

AP-101

2017 Annual Report

March 2018

1 of 2

TRANSMITTAL LETTER

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Subject:

2017 Annual Groundwater
Remediation Report, Jal No. 4
Gas Plant

Arcadis Project No.:

MT001179.0003

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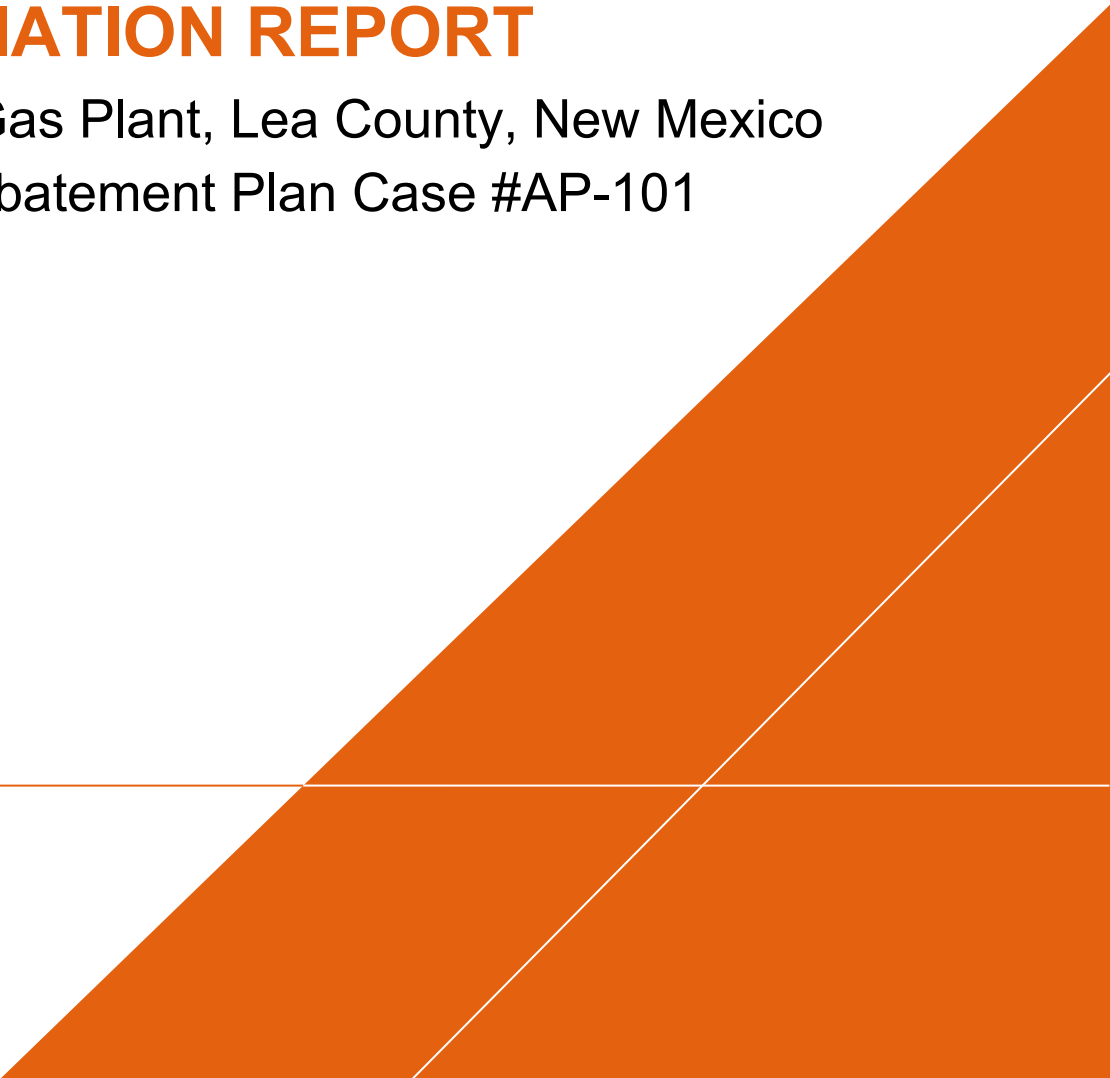
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2017 ANNUAL GROUNDWATER REMEDIATION REPORT

Jal No. 4 Gas Plant, Lea County, New Mexico
NMOCD Abatement Plan Case #AP-101

March 26, 2018

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form. A thin white line runs diagonally through the shape, and a thin white horizontal line runs across the page, intersecting the shape.

