ug/L			07/04/19 03:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		50 - 134		07/04/19 03:12	1
Dibromofluoromethane	89		62 - 130		07/04/19 03:12	1
Toluene-d8 (Surr)	94		70 - 130		07/04/19 03:12	1
4-Bromofluorobenzene	122		67 - 139		07/04/19 03:12	1

Lab Sample ID: LCS 600-268687/4

Matrix: Water

Analysis Batch: 268687

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.20		ug/L		94	70 - 131
Ethylbenzene	50.0	42.27		ug/L		85	70 - 130
Toluene	50.0	46.62		ug/L		93	70 - 130
Xylenes, Total	100	87.78		ug/L		88	70 - 130
m-Xylene & p-Xylene	50.0	44.04		ug/L		88	70 - 130
o-Xylene	50.0	43.74		ug/L		87	69 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		50 - 134
Dibromofluoromethane	95		62 - 130
Toluene-d8 (Surr)	99		70 - 130
4-Bromofluorobenzene	127		67 - 139

Lab Sample ID: LCSD 600-268687/5

Matrix: Water

Analysis Batch: 268687

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	50.88		ug/L		102	70 - 131	7	20
Ethylbenzene	50.0	44.45		ug/L		89	70 - 130	5	20
Toluene	50.0	48.11		ug/L		96	70 - 130	3	20
Xylenes, Total	100	94.02		ug/L		94	70 - 130	7	20
m-Xylene & p-Xylene	50.0	46.80		ug/L		94	70 - 130	6	20
o-Xylene	50.0	47.22		ug/L		94	69 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		50 - 134
Dibromofluoromethane	89		62 - 130
Toluene-d8 (Surr)	91		70 - 130
4-Bromofluorobenzene	118		67 - 139

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 200-144611/28

Matrix: Water

Analysis Batch: 144611

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	1820	U	5000	1820	ug/L	-		06/29/19 18:59	1

Lab Sample ID: MB 200-144611/7

Matrix: Water

Analysis Batch: 144611

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon dioxide	1820	U	5000	1820	ug/L	-		06/29/19 15:32	1

Lab Sample ID: LCS 200-144611/26

Matrix: Water

Analysis Batch: 144611

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon dioxide	40000	42320		ug/L	-	106	70 - 130

Lab Sample ID: LCSD 200-144611/27

Matrix: Water

Analysis Batch: 144611

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon dioxide	40000	45100		ug/L	-	113	70 - 130	6	30

Lab Sample ID: MB 200-144644/4

Matrix: Water

Analysis Batch: 144644

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.800	U	2.00	0.800	ug/L	-		07/01/19 13:14	1

Lab Sample ID: LCS 200-144644/2

Matrix: Water

Analysis Batch: 144644

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	518	516.1		ug/L	-	100	70 - 130

Lab Sample ID: LCSD 200-144644/3

Matrix: Water

Analysis Batch: 144644

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	518	456.1		ug/L	-	88	70 - 130	12	30

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QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-268963/5

Matrix: Water

Analysis Batch: 268963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			07/09/19 18:21	1
Fluoride	0.0601	U	0.200	0.0601	mg/L			07/09/19 18:21	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			07/09/19 18:21	1

Lab Sample ID: LCS 600-268963/6

Matrix: Water

Analysis Batch: 268963

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	20.03		mg/L		100	90 - 110
Sulfate	20.0	19.86		mg/L		99	90 - 110

Lab Sample ID: 600-187762-9 MS

Matrix: Water

Analysis Batch: 268963

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	47.8	E	10.0	51.88	E 4	mg/L		41	80 - 120
Fluoride	0.0601	U	2.00	1.231	F1	mg/L		62	80 - 120
Sulfate	229	E	10.0	219.5	E 4	mg/L		-98	80 - 120

Lab Sample ID: 600-187762-9 MSD

Matrix: Water

Analysis Batch: 268963

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	47.8	E	10.0	51.46	E 4	mg/L		36	80 - 120	1	20
Fluoride	0.0601	U	2.00	1.234	F1	mg/L		62	80 - 120	0	20
Sulfate	229	E	10.0	217.1	E 4	mg/L		-122	80 - 120	1	20

Lab Sample ID: MB 600-268964/5

Matrix: Water

Analysis Batch: 268964

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0251	U	0.200	0.0251	mg/L			07/09/19 18:21	1
Nitrate Nitrite as N	0.0251	U	0.200	0.0251	mg/L			07/09/19 18:21	1
Nitrite as N	0.0297	U	0.200	0.0297	mg/L			07/09/19 18:21	1

Lab Sample ID: LCS 600-268964/6

Matrix: Water

Analysis Batch: 268964

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	9.623		mg/L		96	90 - 110
Nitrite as N	10.0	10.11		mg/L		101	90 - 110

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 600-187762-9 MS

Matrix: Water

Analysis Batch: 268964

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.00	H F1	2.00	2.543	F1	mg/L		77	80 - 120
Nitrite as N	0.0297	U H	2.00	2.283		mg/L		114	80 - 120

Lab Sample ID: 600-187762-9 MSD

Matrix: Water

Analysis Batch: 268964

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.00	H F1	2.00	2.532	F1	mg/L		77	80 - 120	0	20
Nitrite as N	0.0297	U H	2.00	2.311		mg/L		116	80 - 120	1	20

Lab Sample ID: MB 600-269173/35

Matrix: Water

Analysis Batch: 269173

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			07/12/19 01:18	1
Fluoride	0.0601	U	0.200	0.0601	mg/L			07/12/19 01:18	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			07/12/19 01:18	1

Lab Sample ID: LCS 600-269173/36

Matrix: Water

Analysis Batch: 269173

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	19.88		mg/L		99	90 - 110
Fluoride	7.50	7.657		mg/L		102	90 - 110
Sulfate	20.0	19.97		mg/L		100	90 - 110

Lab Sample ID: 600-187762-9 MS

Matrix: Water

Analysis Batch: 269173

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	45.2	E	10.0	49.74	E 4	mg/L		45	80 - 120
Fluoride	0.516		2.00	2.429		mg/L		96	80 - 120
Sulfate	210	E	10.0	197.3	E 4	mg/L		-129	80 - 120

Lab Sample ID: 600-187762-9 MSD

Matrix: Water

Analysis Batch: 269173

Client Sample ID: MW - 111

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	45.2	E	10.0	49.40	E 4	mg/L		42	80 - 120	1	20
Fluoride	0.516		2.00	2.454		mg/L		97	80 - 120	1	20
Sulfate	210	E	10.0	196.0	E 4	mg/L		-143	80 - 120	1	20

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 600-269268/4

Matrix: Water

Analysis Batch: 269268

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.0534	U	0.400	0.0534	mg/L			07/12/19 18:17	1
Fluoride	0.0601	U	0.200	0.0601	mg/L			07/12/19 18:17	1
Sulfate	0.0957	U	0.500	0.0957	mg/L			07/12/19 18:17	1

Lab Sample ID: LCS 600-269268/5

Matrix: Water

Analysis Batch: 269268

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	19.88		mg/L		99	90 - 110
Fluoride	7.50	7.440		mg/L		99	90 - 110
Sulfate	20.0	19.73		mg/L		99	90 - 110

Lab Sample ID: 600-187762-1 MS

Matrix: Water

Analysis Batch: 269268

Client Sample ID: MW - 45

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	202	E	10.0	192.8	E 4	mg/L		-92	80 - 120
Fluoride	1.44	F1	2.00	3.010	F1	mg/L		78	80 - 120
Sulfate	2890	E	10.0	2643	E 4	mg/L		-2509	80 - 120

Lab Sample ID: 600-187762-1 MSD

Matrix: Water

Analysis Batch: 269268

Client Sample ID: MW - 45

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	202	E	10.0	193.6	E 4	mg/L		-84	80 - 120	0	20
Fluoride	1.44	F1	2.00	3.057		mg/L		81	80 - 120	2	20
Sulfate	2890	E	10.0	2643	E 4	mg/L		-2513	80 - 120	0	20

Lab Sample ID: MB 600-269269/4

Matrix: Water

Analysis Batch: 269269

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0251	U	0.200	0.0251	mg/L			07/12/19 18:17	1
Nitrate Nitrite as N	0.0251	U	0.200	0.0251	mg/L			07/12/19 18:17	1
Nitrite as N	0.0297	U	0.200	0.0297	mg/L			07/12/19 18:17	1

Lab Sample ID: LCS 600-269269/5

Matrix: Water

Analysis Batch: 269269

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	10.08		mg/L		101	90 - 110
Nitrite as N	10.0	10.21		mg/L		102	90 - 110

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 600-187762-1 MS

Matrix: Water

Analysis Batch: 269269

Client Sample ID: MW - 45

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	27.3	E H	2.00	26.33	E 4	mg/L		-50	80 - 120
Nitrite as N	0.143	J H	2.00	2.088		mg/L		97	80 - 120

Lab Sample ID: 600-187762-1 MSD

Matrix: Water

Analysis Batch: 269269

Client Sample ID: MW - 45

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	27.3	E H	2.00	26.66	E 4	mg/L		-33	80 - 120	1	20
Nitrite as N	0.143	J H	2.00	2.115		mg/L		99	80 - 120	1	20

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-268819/1-A

Matrix: Water

Analysis Batch: 268888

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 268819

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.0240	U	1.00	0.0240	mg/L		07/08/19 05:39	07/08/19 13:56	1
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 05:39	07/08/19 13:56	1
Magnesium	0.0555	U	1.00	0.0555	mg/L		07/08/19 05:39	07/08/19 13:56	1
Potassium	0.0374	U	1.00	0.0374	mg/L		07/08/19 05:39	07/08/19 13:56	1
Sodium	0.06290	J	1.00	0.0214	mg/L		07/08/19 05:39	07/08/19 13:56	1

Lab Sample ID: LCS 600-268819/2-A

Matrix: Water

Analysis Batch: 268888

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 268819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.673		mg/L		97	80 - 120
Iron	10.0	9.903		mg/L		99	80 - 120
Magnesium	10.0	9.961		mg/L		100	80 - 120
Potassium	10.0	11.21		mg/L		112	80 - 120
Sodium	10.0	10.75		mg/L		108	80 - 120

Lab Sample ID: MB 600-268891/1-B

Matrix: Water

Analysis Batch: 269053

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 268904

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0270	U	0.400	0.0270	mg/L		07/08/19 15:01	07/10/19 14:49	1

Lab Sample ID: LCS 600-268891/2-B

Matrix: Water

Analysis Batch: 269053

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 268904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	10.0	10.76		mg/L		108	80 - 120

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-187762-2 MS

Matrix: Water

Analysis Batch: 269053

Client Sample ID: MW - 49

Prep Type: Dissolved

Prep Batch: 268904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.0754	J	10.0	10.82		mg/L		107	75 - 125

Lab Sample ID: 600-187762-2 MSD

Matrix: Water

Analysis Batch: 269053

Client Sample ID: MW - 49

Prep Type: Dissolved

Prep Batch: 268904

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.0754	J	10.0	10.86		mg/L		108	75 - 125	0	20

Lab Sample ID: 600-187762-1 DU

Matrix: Water

Analysis Batch: 269053

Client Sample ID: MW - 45

Prep Type: Dissolved

Prep Batch: 268904

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	0.0270	U	0.0270	U	mg/L		NC	20

Method: 2320B-1997 - Alkalinity, Total - SM Online, 2011

Lab Sample ID: MB 600-268712/4

Matrix: Water

Analysis Batch: 268712

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	20.0	U	20.0	20.0	mg/L			07/03/19 15:02	1
Bicarbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 15:02	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/03/19 15:02	1

Lab Sample ID: LCS 600-268712/5

Matrix: Water

Analysis Batch: 268712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	101.1		mg/L		101	90 - 110

Lab Sample ID: MB 600-268973/4

Matrix: Water

Analysis Batch: 268973

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	20.0	U	20.0	20.0	mg/L			07/08/19 13:33	1
Bicarbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/08/19 13:33	1
Carbonate Alkalinity as CaCO3	20.0	U	20.0	20.0	mg/L			07/08/19 13:33	1

Lab Sample ID: LCS 600-268973/5

Matrix: Water

Analysis Batch: 268973

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	97.99		mg/L		98	90 - 110

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 2320B-1997 - Alkalinity, Total - SM Online, 2011 (Continued)

Lab Sample ID: 600-187762-11 MS

Matrix: Water

Analysis Batch: 268973

Client Sample ID: DUP -1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	445	F1	250	593.7	F1	mg/L		59	75 - 125

Lab Sample ID: 600-187762-11 MSD

Matrix: Water

Analysis Batch: 268973

Client Sample ID: DUP -1

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity	445	F1	250	586.1	F1	mg/L		56	75 - 125	1	20