2017 ANNUAL GROUNDWATER REMEDiation REPORT



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ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis U.S., Inc.
COCs	Constituents of Concern
DTW	depth to water
EPA	Environmental Protection Agency
EPNG	El Paso Natural Gas Company, LLC
ft. bgl	feet below ground level
ft./ft.	feet per foot
MCL	maximum contaminant level
mg/L	milligrams per liter
MSL	mean sea level
NMAC	New Mexico Administrative Code
NMOCD	New Mexico Oil Conservation Division
NMOSE	New Mexico Office of the State Engineer
PSE	potentiometric surface elevation
PSH	phase-separated hydrocarbons
TDS	total dissolved solids
TOC	top-of-casing

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has developed this annual groundwater monitoring report for the Jal No. 4 Gas Plant (the Site or the Plant) on behalf of El Paso Natural Gas Company, LLC (EPNG). The Site is comprised of approximately 181 acres of land located on the west side of State Highway 18, approximately 9 miles north of Jal, New Mexico and occupies portions of Sections 31 and 32 of Township 23 South, Range 37 East (T23S, R37E) and Section 5 of T24S, R37E in Lea County, New Mexico (Figures 1 and 2). The Site is currently under the operatorship of Western Refining Inc., a subsidiary of Andeavor Corporation.

The groundwater remediation activities conducted at the Site are performed under EPNG's Project Work Plan (the Work Plan) dated February 1995. The Work Plan was approved by the New Mexico Oil Conservation Division (NMOCD) on April 27, 1995, with subsequent revisions approved on August 10, 1995, July 8, 1997, and July 30, 2002. Remediation activities are no longer conducted under discharge permit GW-107R and the Site is now regulated under Abatement Plan AP-101. This report provides a description of groundwater monitoring activities and analytical results during Calendar Year 2017 and the status of the dormant remediation system.

The Plant was constructed by EPNG in 1952 to treat, compress, and transport natural gas to EPNG's main transmission lines. From 1952 to 1981, brine and wastewater were managed in eight unlined retention ponds at the Plant (Ponds 1 through 8, Figure 3). Beginning in 1981, brine was instead managed in three synthetic-lined ponds (Ponds 9 through 11) and Ponds 1-8 were closed. In 1989, a leak was detected in Ponds 10 and 11 and EPNG elected to close the two ponds and construct a single lined pond in the former location of Ponds 10 and 11. In response to the detected leak, the NMOCD requested EPNG perform a Groundwater Quality Assessment. Two ponds are present on the Site today and are in the locations of Pond 9 (South Pond) and Pond 10/11 (North Pond).

A site chronology providing details of this and subsequent studies is provided in Appendix A.

2 MONITORING WELLS AND SAMPLING SCHEDULE

2.1 Program Wells and Sampling Schedule

To assess chloride and hydrocarbon impacts to the shallow groundwater system, EPNG has installed 26 Program monitoring wells on the Plant property and adjoining properties to the east. Monitoring wells ACW-03 and ACW-08 were converted to recovery wells and are not included in the sampling program. Currently, 23 monitoring wells (ACW-01 through ACW-25) are designated as Program wells from which groundwater samples are collected and submitted to an analytical laboratory for analysis. It should be noted ACW-02 was replaced by ACW-02A (circa 1990), although ACW-02 has not been plugged and abandoned. The locations of these wells are depicted on Figure 2.

On April 14, 2003, the NMOCD approved a modification to the groundwater sampling program for the Plant. These modifications allow for only sampling Program wells ACW-13, ACW-14, and ACW-15 during the first three quarterly events and sampling all Program wells during the fourth quarter event. All samples collected are analyzed for the following constituents:

- benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX) by EPA Method 8260B,
- total dissolved solids (TDS) by Standard Method (SM) 2540C,
- specific conductance by EPA Method 120.1,
- chloride by EPA Method 9056, and
- sodium by EPA Method 6010B.

Table 1 provides a summary of the modified groundwater sampling program.