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-268431/1

Matrix: Water

Analysis Batch: 268431

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			07/01/19 12:15	1

Lab Sample ID: LCS 600-268431/2

Matrix: Water

Analysis Batch: 268431

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	1782		mg/L		99	90 - 110

Lab Sample ID: MB 600-268561/1

Matrix: Water

Analysis Batch: 268561

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			07/02/19 14:49	1

Lab Sample ID: LCS 600-268561/2

Matrix: Water

Analysis Batch: 268561

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	1798		mg/L		100	90 - 110

Lab Sample ID: MB 600-268576/1

Matrix: Water

Analysis Batch: 268576

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			07/02/19 16:06	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID: LCS 600-268576/2

Matrix: Water

Analysis Batch: 268576

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	1802		mg/L		100	90 - 110

Method: 4500 S2 D-2000 - Sulfide, Total

Lab Sample ID: MB 600-268475/3

Matrix: Water

Analysis Batch: 268475

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Sulfide	0.00900	U	0.0100	0.00900	mg/L			07/01/19 17:41	1

Lab Sample ID: LCS 600-268475/4

Matrix: Water

Analysis Batch: 268475

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Sulfide	0.300	0.2915		mg/L		97	90 - 110

Method: 5310 D-2000 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 600-268807/35

Matrix: Water

Analysis Batch: 268807

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.559	U	1.00	0.559	mg/L			07/05/19 19:46	1

Lab Sample ID: MB 600-268807/5

Matrix: Water

Analysis Batch: 268807

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.559	U	1.00	0.559	mg/L			07/05/19 13:42	1

Lab Sample ID: LCS 600-268807/36

Matrix: Water

Analysis Batch: 268807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.986		mg/L		100	85 - 115

Lab Sample ID: LCS 600-268807/6

Matrix: Water

Analysis Batch: 268807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.02		mg/L		100	85 - 115

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 5310 D-2000 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 600-269022/5

Matrix: Water

Analysis Batch: 269022

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.559	U	1.00	0.559	mg/L			07/09/19 14:45	1

Lab Sample ID: LCS 600-269022/6

Matrix: Water

Analysis Batch: 269022

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	10.04		mg/L		100	85 - 115

Method: 9034 - Reactive Sulfide

Lab Sample ID: MB 600-268511/1-A

Matrix: Water

Analysis Batch: 268796

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 268511

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	1.40	U	50.0	1.40	mg/L		07/02/19 09:25	07/05/19 16:46	1

Lab Sample ID: LCS 600-268511/3-A

Matrix: Water

Analysis Batch: 268796

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 268511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1010	1.40	U	mg/L		0	0 - 200

Lab Sample ID: 600-187762-4 MS

Matrix: Water

Analysis Batch: 268796

Client Sample ID: MW - 14

Prep Type: Total/NA

Prep Batch: 268511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1.40	U	926	1.28	U	mg/L		0	0 - 200

Lab Sample ID: 600-187762-4 DU

Matrix: Water

Analysis Batch: 268796

Client Sample ID: MW - 14

Prep Type: Total/NA

Prep Batch: 268511

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Sulfide, Reactive	1.40	U	1.39	U	mg/L		NC	20

Lab Sample ID: MB 600-268736/1-A

Matrix: Water

Analysis Batch: 268889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 268736

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	1.40	U	50.0	1.40	mg/L		07/05/19 08:22	07/08/19 12:54	1

Eurofins TestAmerica, Houston

QC Sample Results

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Method: 9034 - Reactive Sulfide (Continued)

Lab Sample ID: LCS 600-268736/3-A

Matrix: Water

Analysis Batch: 268889

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 268736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	2020	750.0		mg/L		37	0 - 200

Lab Sample ID: MB 600-268862/1-A

Matrix: Water

Analysis Batch: 268977

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 268862

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Reactive	1.40	U	50.0	1.40	mg/L		07/08/19 10:34	07/09/19 12:25	1

Lab Sample ID: LCS 600-268862/3-A

Matrix: Water

Analysis Batch: 268977

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 268862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Reactive	1010	1.40	U	mg/L		0	0 - 200

Eurofins TestAmerica, Houston

Unadjusted Detection Limits

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

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

Analyte	MQL	MDL	Units
Benzene	5.00	0.560	ug/L
Ethylbenzene	5.00	1.29	ug/L
Toluene	5.00	0.550	ug/L
Xylenes, Total	5.00	1.98	ug/L

Method: RSK-175 - Dissolved Gases (GC)

Analyte	MQL	MDL	Units
Carbon dioxide	5000	1820	ug/L
Methane	2.00	0.800	ug/L

Method: 300.0 - Anions, Ion Chromatography

Analyte	MQL	MDL	Units
Chloride	0.400	0.0534	mg/L
Fluoride	0.200	0.0601	mg/L
Nitrate as N	0.200	0.0251	mg/L
Nitrate Nitrite as N	0.200	0.0251	mg/L
Nitrite as N	0.200	0.0297	mg/L
Sulfate	0.500	0.0957	mg/L

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	MQL	MDL	Units
Calcium	1.00	0.0240	mg/L
Iron	0.400	0.0270	mg/L
Magnesium	1.00	0.0555	mg/L
Potassium	1.00	0.0374	mg/L
Sodium	1.00	0.0214	mg/L

Method: 6010B - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Prep: 3010A

Analyte	MQL	MDL	Units
Iron	0.400	0.0270	mg/L

General Chemistry

Analyte	MQL	MDL	Units
Bicarbonate Alkalinity as CaCO ₃	20.0	20.0	mg/L
Carbonate Alkalinity as CaCO ₃	20.0	20.0	mg/L
Total Alkalinity	20.0	20.0	mg/L
Total Dissolved Solids	10.0	10.0	mg/L
Total Sulfide	0.0100	0.00900	mg/L
Total Organic Carbon	1.00	0.559	mg/L

General Chemistry

Prep: 7.3.4

Analyte	MQL	MDL	Units
Sulfide, Reactive	50.0	1.40	mg/L

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

GC/MS VOA

Analysis Batch: 268566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-3	MW - 46	Total/NA	Water	8260B	
600-187762-5	MW - 106	Total/NA	Water	8260B	
600-187762-7	MW - 66	Total/NA	Water	8260B	
600-187762-8	MW- 70	Total/NA	Water	8260B	
600-187762-9	MW - 111	Total/NA	Water	8260B	
600-187762-11	DUP -1	Total/NA	Water	8260B	
600-187762-12	Trip Blank	Total/NA	Water	8260B	
600-187762-13	Trip Blank	Total/NA	Water	8260B	
600-187762-14	Trip Blank	Total/NA	Water	8260B	
600-187762-15	Trip Blank	Total/NA	Water	8260B	
600-187762-16	Trip Blank	Total/NA	Water	8260B	
600-187762-17	Trip Blank	Total/NA	Water	8260B	
MB 600-268566/6	Method Blank	Total/NA	Water	8260B	
LCS 600-268566/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-268566/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 268687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	8260B	
600-187762-2	MW - 49	Total/NA	Water	8260B	
600-187762-4	MW - 14	Total/NA	Water	8260B	
600-187762-6	MW - 88	Total/NA	Water	8260B	
600-187762-10	MW - 127	Total/NA	Water	8260B	
MB 600-268687/7	Method Blank	Total/NA	Water	8260B	
LCS 600-268687/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-268687/5	Lab Control Sample Dup	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 144611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	RSK-175	
600-187762-2	MW - 49	Total/NA	Water	RSK-175	
600-187762-3	MW - 46	Total/NA	Water	RSK-175	
600-187762-4	MW - 14	Total/NA	Water	RSK-175	
600-187762-5	MW - 106	Total/NA	Water	RSK-175	
600-187762-6	MW - 88	Total/NA	Water	RSK-175	
600-187762-7	MW - 66	Total/NA	Water	RSK-175	
600-187762-8	MW- 70	Total/NA	Water	RSK-175	
600-187762-9	MW - 111	Total/NA	Water	RSK-175	
600-187762-10	MW - 127	Total/NA	Water	RSK-175	
600-187762-11	DUP -1	Total/NA	Water	RSK-175	
MB 200-144611/28	Method Blank	Total/NA	Water	RSK-175	
MB 200-144611/7	Method Blank	Total/NA	Water	RSK-175	
LCS 200-144611/26	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 200-144611/27	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Analysis Batch: 144644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	RSK-175	
600-187762-2	MW - 49	Total/NA	Water	RSK-175	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

GC VOA (Continued)

Analysis Batch: 144644 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-3	MW - 46	Total/NA	Water	RSK-175	
600-187762-4	MW - 14	Total/NA	Water	RSK-175	
600-187762-5	MW - 106	Total/NA	Water	RSK-175	
600-187762-6	MW - 88	Total/NA	Water	RSK-175	
600-187762-7	MW - 66	Total/NA	Water	RSK-175	
600-187762-8	MW- 70	Total/NA	Water	RSK-175	
600-187762-9	MW - 111	Total/NA	Water	RSK-175	
600-187762-10	MW - 127	Total/NA	Water	RSK-175	
600-187762-11	DUP -1	Total/NA	Water	RSK-175	
MB 200-144644/4	Method Blank	Total/NA	Water	RSK-175	
LCS 200-144644/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 200-144644/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	

HPLC/IC

Analysis Batch: 268963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-5	MW - 106	Total/NA	Water	300.0	
600-187762-6	MW - 88	Total/NA	Water	300.0	
600-187762-7	MW - 66	Total/NA	Water	300.0	
600-187762-8	MW- 70	Total/NA	Water	300.0	
MB 600-268963/5	Method Blank	Total/NA	Water	300.0	
LCS 600-268963/6	Lab Control Sample	Total/NA	Water	300.0	
600-187762-9 MS	MW - 111	Total/NA	Water	300.0	
600-187762-9 MSD	MW - 111	Total/NA	Water	300.0	

Analysis Batch: 268964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	300.0	
600-187762-2	MW - 49	Total/NA	Water	300.0	
600-187762-3	MW - 46	Total/NA	Water	300.0	
600-187762-4	MW - 14	Total/NA	Water	300.0	
600-187762-5	MW - 106	Total/NA	Water	300.0	
600-187762-6	MW - 88	Total/NA	Water	300.0	
600-187762-7	MW - 66	Total/NA	Water	300.0	
600-187762-8	MW- 70	Total/NA	Water	300.0	
600-187762-9	MW - 111	Total/NA	Water	300.0	
600-187762-10	MW - 127	Total/NA	Water	300.0	
600-187762-11	DUP -1	Total/NA	Water	300.0	
MB 600-268964/5	Method Blank	Total/NA	Water	300.0	
LCS 600-268964/6	Lab Control Sample	Total/NA	Water	300.0	
600-187762-9 MS	MW - 111	Total/NA	Water	300.0	
600-187762-9 MSD	MW - 111	Total/NA	Water	300.0	

Analysis Batch: 269173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-3	MW - 46	Total/NA	Water	300.0	
600-187762-4	MW - 14	Total/NA	Water	300.0	
600-187762-4	MW - 14	Total/NA	Water	300.0	
600-187762-5	MW - 106	Total/NA	Water	300.0	
600-187762-6	MW - 88	Total/NA	Water	300.0	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

HPLC/IC (Continued)

Analysis Batch: 269173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-6	MW - 88	Total/NA	Water	300.0	
600-187762-7	MW - 66	Total/NA	Water	300.0	
600-187762-7	MW - 66	Total/NA	Water	300.0	
600-187762-8	MW- 70	Total/NA	Water	300.0	
600-187762-8	MW- 70	Total/NA	Water	300.0	
600-187762-9	MW - 111	Total/NA	Water	300.0	
600-187762-9	MW - 111	Total/NA	Water	300.0	
600-187762-10	MW - 127	Total/NA	Water	300.0	
600-187762-10	MW - 127	Total/NA	Water	300.0	
600-187762-11	DUP -1	Total/NA	Water	300.0	
600-187762-11	DUP -1	Total/NA	Water	300.0	
MB 600-269173/35	Method Blank	Total/NA	Water	300.0	
LCS 600-269173/36	Lab Control Sample	Total/NA	Water	300.0	
600-187762-9 MS	MW - 111	Total/NA	Water	300.0	
600-187762-9 MSD	MW - 111	Total/NA	Water	300.0	

Analysis Batch: 269268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	300.0	
600-187762-1	MW - 45	Total/NA	Water	300.0	
600-187762-2	MW - 49	Total/NA	Water	300.0	
600-187762-2	MW - 49	Total/NA	Water	300.0	
MB 600-269268/4	Method Blank	Total/NA	Water	300.0	
LCS 600-269268/5	Lab Control Sample	Total/NA	Water	300.0	
600-187762-1 MS	MW - 45	Total/NA	Water	300.0	
600-187762-1 MSD	MW - 45	Total/NA	Water	300.0	

Analysis Batch: 269269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-269269/4	Method Blank	Total/NA	Water	300.0	
LCS 600-269269/5	Lab Control Sample	Total/NA	Water	300.0	
600-187762-1 MS	MW - 45	Total/NA	Water	300.0	
600-187762-1 MSD	MW - 45	Total/NA	Water	300.0	

Metals

Prep Batch: 268819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	3010A	
600-187762-2	MW - 49	Total/NA	Water	3010A	
600-187762-3	MW - 46	Total/NA	Water	3010A	
600-187762-4	MW - 14	Total/NA	Water	3010A	
600-187762-5	MW - 106	Total/NA	Water	3010A	
600-187762-6	MW - 88	Total/NA	Water	3010A	
600-187762-7	MW - 66	Total/NA	Water	3010A	
600-187762-8	MW- 70	Total/NA	Water	3010A	
600-187762-9	MW - 111	Total/NA	Water	3010A	
600-187762-10	MW - 127	Total/NA	Water	3010A	
600-187762-11	DUP -1	Total/NA	Water	3010A	
MB 600-268819/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-268819/2-A	Lab Control Sample	Total/NA	Water	3010A	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Metals

Analysis Batch: 268888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-268819/1-A	Method Blank	Total/NA	Water	6010B	268819
LCS 600-268819/2-A	Lab Control Sample	Total/NA	Water	6010B	268819

Filtration Batch: 268891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Dissolved	Water	FILTRATION	
600-187762-2	MW - 49	Dissolved	Water	FILTRATION	
600-187762-3	MW - 46	Dissolved	Water	FILTRATION	
600-187762-4	MW - 14	Dissolved	Water	FILTRATION	
600-187762-5	MW - 106	Dissolved	Water	FILTRATION	
600-187762-6	MW - 88	Dissolved	Water	FILTRATION	
600-187762-7	MW - 66	Dissolved	Water	FILTRATION	
600-187762-8	MW- 70	Dissolved	Water	FILTRATION	
600-187762-9	MW - 111	Dissolved	Water	FILTRATION	
600-187762-10	MW - 127	Dissolved	Water	FILTRATION	
600-187762-11	DUP -1	Dissolved	Water	FILTRATION	
MB 600-268891/1-B	Method Blank	Dissolved	Water	FILTRATION	
LCS 600-268891/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
600-187762-2 MS	MW - 49	Dissolved	Water	FILTRATION	
600-187762-2 MSD	MW - 49	Dissolved	Water	FILTRATION	
600-187762-1 DU	MW - 45	Dissolved	Water	FILTRATION	

Prep Batch: 268904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Dissolved	Water	3010A	268891
600-187762-2	MW - 49	Dissolved	Water	3010A	268891
600-187762-3	MW - 46	Dissolved	Water	3010A	268891
600-187762-4	MW - 14	Dissolved	Water	3010A	268891
600-187762-5	MW - 106	Dissolved	Water	3010A	268891
600-187762-6	MW - 88	Dissolved	Water	3010A	268891
600-187762-7	MW - 66	Dissolved	Water	3010A	268891
600-187762-8	MW- 70	Dissolved	Water	3010A	268891
600-187762-9	MW - 111	Dissolved	Water	3010A	268891
600-187762-10	MW - 127	Dissolved	Water	3010A	268891
600-187762-11	DUP -1	Dissolved	Water	3010A	268891
MB 600-268891/1-B	Method Blank	Dissolved	Water	3010A	268891
LCS 600-268891/2-B	Lab Control Sample	Dissolved	Water	3010A	268891
600-187762-2 MS	MW - 49	Dissolved	Water	3010A	268891
600-187762-2 MSD	MW - 49	Dissolved	Water	3010A	268891
600-187762-1 DU	MW - 45	Dissolved	Water	3010A	268891

Analysis Batch: 268952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	6010B	268819
600-187762-2	MW - 49	Total/NA	Water	6010B	268819
600-187762-3	MW - 46	Total/NA	Water	6010B	268819
600-187762-4	MW - 14	Total/NA	Water	6010B	268819
600-187762-5	MW - 106	Total/NA	Water	6010B	268819
600-187762-6	MW - 88	Total/NA	Water	6010B	268819
600-187762-7	MW - 66	Total/NA	Water	6010B	268819
600-187762-8	MW- 70	Total/NA	Water	6010B	268819

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Metals (Continued)

Analysis Batch: 268952 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-9	MW - 111	Total/NA	Water	6010B	268819
600-187762-10	MW - 127	Total/NA	Water	6010B	268819
600-187762-11	DUP -1	Total/NA	Water	6010B	268819

Analysis Batch: 269053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Dissolved	Water	6010B	268904
600-187762-1	MW - 45	Total/NA	Water	6010B	268819
600-187762-2	MW - 49	Dissolved	Water	6010B	268904
600-187762-2	MW - 49	Total/NA	Water	6010B	268819
600-187762-3	MW - 46	Dissolved	Water	6010B	268904
600-187762-3	MW - 46	Total/NA	Water	6010B	268819
600-187762-4	MW - 14	Dissolved	Water	6010B	268904
600-187762-4	MW - 14	Total/NA	Water	6010B	268819
600-187762-5	MW - 106	Dissolved	Water	6010B	268904
600-187762-5	MW - 106	Total/NA	Water	6010B	268819
600-187762-6	MW - 88	Dissolved	Water	6010B	268904
600-187762-6	MW - 88	Total/NA	Water	6010B	268819
600-187762-7	MW - 66	Dissolved	Water	6010B	268904
600-187762-7	MW - 66	Total/NA	Water	6010B	268819
600-187762-8	MW- 70	Dissolved	Water	6010B	268904
600-187762-8	MW- 70	Total/NA	Water	6010B	268819
600-187762-9	MW - 111	Dissolved	Water	6010B	268904
600-187762-9	MW - 111	Total/NA	Water	6010B	268819
600-187762-10	MW - 127	Dissolved	Water	6010B	268904
600-187762-10	MW - 127	Total/NA	Water	6010B	268819
600-187762-11	DUP -1	Dissolved	Water	6010B	268904
600-187762-11	DUP -1	Total/NA	Water	6010B	268819
MB 600-268891/1-B	Method Blank	Dissolved	Water	6010B	268904
LCS 600-268891/2-B	Lab Control Sample	Dissolved	Water	6010B	268904
600-187762-2 MS	MW - 49	Dissolved	Water	6010B	268904
600-187762-2 MSD	MW - 49	Dissolved	Water	6010B	268904
600-187762-1 DU	MW - 45	Dissolved	Water	6010B	268904

General Chemistry

Analysis Batch: 268431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	2540 C-1997	
600-187762-2	MW - 49	Total/NA	Water	2540 C-1997	
600-187762-11	DUP -1	Total/NA	Water	2540 C-1997	
MB 600-268431/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-268431/2	Lab Control Sample	Total/NA	Water	2540 C-1997	

Analysis Batch: 268475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	4500 S2 D-2000	
600-187762-2	MW - 49	Total/NA	Water	4500 S2 D-2000	
600-187762-3	MW - 46	Total/NA	Water	4500 S2 D-2000	
600-187762-4	MW - 14	Total/NA	Water	4500 S2 D-2000	
600-187762-5	MW - 106	Total/NA	Water	4500 S2 D-2000	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

General Chemistry (Continued)

Analysis Batch: 268475 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-6	MW - 88	Total/NA	Water	4500 S2 D-2000	
600-187762-7	MW - 66	Total/NA	Water	4500 S2 D-2000	
600-187762-8	MW- 70	Total/NA	Water	4500 S2 D-2000	
600-187762-9	MW - 111	Total/NA	Water	4500 S2 D-2000	
600-187762-10	MW - 127	Total/NA	Water	4500 S2 D-2000	
600-187762-11	DUP -1	Total/NA	Water	4500 S2 D-2000	
MB 600-268475/3	Method Blank	Total/NA	Water	4500 S2 D-2000	
LCS 600-268475/4	Lab Control Sample	Total/NA	Water	4500 S2 D-2000	

Prep Batch: 268511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	7.3.4	
600-187762-2	MW - 49	Total/NA	Water	7.3.4	
600-187762-3	MW - 46	Total/NA	Water	7.3.4	
600-187762-4	MW - 14	Total/NA	Water	7.3.4	
MB 600-268511/1-A	Method Blank	Total/NA	Water	7.3.4	
LCS 600-268511/3-A	Lab Control Sample	Total/NA	Water	7.3.4	
600-187762-4 MS	MW - 14	Total/NA	Water	7.3.4	
600-187762-4 DU	MW - 14	Total/NA	Water	7.3.4	

Analysis Batch: 268561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-7	MW - 66	Total/NA	Water	2540 C-1997	
600-187762-8	MW- 70	Total/NA	Water	2540 C-1997	
600-187762-9	MW - 111	Total/NA	Water	2540 C-1997	
600-187762-10	MW - 127	Total/NA	Water	2540 C-1997	
MB 600-268561/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-268561/2	Lab Control Sample	Total/NA	Water	2540 C-1997	

Analysis Batch: 268576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-3	MW - 46	Total/NA	Water	2540 C-1997	
600-187762-4	MW - 14	Total/NA	Water	2540 C-1997	
600-187762-5	MW - 106	Total/NA	Water	2540 C-1997	
600-187762-6	MW - 88	Total/NA	Water	2540 C-1997	
MB 600-268576/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-268576/2	Lab Control Sample	Total/NA	Water	2540 C-1997	

Analysis Batch: 268712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	2320B-1997	
600-187762-2	MW - 49	Total/NA	Water	2320B-1997	
600-187762-3	MW - 46	Total/NA	Water	2320B-1997	
600-187762-4	MW - 14	Total/NA	Water	2320B-1997	
600-187762-5	MW - 106	Total/NA	Water	2320B-1997	
600-187762-6	MW - 88	Total/NA	Water	2320B-1997	
600-187762-7	MW - 66	Total/NA	Water	2320B-1997	
600-187762-8	MW- 70	Total/NA	Water	2320B-1997	
600-187762-9	MW - 111	Total/NA	Water	2320B-1997	
MB 600-268712/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 600-268712/5	Lab Control Sample	Total/NA	Water	2320B-1997	

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

General Chemistry

Prep Batch: 268736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-5	MW - 106	Total/NA	Water	7.3.4	
600-187762-6	MW - 88	Total/NA	Water	7.3.4	
600-187762-7	MW - 66	Total/NA	Water	7.3.4	
MB 600-268736/1-A	Method Blank	Total/NA	Water	7.3.4	
LCS 600-268736/3-A	Lab Control Sample	Total/NA	Water	7.3.4	

Analysis Batch: 268796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	9034	268511
600-187762-2	MW - 49	Total/NA	Water	9034	268511
600-187762-3	MW - 46	Total/NA	Water	9034	268511
600-187762-4	MW - 14	Total/NA	Water	9034	268511
MB 600-268511/1-A	Method Blank	Total/NA	Water	9034	268511
LCS 600-268511/3-A	Lab Control Sample	Total/NA	Water	9034	268511
600-187762-4 MS	MW - 14	Total/NA	Water	9034	268511
600-187762-4 DU	MW - 14	Total/NA	Water	9034	268511

Analysis Batch: 268807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-1	MW - 45	Total/NA	Water	5310 D-2000	
600-187762-2	MW - 49	Total/NA	Water	5310 D-2000	
600-187762-3	MW - 46	Total/NA	Water	5310 D-2000	
600-187762-4	MW - 14	Total/NA	Water	5310 D-2000	
600-187762-5	MW - 106	Total/NA	Water	5310 D-2000	
600-187762-7	MW - 66	Total/NA	Water	5310 D-2000	
600-187762-8	MW- 70	Total/NA	Water	5310 D-2000	
600-187762-9	MW - 111	Total/NA	Water	5310 D-2000	
600-187762-10	MW - 127	Total/NA	Water	5310 D-2000	
600-187762-11	DUP -1	Total/NA	Water	5310 D-2000	
MB 600-268807/35	Method Blank	Total/NA	Water	5310 D-2000	
MB 600-268807/5	Method Blank	Total/NA	Water	5310 D-2000	
LCS 600-268807/36	Lab Control Sample	Total/NA	Water	5310 D-2000	
LCS 600-268807/6	Lab Control Sample	Total/NA	Water	5310 D-2000	

Prep Batch: 268862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-8	MW- 70	Total/NA	Water	7.3.4	
600-187762-9	MW - 111	Total/NA	Water	7.3.4	
600-187762-10	MW - 127	Total/NA	Water	7.3.4	
600-187762-11	DUP -1	Total/NA	Water	7.3.4	
MB 600-268862/1-A	Method Blank	Total/NA	Water	7.3.4	
LCS 600-268862/3-A	Lab Control Sample	Total/NA	Water	7.3.4	

Analysis Batch: 268889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-5	MW - 106	Total/NA	Water	9034	268736
600-187762-6	MW - 88	Total/NA	Water	9034	268736
600-187762-7	MW - 66	Total/NA	Water	9034	268736
MB 600-268736/1-A	Method Blank	Total/NA	Water	9034	268736
LCS 600-268736/3-A	Lab Control Sample	Total/NA	Water	9034	268736

Eurofins TestAmerica, Houston

QC Association Summary

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

General Chemistry

Analysis Batch: 268973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-10	MW - 127	Total/NA	Water	2320B-1997	
600-187762-11	DUP -1	Total/NA	Water	2320B-1997	
MB 600-268973/4	Method Blank	Total/NA	Water	2320B-1997	
LCS 600-268973/5	Lab Control Sample	Total/NA	Water	2320B-1997	
600-187762-11 MS	DUP -1	Total/NA	Water	2320B-1997	
600-187762-11 MSD	DUP -1	Total/NA	Water	2320B-1997	

Analysis Batch: 268977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-8	MW- 70	Total/NA	Water	9034	268862
600-187762-9	MW - 111	Total/NA	Water	9034	268862
600-187762-10	MW - 127	Total/NA	Water	9034	268862
600-187762-11	DUP -1	Total/NA	Water	9034	268862
MB 600-268862/1-A	Method Blank	Total/NA	Water	9034	268862
LCS 600-268862/3-A	Lab Control Sample	Total/NA	Water	9034	268862

Analysis Batch: 269022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-187762-6	MW - 88	Total/NA	Water	5310 D-2000	
MB 600-269022/5	Method Blank	Total/NA	Water	5310 D-2000	
LCS 600-269022/6	Lab Control Sample	Total/NA	Water	5310 D-2000	

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 45

Lab Sample ID: 600-187762-1

Date Collected: 06/24/19 15:38

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268687	07/04/19 04:02	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:08	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 13:23	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269268	07/12/19 18:57	SKR	TAL HOU
Total/NA	Analysis	300.0		200	269268	07/12/19 19:57	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 19:50	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 14:53	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 14:45	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		10	269053	07/10/19 12:43	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 17:29	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268431	07/01/19 12:15	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 18:46	KLR	TAL HOU
Total/NA	Prep	7.3.4			268511	07/02/19 09:25	AP	TAL HOU
Total/NA	Analysis	9034		1	268796	07/05/19 16:46	AML	TAL HOU

Client Sample ID: MW - 49

Lab Sample ID: 600-187762-2

Date Collected: 06/24/19 16:47

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268687	07/04/19 04:52	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:16	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 13:31	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269268	07/12/19 20:37	SKR	TAL HOU
Total/NA	Analysis	300.0		100	269268	07/12/19 20:57	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 20:08	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 14:57	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 14:47	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		10	269053	07/10/19 12:45	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 17:45	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268431	07/01/19 12:15	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		25	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	268807	07/05/19 16:08	KLR	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 49

Lab Sample ID: 600-187762-2

Date Collected: 06/24/19 16:47

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7.3.4			268511	07/02/19 09:25	AP	TAL HOU
Total/NA	Analysis	9034		1	268796	07/05/19 16:46	AML	TAL HOU

Client Sample ID: MW - 46

Lab Sample ID: 600-187762-3

Date Collected: 06/25/19 07:19

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 05:01	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:25	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 13:40	MLT	TAL BUR
Total/NA	Analysis	300.0		100	269173	07/11/19 22:58	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 20:26	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:03	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 14:49	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		10	269053	07/10/19 12:47	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 17:57	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268576	07/02/19 16:06	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	268807	07/05/19 15:07	KLR	TAL HOU
Total/NA	Prep	7.3.4			268511	07/02/19 09:25	AP	TAL HOU
Total/NA	Analysis	9034		1	268796	07/05/19 16:46	AML	TAL HOU

Client Sample ID: MW - 14

Lab Sample ID: 600-187762-4

Date Collected: 06/25/19 08:18

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268687	07/04/19 05:16	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:34	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 13:49	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/11/19 23:18	SKR	TAL HOU
Total/NA	Analysis	300.0		50	269173	07/11/19 23:38	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 20:44	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:05	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 14:57	KP1	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 14

Lab Sample ID: 600-187762-4

Date Collected: 06/25/19 08:18

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		10	269053	07/10/19 12:49	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:07	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268576	07/02/19 16:06	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	268807	07/05/19 15:19	KLR	TAL HOU
Total/NA	Prep	7.3.4			268511	07/02/19 09:25	AP	TAL HOU
Total/NA	Analysis	9034		1	268796	07/05/19 16:46	AML	TAL HOU

Client Sample ID: MW - 106

Lab Sample ID: 600-187762-5

Date Collected: 06/25/19 09:35

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 05:25	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:42	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 13:57	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/11/19 23:58	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268963	07/09/19 21:38	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 21:38	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:07	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 14:59	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		2	269053	07/10/19 12:57	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:15	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268576	07/02/19 16:06	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 17:57	KLR	TAL HOU
Total/NA	Prep	7.3.4			268736	07/05/19 08:22	AP	TAL HOU
Total/NA	Analysis	9034		1	268889	07/08/19 12:57	AML	TAL HOU

Client Sample ID: MW - 88

Lab Sample ID: 600-187762-6

Date Collected: 06/25/19 11:15

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268687	07/04/19 04:27	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 19:51	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:06	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 00:18	SKR	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 88

Lab Sample ID: 600-187762-6

Date Collected: 06/25/19 11:15

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	269173	07/12/19 00:38	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268963	07/09/19 21:56	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 21:56	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:15	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:01	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		5	269053	07/10/19 12:59	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:24	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268576	07/02/19 16:06	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		25	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	269022	07/09/19 18:58	KLR	TAL HOU
Total/NA	Prep	7.3.4			268736	07/05/19 08:22	AP	TAL HOU
Total/NA	Analysis	9034		1	268889	07/08/19 12:57	AML	TAL HOU

Client Sample ID: MW - 66

Lab Sample ID: 600-187762-7

Date Collected: 06/25/19 12:19

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 05:49	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 20:00	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:15	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 00:58	SKR	TAL HOU
Total/NA	Analysis	300.0		20	269173	07/12/19 01:58	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268963	07/09/19 22:14	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 22:14	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:17	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:03	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		2	269053	07/10/19 13:01	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:31	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268561	07/02/19 14:49	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 17:45	KLR	TAL HOU
Total/NA	Prep	7.3.4			268736	07/05/19 08:22	AP	TAL HOU
Total/NA	Analysis	9034		1	268889	07/08/19 12:57	AML	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW- 70

Lab Sample ID: 600-187762-8

Date Collected: 06/25/19 14:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 06:13	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 20:09	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:24	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 02:58	SKR	TAL HOU
Total/NA	Analysis	300.0		5	269173	07/12/19 03:18	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268963	07/09/19 22:32	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 22:32	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:19	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:05	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		2	269053	07/10/19 13:03	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:39	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268561	07/02/19 14:49	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 22:00	KLR	TAL HOU
Total/NA	Prep	7.3.4			268862	07/08/19 10:34	AP	TAL HOU
Total/NA	Analysis	9034		1	268977	07/09/19 12:25	AML	TAL HOU

Client Sample ID: MW - 111

Lab Sample ID: 600-187762-9

Date Collected: 06/25/19 15:26

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 06:37	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 20:17	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:32	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 03:38	SKR	TAL HOU
Total/NA	Analysis	300.0		10	269173	07/12/19 04:38	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 22:50	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:21	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:07	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		2	269053	07/10/19 13:05	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268712	07/03/19 18:47	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268561	07/02/19 14:49	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: MW - 111

Lab Sample ID: 600-187762-9

Date Collected: 06/25/19 15:26

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 16:44	KLR	TAL HOU
Total/NA	Prep	7.3.4			268862	07/08/19 10:34	AP	TAL HOU
Total/NA	Analysis	9034		1	268977	07/09/19 12:25	AML	TAL HOU

Client Sample ID: MW - 127

Lab Sample ID: 600-187762-10

Date Collected: 06/25/19 16:44

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268687	07/04/19 05:41	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 20:26	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:41	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 04:58	SKR	TAL HOU
Total/NA	Analysis	300.0		10	269173	07/12/19 05:18	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/09/19 23:43	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:23	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:09	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		2	269053	07/10/19 13:07	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268973	07/08/19 14:54	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268561	07/02/19 14:49	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		25	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	268807	07/05/19 15:31	KLR	TAL HOU
Total/NA	Prep	7.3.4			268862	07/08/19 10:34	AP	TAL HOU
Total/NA	Analysis	9034		1	268977	07/09/19 12:25	AML	TAL HOU

Client Sample ID: DUP -1

Lab Sample ID: 600-187762-11

Date Collected: 06/24/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 07:01	DT1	TAL HOU
Total/NA	Analysis	RSK-175		1	144611	06/29/19 20:35	MLT	TAL BUR
Total/NA	Analysis	RSK-175		1	144644	07/01/19 14:50	MLT	TAL BUR
Total/NA	Analysis	300.0		1	269173	07/12/19 05:38	SKR	TAL HOU
Total/NA	Analysis	300.0		200	269173	07/12/19 05:58	SKR	TAL HOU
Total/NA	Analysis	300.0		1	268964	07/10/19 00:01	SKR	TAL HOU
Dissolved	Filtration	FILTRATION			268891	07/08/19 13:14	TWR	TAL HOU
Dissolved	Prep	3010A			268904	07/08/19 15:01	KP1	TAL HOU
Dissolved	Analysis	6010B		1	269053	07/10/19 15:25	KP1	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.

Job ID: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Client Sample ID: DUP -1

Lab Sample ID: 600-187762-11

Date Collected: 06/24/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		1	268952	07/09/19 15:11	KP1	TAL HOU
Total/NA	Prep	3010A			268819	07/08/19 05:39	KP1	TAL HOU
Total/NA	Analysis	6010B		10	269053	07/10/19 13:09	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	268973	07/08/19 13:51	KRD	TAL HOU
Total/NA	Analysis	2540 C-1997		1	268431	07/01/19 12:15	DTN	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	268475	07/01/19 17:41	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	268807	07/05/19 18:58	KLR	TAL HOU
Total/NA	Prep	7.3.4			268862	07/08/19 10:34	AP	TAL HOU
Total/NA	Analysis	9034		1	268977	07/09/19 12:25	AML	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-12

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 01:23	DT1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-13

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 01:47	DT1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-14

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 02:12	DT1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-15

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 02:36	DT1	TAL HOU

Client Sample ID: Trip Blank

Lab Sample ID: 600-187762-16

Date Collected: 06/25/19 00:00

Matrix: Water

Date Received: 06/27/19 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 03:00	DT1	TAL HOU

Eurofins TestAmerica, Houston

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Indian Basin, NM Groundwaters 06-25-19

Job ID: 600-187762-1

Client Sample ID: Trip Blank
Date Collected: 06/25/19 00:00
Date Received: 06/27/19 09:57

Lab Sample ID: 600-187762-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	268566	07/03/19 03:24	DT1	TAL HOU

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

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: 600-187762-1

Project/Site: Indian Basin, NM Groundwaters 06-25-19

Laboratory: Eurofins TestAmerica, Houston

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	19-040-0	08-04-19
Louisiana	NELAP	6	01967	06-30-20
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
Utah	NELAP	8	TX000832019-5	07-31-20

Laboratory: Eurofins TestAmerica, Burlington

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
ANAB	Dept. of Defense ELAP		L2336	02-25-20
ANAB	DoD		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-20
Florida	NELAP	4	E87467	06-30-20
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-20
New York	NELAP	2	10391	04-01-20
Pennsylvania	NELAP	3	68-00489	04-30-20
Pennsylvania	NELAP		68-00489	04-30-20
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

Eurofins TestAmerica, Houston

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

Midland
#264

Chain of Custody Record



Environmental Testing
TestAmerica

Client Information Client Contact: <u>Hugh Robotham</u> Company: <u>ARCADIS U.S., Inc.</u> Address: <u>1004 North Big Spring Suite 121</u> City: <u>Midland</u> State, Zip: <u>TX, 79701</u> Phone: <u></u> Email: <u>hugh.robtham@arcadis.com</u> Project Name: <u>Indian Basin, NM Groundwaters</u> Site: <u>Indian Basin</u>		Sampler <u>Dany S. Longwell</u> Lab PM: <u>Joiner, Dean A</u> E-Mail: <u>dean.joiner@testamericainc.com</u> Phone: <u></u>		Carrier Tracking Note(s) <u></u>		COC No <u>600-69304-18897.2</u> Page <u></u> Page <u></u> Job # <u></u>	
Due Date Requested: <u>10 WD TAT Level 3e</u>				Analysis Requested			
TAT Requested (days): <u>10 WD TAT Level 3e</u>				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - H2SO4 H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: <u></u>			
PO # <u></u> Purchase Order Requested WO # <u></u> Project # <u>60010999 Analytical Grp: GW 2019</u> SSOW# <u></u>				Special Instructions/Note: <u></u>			
Sample Identification <u>MW-45</u> <u>MW-49</u> <u>MW-46</u> <u>MW-14</u> <u>MW-106</u> <u>MW-38</u> <u>MW-66</u> <u>MW-70</u> <u>MW-111</u> <u>MW-127</u> <u>DUP-1</u>				Field Filtered Sample (Yes or No) ☒ Perform MS/MSD (Yes or No) ☒ 6010B - Total Metals - Ca, Fe, Mg, K, Na ☒ 6010B - Dissolved Metals - Fe (lab filtered) ☒ 2320B - Alkalinity, Carbonate, Bicarbonate ☒ SM510D - TOC ☒ 9034 - Reactive Sulfide ☒ SM4500 - S2, D - Total Sulfide ☒ RSK_175 - Methane ☒ RSK_175 - CO2 - CO2 ☒ 8260B - BTEX Only ☒ 2540C - Calcd, - TDS ☒ 300_ORGFM, 2BD, - Cl, SO4, F ☒ 300_ORGFM, NO2, NO3			
Sample Date <u>06/24/19</u> <u>06/24/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u> <u>06/25/19</u>				Sample Time <u>1538</u> <u>1642</u> <u>0749</u> <u>0818</u> <u>0935</u> <u>1115</u> <u>1219</u> <u>1400</u> <u>1526</u> <u>1644</u> <u></u>			
Sample Type <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u> <u>G</u>				Matrix <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u> <u>Water</u>			
Preservation Code: <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>				Total Number of Containers <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>15</u> <u>2</u>			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For <u>Months</u>				Special Instructions/QC Requirements: <u></u>			
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological				Empty Kit Relinquished by: <u></u>			
Relinquished by: <u>Dany S. Longwell</u>				Relinquished by: <u></u>			
Date: <u>06/26/19</u>				Date: <u>06/27/19</u>			
Company: <u>ARCADIS</u>				Company: <u>TAH</u>			
Date/Time: <u>06/26/19 1632</u>				Date/Time: <u>06/27/19 957</u>			
Date/Time: <u></u>				Date/Time: <u></u>			
Date/Time: <u></u>				Date/Time: <u></u>			
Custody Seal No.: <u></u>				Cooler Temperature(s) °C and Other Remarks <u></u>			

Ver: 01/16/2019

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

Chain of Custody Record

Midland
#264



Environment Testing
TestAmerica

Client Information Client Contact: Hugh Robotham Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 121 City: Midland State: TX Zip: 79701 Phone: Email: hugh.robtham@arcadis.com Project Name: Indian Basin, NM Groundwaters Site: <i>Indian Basin</i>		Sampler <i>Greg S Longard</i> Lab PM: Joiner, Dean A E-Mail: dean.joiner@testamericainc.com		COC No: 600-59304-18897.2 Page: Job #: Carrier Tracking No(s): Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2CO3 E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Anchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA X - other (specify) Other:			
Due Date Requested: TAT Requested (days): 10 WD TAT Level 3e PO #: Purchase Order Requested WO #: Project #: 60010999 Analytical Grp. GW 2019 SOW#:		Analysis Requested Perform MS/MSD (Yes or No) ☒ Field Filtered Sample (Yes or No) ☒ 6010B - Total Metals - Ca, Fe, Mg, K, Na ☒ 6010B - Dissolved Metals - Fe (lab filtered) ☒ 2320B, - Alkalinity, Carbonate, Bicarbonate ☒ SM5310D - TOC ☒ 9034 - Reactive Sulfide ☒ SM4500 S2.D - Total Sulfide ☒ RSK_175 - Methane ☒ RSK_175 CO2 - CO2 ☒ 8260B - BTEX Only ☒ 2540C Calcd. - TDS ☒ 300_ORGM_280, - Cl, SO4, F ☒ 300_ORGM - NO2, NO3 ☒ Total Number of containers: 15					
Sample Identification <i>Trip Blank</i> <i>Trip Blank</i> <i>Trip Blank</i> <i>Trip Blank</i> <i>Trip Blank</i> <i>Trip Blank</i>		Sample Date <i>06/05/19</i> <i>06/05/19</i> <i>06/05/19</i> <i>06/05/19</i> <i>06/05/19</i> <i>06/05/19</i>	Sample Time ☒ ☒ ☒ ☒ ☒ ☒	Sample Type (C=Comp, G=grab) G G G G G G	Matrix (W=water, S=solid, O=other) Water Water Water Water Water Water	Preservation Code: G G G G G G	Special Instructions/Note: Dissolved Metals - Fe (lab filtered)
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, 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 Special Instructions/QC Requirements:					
Empty Kit Relinquished by: <i>Greg S Longard</i> Date: <i>06/05/19</i>		Relinquished by: <i>Greg S Longard</i> Date: <i>06/05/19</i>		Relinquished by: Date: Company:		Relinquished by: Date: Company:	
Custody Seals Intact: Yes ☒ No ☐		Custody Seal No.:		Relinquished by: Date: Company:		Relinquished by: Date: Company:	
Relinquished by: Date: Company:		Relinquished by: Date: Company:		Relinquished by: Date: Company:		Relinquished by: Date: Company:	

Ver: 01/16/2019

Rev. 3: 07/01/2014

HS-SA-W1-013

☐ YES ☒ NO		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?
COMMENTS:		
6/27/19 <i>[Signature]</i>		

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

PH paper Lot # HC987808

Base samples are > pH 12: ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

Samples received on ice? ☒ YES ☐ NO

CF = correction factor

Cooler ID	Temp Blank	Trip Blank	Observed Temp	Therm ID	Therm CF	Corrected Temp
WB	X / N	X / N	2.4	1018	40.1	2.5
WB	X / N	X / N	1.4			1.5
WB	X / N	X / N	0.8			0.9
WB	X / N	X / N	1.1			1.2
WB	X / N	X / N	2.3			2.4
Green	X / N	X / N	0.7			0.8
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

Custody Seal Present: ☒ YES ☐ NO

Number of Coolers Received:

UNPACKED BY:

CARRIER/DRIVER:

JOB NUMBER:

CLIENT:

Date/Time Received:

79:6 12 NOV 64.

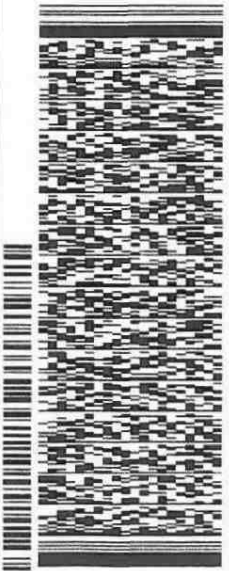
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica

187762
Loc: 600

Sample Receipt Checklist

TestAmerica Houston

ORIGIN ID:MAFA (432) 215-3695 JOSH FUNDERBURG 1308 S. MIDKIFF SUITE 133 MIDLAND, TX 79703 UNITED STATES US	SHIP DATE: 21 JUN19 ACTWGT: 30.00 LB CAD: 113247836/NET4100 DIMS: 26x14x14 IN BILL SENDER
TO HOUSTON EUROFINS TESTAMERICA EUROFINS TESTAMERICA 6310 ROTHWAY	
HOUSTON TX 77040 (713) 690-4444 INV PO	REF INDIAN BASI DEPT
 	
TRK# 7755 3410 0399 0201	SATURDAY 12:00P PRIORITY OVERNIGHT
X0 LKSA	77040 IAH TX-US
	

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

SHIP DATE: 21 JUN 19
 ACTWGT: 30.00 LB
 CAD: 113247836/INET4100
 DIMS: 26x14x14 IN
 BILL SENDER

TO HOUSTON EUROFINS TESTAMERICA
 EUROFINS TESTAMERICA
 6310 ROTHWAY

HOUSTON TX 77040
 (713) 690-4444
 REF INDIAN BASI
 INVT PO DEPT

565J1/021023AD



SATURDAY 12:00P
 PRIORITY OVERNIGHT

TRK# 7755 3409 1655
 0201

77040
 TX-US IAH

X0 LKSA



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SHIP DATE: 21 JUN 19
ACTWGT: 30.00 LB
CAD: 113247836/NET4100
DIMS: 26x14x14 IN
BILL SENDER

ORIGIN ID: MAFB (432) 215-3695
JOSH FUNDERBURG

1308 S. MIDKIFF
SUITE 133
MIDLAND, TX 79703
UNITED STATES US

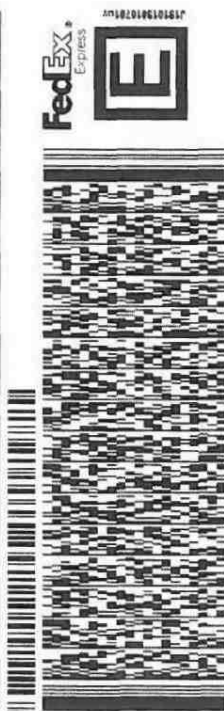
TO HOUSTON EUROFINS TESTAMERICA
EUROFINS TESTAMERICA
6310 ROTHWAY

HOUSTON TX 77040

REF: INDIAN BASI

(713) 690-4444
IN
PO

DEPT



SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7755 3408 8784
0201

77040
IAH
TX-US

X0 LKSA

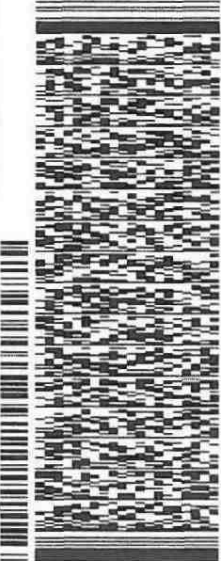


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ORIGIN ID:MAFA (432) 215-3695 JOSH FUNDERBURG 1308 S. MIDKIFF SUITE 133 MIDLAND, TX 79703 UNITED STATES US	SHIP DATE: 21 JUN19 ACTWGT: 30.00 LB CAD: 113247836/NET4100 DIMS: 26x14x14 IN BILL SENDER	TO HOUSTON EUROFINS TESTAMERICA EUROFINS TESTAMERICA 6310 ROTHWAY HOUSTON TX 77040 (713) 690-4444 INV/ PO REF INDIAN BASI DEPT	565J11D21023AD  	SATURDAY 12:00P PRIORITY OVERNIGHT TRK# 7755 3409 6587 0201 X0 LKSA 77040 TX-US IAH 
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SHIP DATE: 21 JUN 19
ACTWGT: 30.00 LB
CAD: 113247836/INET4100
DIMS: 26x14x14 IN
BILL SENDER

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

TO HOUSTON EUROFINS TESTAMERICA
EUROFINS TESTAMERICA
6310 ROTHWAY

HOUSTON TX 77040
(713) 690-4444
INV
PO

REF: INDIAN BASI
DEPT

565J11D21023AD

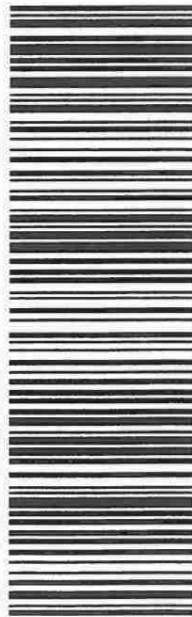


SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7755 3410 4980

77040
TX-US IAH

X0 LKSA



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SHIP DATE: 21 JUN 19
ACTWGT: 30.00 LB
CAD: 113247836/NET4100
DIMS: 26x14x14 IN
600-187762 Waybill

BILL SENDER

ORIGIN ID: MAF4 (432) 215-3695
JOSH FUNDERBURG

1308 S. MIDKIFF
SUITE 133
MIDLAND, TX 79703
UNITED STATES US

TO HOUSTON EUROFINS TESTAMERICA
EUROFINS TESTAMERICA
6310 ROTHWAY

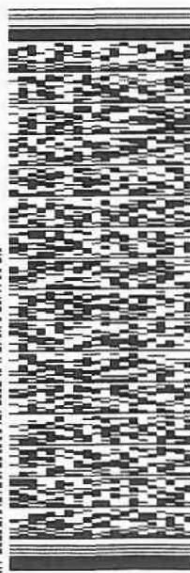
HOUSTON TX 77040

REF INDIAN BASI

(713) 690-4444

DEPT

PO



SATURDAY 12:00P

PRIORITY OVERNIGHT

TRK# 7755 3408 4425

0201

77040
TX-US IAH

X0 LKSA



Eurofins TestAmerica, Houston

6340 F Highway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

Chain of Custody Record

15

Environment Testing
TestAmerica



Client Information (Sub Contract Lab)		Lab PM: Joiner, Dean A		600-187762 Chain of Custody		
Client Contact: Shipping/Receiving		E-Mail: dean.joiner@testamericainc.com		Texas		
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 600-187762-1		
Address: 30 Community Drive, Suite 11,		Due Date Requested: 7/10/2019		Analysis Requested		
City: South Burlington		TAT Requested (days):		Preservation Codes:		
State, Zip: VT, 05403		PO #:		A - HCL M - Hexane B - NaOH N - None O - AsNaO2 P - Na2O4S D - Nitric Acid Q - Na2SO3 E - NaHSO4 R - Na2SO3 F - MeOH S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4.5 L - EDA Z - other (specify)		
Phone: 802-660-1990(Tel) 802-660-1919(Fax)		WO #:		Other:		
Email:		Project #: 60010999		Special Instructions/Note:		
Project Name: Indian Basin, NM Groundwaters 06-25-19		SSOW#:				
Site:						
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=water, S=solid, O=soil, BT=Soil, A=Air)	RSK 175 (MOD) Copy Analytes	RSK 175 CO2 (MOD) Copy Analytes
MW - 45 (600-187762-1)	6/24/19	15:38 Central		Water	X	X
MW - 49 (600-187762-2)	6/24/19	16:47 Central		Water	X	X
MW - 46 (600-187762-3)	6/25/19	07:19 Central		Water	X	X
MW - 14 (600-187762-4)	6/25/19	08:18 Central		Water	X	X
MW - 106 (600-187762-5)	6/25/19	09:35 Central		Water	X	X
MW - 88 (600-187762-6)	6/25/19	11:15 Central		Water	X	X
MW - 66 (600-187762-7)	6/25/19	12:19 Central		Water	X	X
MW - 70 (600-187762-8)	6/25/19	14:00 Central		Water	X	X
MW - 111 (600-187762-9)	6/25/19	15:26 Central		Water	X	X
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped to the TestAmerica Laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.						
Possible Hazard Identification						
Unconfirmed						
Deliverable Requested: I, II, III, IV, Other (specify)						
Primary Deliverable Rank: 2						
Empty Kit Relinquished by:						
Relinquished by: [Signature]						
Relinquished by: [Signature]						
Relinquished by: [Signature]						
Relinquished by: [Signature]						
Custody Seals Intact: [Signature]						
Custody Seal No.: 947020						
Cooler Temperature(s) °C and Other Remarks: 1.5						

Ver: 01/16/2019

[illegible]

12:00 C
2470
06.29

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ORIGIN ID: LKSA (713) 358-2413
EUROFINS TESTAMERICA
TESTAMERICA INC
6310 ROTHWAY ST

HOUSTON, TX 77040
UNITED STATES US

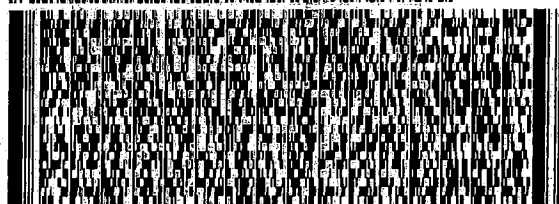
SHIP DATE: 28JUN19
ACTWGT: 15.00 LB MAN
CAD: 0758523/CAFE3211

BILL RECIPIENT

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403

(802) 660-1990
PO: YES

REF: S600-69494



FedEx
Express

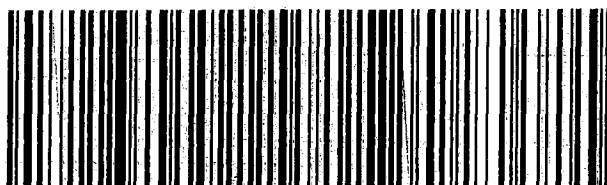


SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 4840 2906 7470
0201

XO BTVA

05403
VT-US BTV



FedEx® Saturday Delivery

151966 10/04 MWI

FedEx® Saturday Delivery

151966 10/04 MWI

FedEx® S

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-187762-1

Login Number: 187762

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	2.5,1.5,0.9,1.2,2.4,0.8
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.

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-187762-1

Login Number: 187762

List Source: Eurofins TestAmerica, Burlington

List Number: 2

List Creation: 06/29/19 01:40 PM

Creator: Mohn, Taylor J

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	947020
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	1.5°C
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?	N/A	Received project as a subcontract.
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	



Houston, TX

06/26/18

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report**Technical Report for**

Arcadis

OXY IBGP,MT001115.0004

SGS Job Number: TD22776

Sampling Dates: 06/12/18 - 06/14/18

Report to:

ARCADIS
1004 N. Big Spring Ste. 300
Midland, TX 79701
hugh.robotham@arcadis-us.com

ATTN: Hugo Robotham

Total number of pages in report: 38



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-18-29) AR (14-016-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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- 3
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3.3: TD22776-3: MW-111

3.4: TD22776-4: MW-88

3.5: TD22776-5: MW-106

3.6: TD22776-6: MW-70

3.7: TD22776-7: MW-127

3.8: TD22776-8: MW-66

3.9: TD22776-9: DUP-1

Section 4: Misc. Forms

4.1: Chain of Custody

Section 5: MS Volatiles - QC Data Summaries

5.1: Method Blank Summary

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SGS North America Inc.

Sample Summary

Arcadis

Job No: TD22776

OXY IBGP, MT001115.0004

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
TD22776-1	06/13/18	10:35	06/16/18	AQ	Water	MW-49
TD22776-2	06/13/18	12:02	06/16/18	AQ	Water	MW-45
TD22776-3	06/13/18	13:12	06/16/18	AQ	Water	MW-111
TD22776-4	06/13/18	18:07	06/16/18	AQ	Water	MW-88
TD22776-5	06/13/18	16:00	06/16/18	AQ	Water	MW-106
TD22776-6	06/13/18	12:33	06/16/18	AQ	Water	MW-70
TD22776-7	06/14/18	17:05	06/16/18	AQ	Water	MW-127
TD22776-8	06/12/18	18:07	06/16/18	AQ	Water	MW-66
TD22776-9	06/13/18	00:00	06/16/18	AQ	Water	DUP-1



Summary of Hits

Page 1 of 2

Job Number: TD22776
Account: Arcadis
Project: OXY IBGP, MT001115.0004
Collected: 06/12/18 thru 06/14/18

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD22776-1	MW-49					
Benzene		20.8	1.0	0.30	ug/l	SW846 8260C
Chloride		314	25		mg/l	EPA 300.0
Solids, Total Dissolved		3780	40		mg/l	SM 2540C-2011
TD22776-2	MW-45					
Chloride		256	25		mg/l	EPA 300.0
Solids, Total Dissolved		5090	40		mg/l	SM 2540C-2011
TD22776-3	MW-111					
Chloride		45.9	2.5		mg/l	EPA 300.0
Solids, Total Dissolved		708	10		mg/l	SM 2540C-2011
TD22776-4	MW-88					
Chloride		28.9	1.0		mg/l	EPA 300.0
Solids, Total Dissolved		1030	10		mg/l	SM 2540C-2011
TD22776-5	MW-106					
Chloride		3.1	0.50		mg/l	EPA 300.0
Solids, Total Dissolved		404	10		mg/l	SM 2540C-2011
TD22776-6	MW-70					
Chloride		10.3	0.50		mg/l	EPA 300.0
Solids, Total Dissolved		498	10		mg/l	SM 2540C-2011
TD22776-7	MW-127					
Chloride		58.4	2.5		mg/l	EPA 300.0
Solids, Total Dissolved		830	10		mg/l	SM 2540C-2011
TD22776-8	MW-66					
Toluene		0.38 J	1.0	0.30	ug/l	SW846 8260C
Chloride		8.6	0.50		mg/l	EPA 300.0
Solids, Total Dissolved		857	10		mg/l	SM 2540C-2011
TD22776-9	DUP-1					
Benzene		15.0	1.0	0.30	ug/l	SW846 8260C

Summary of Hits

Job Number: TD22776
Account: Arcadis
Project: OXY IBGP,MT001115.0004
Collected: 06/12/18 thru 06/14/18

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chloride		326	25		mg/l	EPA 300.0
Solids, Total Dissolved		4660	40		mg/l	SM 2540C-2011

SGS

Houston, TX

Section 3



Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-49	
Lab Sample ID:	TD22776-1	Date Sampled: 06/13/18
Matrix:	AQ - Water	Date Received: 06/16/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	OXY IBGP,MT001115.0004	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361377.D	1	06/21/18 12:00	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	20.8	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-49	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-1	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	314	25	mg/l	50	06/20/18 10:12	LR	EPA 300.0
Solids, Total Dissolved	3780	40	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-45	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-2	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361378.D	1	06/21/18 12:24	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-45	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-2	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	256	25	mg/l	50	06/20/18 11:02	LR	EPA 300.0
Solids, Total Dissolved	5090	40	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-111	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-3	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361379.D	1	06/21/18 12:49	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-111	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-3	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	45.9	2.5	mg/l	5	06/20/18 11:18	LR	EPA 300.0
Solids, Total Dissolved	708	10	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-88	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-4	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361380.D	1	06/21/18 13:13	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-88	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-4	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	28.9	1.0	mg/l	2	06/20/18 11:35	LR	EPA 300.0
Solids, Total Dissolved	1030	10	mg/l	1	06/18/18 19:50	BG	SM 2540C-2011

RL = Reporting Limit



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-106	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-5	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361381.D	1	06/21/18 13:37	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-106	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-5	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	3.1	0.50	mg/l	1	06/20/18 11:51	LR	EPA 300.0
Solids, Total Dissolved	404	10	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-70	
Lab Sample ID:	TD22776-6	Date Sampled: 06/13/18
Matrix:	AQ - Water	Date Received: 06/16/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	OXY IBGP,MT001115.0004	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361382.D	1	06/21/18 14:01	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-70	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-6	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	10.3	0.50	mg/l	1	06/20/18 12:08	LR	EPA 300.0
Solids, Total Dissolved	498	10	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-127	
Lab Sample ID:	TD22776-7	Date Sampled: 06/14/18
Matrix:	AQ - Water	Date Received: 06/16/18
Method:	SW846 8260C	Percent Solids: n/a
Project:	OXY IBGP,MT001115.0004	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361383.D	1	06/21/18 14:26	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	96%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-127	Date Sampled:	06/14/18
Lab Sample ID:	TD22776-7	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	58.4	2.5	mg/l	5	06/20/18 12:57	LR	EPA 300.0
Solids, Total Dissolved	830	10	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-66	Date Sampled:	06/12/18
Lab Sample ID:	TD22776-8	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361384.D	1	06/21/18 14:50	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	J
108-88-3	Toluene	0.38	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	97%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-66	Date Sampled:	06/12/18
Lab Sample ID:	TD22776-8	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	8.6	0.50	mg/l	1	06/20/18 13:14	LR	EPA 300.0
Solids, Total Dissolved	857	10	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit

SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	DUP-1	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-9	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	OXY IBGP,MT001115.0004		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K361385.D	1	06/21/18 15:14	FI	n/a	n/a	VK2306
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	15.0	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	97%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



SGS North America Inc.

Report of Analysis

Page 1 of 1

Client Sample ID:	DUP-1	Date Sampled:	06/13/18
Lab Sample ID:	TD22776-9	Date Received:	06/16/18
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	OXY IBGP, MT001115.0004		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	326	25	mg/l	50	06/20/18 13:30	LR	EPA 300.0
Solids, Total Dissolved	4660	40	mg/l	1	06/18/18	BG	SM 2540C-2011

RL = Reporting Limit





Houston, TX

Section 4

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #

4022774

Contact & Company Name Hugh Robotham Arcadis		Telephone 432-687-5400		Preservative Filtered (✓)		B		E															
Address 1004 N. Big Spring Suite 503		Fax 432-687-5401		# of Containers																			
City Midland, TX		State 79701		E-mail Address hugh.robatham@arcadis.com		Container Information		1		2													
Project Name/Location (City, State) OXY IBGP		Project # MT001115.0004																					
Sampler's Printed Name Jerry Longwell		Sampler's Signature 																					
Sample ID		Collection		Type (✓)		Matrix																	
		Date Time		Comp Grab																			
-1 MW-48		6/13/18 1035		X W		3 1																	
-2 MW-45		6/13/18 1207		X W		3 1																	
-3 MW-116		6/13/18 1312		X W		3 1																	
-4 MW-88		6/13/18 1407		X W		3 1																	
-5 MW-106		6/13/18 1600		X W		3 1																	
-6 MW-70		6/13/18 1233		X W		3 1																	
-7 MW-127		6/13/18 1705		X W		3 1																	
-8 MW-66		6/13/18 1807		X W		3 1																	
-9 DUP-1		6/13/18		X W		3 1																	
						</																	

SGS
ACCUTEST

COOLER TEMP FORM

TC# TD22776

Delivered by (circle one):

FedEx/UPS

ALGC Driver

Client

Date:

6-16-18

Client:

Arcadis

Cooler Number:

Thermometer ID:

JULY

CF, °C

0.6

Corrected Temp, °C

3.8

SAMPLES CONTAINED IN COOLER

(1) 1404P
(3) 044HCL



Form: SM027-06 Rev 10/24/2016

TD22776: Chain of Custody
Page 2 of 5

SGS Sample Receipt Summary

Page 1 of 3

Job Number: TD22776

Client: ARCADIS

Project: OXYIBGP

Date / Time Received:

Delivery Method:

Airbill #'s: 731444485502

No. Coolers: 1

Therm ID: IR-4;

Temp Adjustment Factor: 0;

Cooler Temps (Initial/Adjusted): #1: (3.8/3.8);

Cooler Security

Y or N

Y or N

1. Custody Seals Present:

☒ ☐

3. COC Present:

☒ ☐

2. Custody Seals Intact:

☒ ☐

4. Smpl Dates/Time OK

☒ ☐

Cooler Temperature

Y or N

1. Temp criteria achieved:

☒ ☐

2. Cooler temp verification:

3. Cooler media:

Ice (Bag)

Quality Control Preservation

Y or N

N/A

WTB

STB

1. Trip Blank present / cooler:

☐ ☒ ☐ ☐ ☐

2. Trip Blank listed on COC:

☐ ☒ ☐

3. Samples preserved properly:

☒ ☐

4. VOCs headspace free:

☒ ☐ ☐

Sample Integrity - Documentation

Y or N

1. Sample labels present on bottles:

☒ ☐

2. Container labeling complete:

☒ ☐

3. Sample container label / COC agree:

☒ ☐

Sample Integrity - Condition

Y or N

1. Sample recvd within HT:

☒ ☐

2. All containers accounted for:

☒ ☐

3. Condition of sample:

Intact

Sample Integrity - Instructions

Y or N

N/A

1. Analysis requested is clear:

☒ ☐

2. Bottles received for unspecified tests

☐ ☒

3. Sufficient volume recvd for analysis:

☒ ☐

4. Compositing instructions clear:

☐ ☐ ☒

5. Filtering instructions clear:

☐ ☐ ☒

Comments

Sample Receipt Log

Page 2 of 3

Job #: TD22776

Date / Time Received: 6/16/2018 11:30:00 AM

Initials: DS

Client: ARCADIS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD22776-1	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-2	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-2	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-3	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-3	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-4	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-4	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-5	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-5	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-6	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8

TD22776: Chain of Custody

Page 4 of 5

Sample Receipt Log

Page 3 of 3

Job #: TD22776 Date / Time Received: 6/16/2018 11:30:00 AM Initials: DS
Client: ARCADIS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD22776-6	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-7	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-7	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-8	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-8	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-9	1000ml	1	3E	N/P	Note #2 - Preservative check not applicable.	IR-4	3.8	0	3.8
1	TD22776-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8
1	TD22776-9	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	3.8	0	3.8

TD22776: Chain of Custody
Page 5 of 5



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Houston, TX

Section 5

MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number: TD22776
Account: AGMTXM Arcadis
Project: OXY IBGP,MT001115.0004

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK2306-MB	K361372.D	1	06/21/18	FI	n/a	n/a	VK2306

The QC reported here applies to the following samples: Method: SW846 8260C

TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.65	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102% 72-122%
17060-07-0	1,2-Dichloroethane-D4	101% 68-124%
2037-26-5	Toluene-D8	98% 80-119%
460-00-4	4-Bromofluorobenzene	102% 72-126%

Blank Spike Summary

Page 1 of 1

Job Number: TD22776
Account: AGMTXM Arcadis
Project: OXY IBGP,MT001115.0004

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK2306-BS	K361369.D	1	06/21/18	FI	n/a	n/a	VK2306

The QC reported here applies to the following samples:

Method: SW846 8260C

TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	26.0	104	68-119
100-41-4	Ethylbenzene	25	26.0	104	71-117
108-88-3	Toluene	25	24.8	99	73-119
1330-20-7	Xylene (total)	75	76.2	102	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	68-124%
2037-26-5	Toluene-D8	100%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: TD22776

Account: AGMTXM Arcadis

Project: OXY IBGP,MT001115.0004

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD22568-1MS	K361374.D	50	06/21/18	FI	n/a	n/a	VK2306
TD22568-1MSD	K361375.D	50	06/21/18	FI	n/a	n/a	VK2306
TD22568-1 ^a	K361373.D	50	06/21/18	FI	n/a	n/a	VK2306

The QC reported here applies to the following samples:

Method: SW846 8260C

TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9

CAS No.	Compound	TD22568-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	1250	1330	106	1250	1350	108	1	68-119/12
100-41-4	Ethylbenzene	ND	1250	1310	105	1250	1360	109	4	71-117/12
108-88-3	Toluene	ND	1250	1280	102	1250	1290	103	1	73-119/13
1330-20-7	Xylene (total)	ND	3750	3860	103	3750	3990	106	3	74-119/13

CAS No.	Surrogate Recoveries	MS	MSD	TD22568-1	Limits
1868-53-7	Dibromofluoromethane	96%	94%	96%	72-122%
17060-07-0	1,2-Dichloroethane-D4	96%	97%	101%	68-124%
2037-26-5	Toluene-D8	102%	99%	99%	80-119%
460-00-4	4-Bromofluorobenzene	99%	99%	103%	72-126%

(a) Dilution required due to matrix interference.

* = Outside of Control Limits.



Houston, TX

Section 6

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD22776
Account: AGMTXM - Arcadis
Project: OXY IBGP,MT001115.0004

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP48199/GN90629	0.50	0.0	mg/l	10	10.7	107.0	90-110%
Solids, Total Dissolved	GN90545	10	0.0	mg/l	500	498	99.6	88-110%

Associated Samples:
Batch GN90545: TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9
Batch GP48199: TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD22776
Account: AGMTXM - Arcadis
Project: OXY IBGP,MT001115.0004

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP48199/GN90629	TD22776-1	mg/l	314	316	0.6	0-20%
Solids, Total Dissolved	GN90545	TD22776-1	mg/l	3780	3780	0.0	0-5%

Associated Samples:
Batch GN90545: TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9
Batch GP48199: TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD22776
Account: AGMTXM - Arcadis
Project: OXY IBGP,MT001115.0004

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP48199/GN90629	TD22776-1	mg/l	314	500	848	106.8	80-120%

Associated Samples:
Batch GP48199: TD22776-1, TD22776-2, TD22776-3, TD22776-4, TD22776-5, TD22776-6, TD22776-7, TD22776-8, TD22776-9
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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APPENDIX D

NMOCD Correspondence



New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



February 20, 2009

M. Paul Peacock
Marathon Oil Company
P.O. Box 3128
Houston, TX 77253-3128

**RE: Indian Basin Remediation Project Report and Proposed Well Plugging Request
for the Marathon's Indian Basin Gas Plant (GW-21)
Eddy County, New Mexico**

Dear Mr. Peacock:

The New Mexico Oil Conservation Division (OCD) has reviewed Marathon's report, Evaluation of Natural Attenuation, Indian Basin Remediation Project [IBRP], Eddy County, New Mexico, dated May 12, 2008, and Proposed IBRP Well Plugging Program [Request], dated February 5, 2009. The report and request are substantially acceptable to the OCD. Therefore, the OCD hereby conditionally approves the discontinuance of active remediation at the above-referenced site.

However, at least annual groundwater monitoring for BTEX, TDS and chloride at the 13 proposed wells as specified in the Well Plugging Request plus at an additional two groundwater monitoring wells, MW-81 and MW-113, for a total of 15 wells must continue unless otherwise approved by the OCD. Also, at least semi-annually gauging of depth to groundwater and non-aqueous phase liquid thickness at these 15 wells must continue unless otherwise approved by the OCD. Marathon must continue to submit an annual groundwater monitoring report to the OCD unless otherwise approved by the OCD.

In addition, the material used to plug the 98 (the 100 proposed minus the 2 rejected) groundwater monitoring wells as specified in the Request must be a cement grout with 1% to 3% bentonite. Please submit to the OCD a final plugging report within 180 days of receipt of this letter.

Oil Conservation Division * 1220 South St. Francis Drive
* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462 * <http://www.emnrd.state.nm.us>

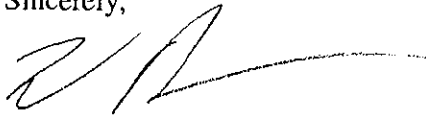


M. Paul Peacock
GW-21
February 20, 2009
Page 2

Please be advised that OCD approval of this report and request does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Edward Hansen of my staff at 505-476-3489 or edwardj.hansen@state.nm.us.

Sincerely,



Wayne Price
Environmental Bureau Chief

WP:EJH:ejh

cc: OCD; Artesia District Office
Terry Persaud, P.E., Marathon Oil Company, P.O. Box 3128, Houston, TX 77253-3128

From: Hansen, Edward J., EMNRD [mailto:edwardj.hansen@state.nm.us]
Sent: Wednesday, June 17, 2009 12:42 PM
To: Persaud, Terry
Cc: Caudill, Ted L.; Kurki, Vijay K.; Newman, Dennis (Houston); alan.reed@arcadis-us.com; Lowe, Leonard, EMNRD
Subject: GW-21 Plugging Report Approval

**RE: "Indian Basin Remediation Project Monitoring Well Plugging Report"
for the Marathon's (now OXY's)
Indian Basin Gas Plant (GW-21)
Unit Letter G, Section 23, T21S, R23E, NMPM, Eddy County, New Mexico
Plugging Report Approval**

Dear Mr. Persaud:

The New Mexico Oil Conservation Division (OCD) has received the groundwater monitoring well plugging report for the Indian Basin Gas Plant (GW-21), dated June 11, 2009, and has conducted a review of the report. The plugging report, submitted for the above-referenced site, indicates that Marathon has met the plugging requirements. Therefore, the OCD hereby approves the plugging report. However, the OCD is anticipating the 2009 annual groundwater monitoring report for the remaining 15 monitoring wells this month.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

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APPENDIX E

USEPA Low-flow Purging and Sampling Procedures

GW Sampling SOP
FINAL
March 16, 1998

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION II**

**GROUND WATER SAMPLING PROCEDURE
LOW STRESS (Low Flow) PURGING AND SAMPLING**

I. SCOPE & APPLICATION

This Low Stress (or Low-Flow) Purging and Sampling Procedure is the EPA Region II standard method for collecting low stress (low flow) ground water samples from monitoring wells. Low stress Purging and Sampling results in collection of ground water samples from monitoring wells that are representative of ground water conditions in the geological formation. This is accomplished by minimizing stress on the geological formation and minimizing disturbance of sediment that has collected in the well. The procedure applies to monitoring wells that have an inner casing with a diameter of 2.0 inches or greater, and maximum screened intervals of ten feet unless multiple intervals are sampled. The procedure is appropriate for collection of ground water samples that will be analyzed for volatile and semi-volatile organic compounds (VOCs and SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and microbiological and other contaminants in association with all EPA programs.

This procedure does not address the collection of light or dense non-aqueous phase liquids (LNAPL or DNAPL) samples, and should be used for aqueous samples only. For sampling NAPLs, the reader is referred to the following EPA publications: DNAPL Site Evaluation (Cohen & Mercer, 1993) and the RCRA Ground-Water Monitoring: Draft Technical Guidance (EPA/530-R-93-001), and references therein.

II. METHOD SUMMARY

The purpose of the low stress purging and sampling procedure is to collect ground water samples from monitoring wells that are representative of ground water conditions in the geological formation. This is accomplished by setting the intake velocity of the sampling pump to a flow rate that limits drawdown inside the well casing.

Sampling at the prescribed (low) flow rate has three primary benefits. First, it minimizes disturbance of sediment in the bottom of the well, thereby producing a sample with low turbidity (i.e., low concentration of suspended particles). Typically, this saves time and analytical costs by eliminating the need for collecting and analyzing an additional filtered sample from the same well. Second, this procedure

minimizes aeration of the ground water during sample collection, which improves the sample quality for VOC analysis. Third, in most cases the procedure significantly reduces the volume of ground water purged from a well and the costs associated with its proper treatment and disposal.

III. ADDRESSING POTENTIAL PROBLEMS

Problems that may be encountered using this technique include a) difficulty in sampling wells with insufficient yield; b) failure of one or more key indicator parameters to stabilize; c) cascading of water and/or formation of air bubbles in the tubing; and d) cross-contamination between wells.

Insufficient Yield

Wells with insufficient yield (i.e., low recharge rate of the well) may dewater during purging. Care should be taken to avoid loss of pressure in the tubing line due to dewatering of the well below the level of the pump's intake. Purging should be interrupted before the water level in the well drops below the top of the pump, as this may induce cascading of the sand pack. Pumping the well dry should therefore be avoided to the extent possible in all cases. Sampling should commence as soon as the volume in the well has recovered sufficiently to allow collection of samples. Alternatively, ground water samples may be obtained with techniques designed for the unsaturated zone, such as lysimeters.

Failure to Stabilize Key Indicator Parameters

If one or more key indicator parameters fails to stabilize after 4 hours, one of three options should be considered: a) continue purging in an attempt to achieve stabilization; b) discontinue purging, do not collect samples, and document attempts to reach stabilization in the log book; c) discontinue purging, collect samples, and document attempts to reach stabilization in the log book; or d) Secure the well, purge and collect samples the next day (preferred). The key indicator parameter for samples to be analyzed for VOCs is dissolved oxygen. The key indicator parameter for all other samples is turbidity.

Cascading

To prevent cascading and/or air bubble formation in the tubing, care should be taken to ensure that the flow rate is sufficient to maintain pump suction. Minimize the length and diameter of tubing (i.e., 1/4

or 3/8 inch ID) to ensure that the tubing remains filled with ground water during sampling.

Cross-Contamination

To prevent cross-contamination between wells, it is strongly recommended that dedicated, in-place pumps be used. As an alternative, the potential for cross-contamination can be reduced by performing the more thorough "daily" decontamination procedures between sampling of each well in addition to the start of each sampling day (see Section VII, below).

Equipment Failure

Adequate equipment should be on-hand so that equipment failures do not adversely impact sampling activities.

IV. PLANNING DOCUMENTATION AND EQUIPMENT

- ▶ Approved site-specific Field Sampling Plan/Quality Assurance Project Plan (QAPP). This plan must specify the type of pump and other equipment to be used. The QAPP must also specify the depth to which the pump intake should be lowered in each well. Generally, the target depth will correspond to the mid-point of the most permeable zone in the screened interval. Borehole geologic and geophysical logs can be used to help select the most permeable zone. However, in some cases, other criteria may be used to select the target depth for the pump intake. In all cases, the target depth must be approved by the EPA hydrogeologist or EPA project scientist.
- ▶ Well construction data, location map, field data from last sampling event.
- ▶ Polyethylene sheeting.
- ▶ Flame Ionization Detector (FID) and Photo Ionization Detector (PID).
- ▶ Adjustable rate, positive displacement ground water sampling pump (e.g., centrifugal or bladder pumps constructed of stainless steel or Teflon). A peristaltic pump may only be used for inorganic sample collection.
- ▶ Interface probe or equivalent device for determining the presence or absence of NAPL.

- ▶ Teflon or Teflon-lined polyethylene tubing to collect samples for organic analysis. Teflon or Teflon-lined polyethylene, PVC, Tygon or polyethylene tubing to collect samples for inorganic analysis. Sufficient tubing of the appropriate material must be available so that each well has dedicated tubing.
- ▶ Water level measuring device, minimum 0.01 foot accuracy, (electronic preferred for tracking water level drawdown during all pumping operations).
- ▶ Flow measurement supplies (e.g., graduated cylinder and stop watch or in-line flow meter).
- ▶ Power source (generator, nitrogen tank, etc.).
- ▶ Monitoring instruments for indicator parameters. Eh and dissolved oxygen must be monitored in-line using an instrument with a continuous readout display. Specific conductance, pH, and temperature may be monitored either in-line or using separate probes. A nephelometer is used to measure turbidity.
- ▶ Decontamination supplies (see Section VII, below).
- ▶ Logbook (see Section VIII, below).
- ▶ Sample bottles.
- ▶ Sample preservation supplies (as required by the analytical methods).
- ▶ Sample tags or labels, chain of custody.

V. SAMPLING PROCEDURES

Pre-Sampling Activities

1. Start at the well known or believed to have the least contaminated ground water and proceed systematically to the well with the most contaminated ground water. Check the well, the lock, and the locking cap for damage or evidence of tampering. Record observations.
2. Lay out sheet of polyethylene for placement of monitoring and sampling equipment.

3. Measure VOCs at the rim of the unopened well with a PID and FID instrument and record the reading in the field log book.
4. Remove well cap.
5. Measure VOCs at the rim of the opened well with a PID and an FID instrument and record the reading in the field log book.
6. If the well casing does not have a reference point (usually a V-cut or indelible mark in the well casing), make one. Note that the reference point should be surveyed for correction of ground water elevations to the mean geodesic datum (MSL).
7. Measure and record the depth to water (to 0.01 ft) in all wells to be sampled prior to purging. Care should be taken to minimize disturbance in the water column and dislodging of any particulate matter attached to the sides or settled at the bottom of the well.
8. If desired, measure and record the depth of any NAPLs using an interface probe. Care should be taken to minimize disturbance of any sediment that has accumulated at the bottom of the well. Record the observations in the log book. If LNAPLs and/or DNAPLs are detected, install the pump at this time, as described in step 9, below. Allow the well to sit for several days between the measurement or sampling of any DNAPLs and the low-stress purging and sampling of the ground water.

Sampling Procedures

9. Install Pump: Slowly lower the pump, safety cable, tubing and electrical lines into the well to the depth specified for that well in the EPA-approved QAPP or a depth otherwise approved by the EPA hydrogeologist or EPA project scientist. The pump intake must be kept at least two (2) feet above the bottom of the well to prevent disturbance and resuspension of any sediment or NAPL present in the bottom of the well. Record the depth to which the pump is lowered.
10. Measure Water Level: Before starting the pump, measure the water level again with the pump in the well. Leave the water level measuring device in the well.
11. Purge Well: Start pumping the well at 200 to 500 milliliters per minute (ml/min). The water level should be monitored approximately every five minutes. Ideally, a steady flow rate should be maintained that results in a stabilized water

level (drawdown of 0.3 ft or less). Pumping rates should, if needed, be reduced to the minimum capabilities of the pump to ensure stabilization of the water level. As noted above, care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record each adjustment made to the pumping rate and the water level measured immediately after each adjustment.

12. Monitor Indicator Parameters: During purging of the well, monitor and record the field indicator parameters (turbidity, temperature, specific conductance, pH, Eh, and DO) approximately every five minutes. The well is considered stabilized and ready for sample collection when the indicator parameters have stabilized for three consecutive readings as follows (Puls and Barcelona, 1996):
 - ±0.1 for pH
 - ±3% for specific conductance (conductivity)
 - ±10 mv for redox potential
 - ±10% for DO and turbidity

Dissolved oxygen and turbidity usually require the longest time to achieve stabilization. The pump must not be removed from the well between purging and sampling.

13. Collect Samples: Collect samples at a flow rate between 100 and 250 ml/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 ft. VOC samples must be collected first and directly into sample containers. All sample containers should be filled with minimal turbulence by allowing the ground water to flow from the tubing gently down the inside of the container.

Ground water samples to be analyzed for volatile organic compounds (VOCs) require pH adjustment. The appropriate EPA Program Guidance should be consulted to determine whether pH adjustment is necessary. If pH adjustment is necessary for VOC sample preservation, the amount of acid to be added to each sample vial prior to sampling should be determined, drop by drop, on a separate and equal volume of water (e.g., 40 ml). Ground water purged from the well prior to sampling can be used for this purpose.

14. Remove Pump and Tubing: After collection of the samples, the tubing, unless permanently installed, must be properly discarded or dedicated to the well for resampling by hanging the tubing inside the well.

15. Measure and record well depth.

16. Close and lock the well.

VI. FIELD QUALITY CONTROL SAMPLES

Quality control samples must be collected to determine if sample collection and handling procedures have adversely affected the quality of the ground water samples. The appropriate EPA Program Guidance should be consulted in preparing the field QC sample requirements of the site-specific QAPP.

All field quality control samples must be prepared exactly as regular investigation samples with regard to sample volume, containers, and preservation. The following quality control samples should be collected during the sampling event:

- ▶ Field duplicates
- ▶ Trip blanks for VOCs only
- ▶ Equipment blank (not necessary if equipment is dedicated to the well)

As noted above, ground water samples should be collected systematically from wells with the lowest level of contamination through to wells with highest level of contamination. The equipment blank should be collected after sampling from the most contaminated well.

VII. DECONTAMINATION

Non-disposable sampling equipment, including the pump and support cable and electrical wires which contact the sample, must be decontaminated thoroughly each day before use ("daily decon") and after each well is sampled ("between-well decon"). Dedicated, in-place pumps and tubing must be thoroughly decontaminated using "daily decon" procedures (see #17, below) prior to their initial use.

For centrifugal pumps, it is strongly recommended that non-disposable sampling equipment, including the pump and support cable and electrical wires in contact with the sample, be decontaminated thoroughly each day before use ("daily decon").

EPA's field experience indicates that the life of centrifugal pumps may be extended by removing entrained grit. This also permits inspection and replacement of the cooling water in centrifugal pumps.

All non-dedicated sampling equipment (pumps, tubing, etc.) must be

decontaminated after each well is sampled ("between-well decon," see #18 below).

17. **Daily Decon**

- A) Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- B) Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5 minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.
- C) Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- D) Disassemble pump.
- E) Wash pump parts: Place the disassembled parts of the pump into a deep basin containing 8 to 10 gallons of non-phosphate detergent solution. Scrub all pump parts with a test tube brush.
- F) Rinse pump parts with potable water.
- G) Rinse the following pump parts with distilled/ deionized water: inlet screen, the shaft, the suction interconnector, the motor lead assembly, and the stator housing.
- H) Place impeller assembly in a large glass beaker and rinse with 1% nitric acid (HNO_3).
- I) Rinse impeller assembly with potable water.
- J) Place impeller assembly in a large glass bleaker and rinse with isopropanol.
- K) Rinse impeller assembly with distilled/deionized water.

18. **Between-Well Decon**

- A) Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.
- B) Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5

minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.

C) Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.

D) Final Rinse: Operate pump in a deep basin of distilled/deionized water to pump out 1 to 2 gallons of this final rinse water.

VIII. FIELD LOG BOOK

A field log book must be kept each time ground water monitoring activities are conducted in the field. The field log book should document the following:

- ▶ Well identification number and physical condition.
- ▶ Well depth, and measurement technique.
- ▶ Static water level depth, date, time, and measurement technique.
- ▶ Presence and thickness of immiscible liquid layers and detection method.
- ▶ Collection method for immiscible liquid layers.
- ▶ Pumping rate, drawdown, indicator parameters values, and clock time, at three to five minute intervals; calculate or measure total volume pumped.
- ▶ Well sampling sequence and time of sample collection.
- ▶ Types of sample bottles used and sample identification numbers.
- ▶ Preservatives used.
- ▶ Parameters requested for analysis.
- ▶ Field observations of sampling event.
- ▶ Name of sample collector(s).
- ▶ Weather conditions.
- ▶ QA/QC data for field instruments.

IX. REFERENCES

Cohen, R.M. and J.W. Mercer, 1993, DNAPL Site Evaluation, C.K. Smoley Press, Boca Raton, Florida.

Puls, R.W. and M.J. Barcelona, 1996, Low-Flow (Minimal Drawdown) Ground-water Sampling Procedures, EPA/540/S-95/504.

10

GW Sampling SOP
FINAL
March 16, 1998

U.S. EPA, 1993, RCRA Ground-Water Monitoring: Draft Technical Guidance, EPA/530-R-93-001.

U.S. EPA Region II, 1989, CERCLA Quality Assurance Manual.



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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 592025

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 592025
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
owen.sitler	2019 Annual Groundwater Monitoring Report submission	6/4/2026