2.2 Non-Program Wells and Sampling Schedule

In addition to the Program wells, EPNG also collects groundwater samples from five Non-Program wells: two onsite monitoring wells (ENSR-1 and ENSR-3), one upgradient water supply well (EPNG-1), and two down-gradient active water supply wells (Oxy Water Well and Doom Water Well). EPNG-1 is located at the northwest corner of the Plant property operated by Energy Transfer Partners. The Oxy Water Well is located southeast of the Plant, in the approximate center of Section 5 of T24S, R37E and formerly provided potable water to Oxy's Myers Langlie Mattix Unit Water Injection

Station. The Oxy Water Well currently provides non-potable water to the Site's sanitary facilities. The Doom Water Well is a private water well that provides water to a residential property owned by the estate of Jimmie J. Doom, and is located approximately 1.35 miles south-southeast of the Plant, generally in the center of the northwest quarter of Section 8 of T24S, R37E.

Additionally, four Recovery wells (RW-1, RW-2, RW-3, and RW-4) are located at the Site along with the two monitoring wells that were converted to recovery wells (ACW-03 and ACW-08). Similar to the Program wells, only the down-gradient active water supply wells are sampled during the first three quarterly events and all five Non-Program wells are sampled during the fourth quarter event. The recovery wells are not sampled during any of the quarterly events.

Table 1 provides a summary of the modified groundwater sampling program.

2.3 Depth to Groundwater Measurements

During each quarterly sampling event and prior to disturbing the water columns within each well, all Program and Non-Program wells are gauged prior to purging activities to determine the static water level and to check for the presence of phase separated hydrocarbons (PSH) where possible. Depth to water (DTW) was measured from a surveyed mark located on the top-of-casing (TOC) of each well. This mark was observed as a notch or as a painted mark on the north side of the well casing. DTW was measured to the nearest 0.01 foot using a water level indicator equipped with a 300-foot tape and the results were recorded in the field notes. PSH has never been detected at the Site. Table 2 provides a summary of the potentiometric surface elevation using measured depths to groundwater, surveyed TOC elevations, and calculated groundwater elevations that have been compiled since March of 2015. Appendix B provides the historical calculated potentiometric surface elevation data.

It is known that the hydraulic head in the aquifer water bearing formation is affected by the density of the water in the water column. Higher TDS water depresses the elevation of the water table surface (Post, 2007) giving the appearance of drawdown. This effect is exaggerated when the well has a discrete screen interval at the base of the aquifer. At this Site, wells with discrete screened intervals at the base of the aquifer within the high TDS areas have observed DTW measurements ranging from 0.5 feet to almost 2.0 feet lower than their upper nested pair counterpart. Based on that criteria, monitor wells can be designated to be in the upper or lower zone. By contouring the potentiometric surface elevation (PSE) in upper (Figure 3) and lower (Figure 4) screened wells

separately, this discrepancy is largely removed. The PSE in the lower screened wells indicates a depression of the water table surface in the area of the elevated TDS on Figure 4.

As depicted on Figures 3 and 4, the groundwater gradient across the Site is to the southeast at 0.004 ft./ft.

2.4 Sampling Procedures

The groundwater samples were collected in accordance with EPA low flow purging and sampling methods and quality assurance/quality control guidance. All Program wells were sampled using dedicated bladder pumps. Low flow purging was conducted at EPA-recommended purge rates of 0.1 - 0.2 liters/minute. Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential as well as well drawdown were monitored at 0.5-liter intervals. Turbidity was measured outside of the flow-through cell used for the field parameters. The Non-Program well samples were obtained from a water spigot after purging the system until field parameters had stabilized. A summary of the groundwater field parameter data collected during purging is provided in Appendix C.

After groundwater field parameters had stabilized, samples were collected by pumping groundwater directly into pre-preserved laboratory-supplied containers. The samples were then labeled, placed on ice and shipped to TestAmerica Laboratories, Inc. in Houston, Texas with chain of custody documentation. Groundwater samples were analyzed for the list of parameters shown in Section 2.1.

3 GROUNDWATER MONITORING RESULTS

The following sections summarize the field measurement and laboratory analytical results obtained during the 2017 quarterly sampling program. Groundwater analytical results from 2015 through 2017 are summarized in Table 3 with the historical groundwater analytical dating back to inception provided in Appendix D. Field notes from the quarterly sampling events are provided in Appendix C and laboratory analytical reports for 2017 data are included in Appendix E.

3.1 Inorganic Constituents

Within New Mexico Administrative Code (NMAC) 20.6.2.3103 (B), the State has established Other Standards for Domestic Water Supply that include a standard of 250 milligrams per liter (mg/L) for chloride and 1,000 mg/L for TDS in groundwater as applicable to this groundwater bearing zone.

Figure 5 presents an isopleth map of the chloride concentrations detected in upper groundwater during the 2017 sampling program while Figure 6 presents chloride concentrations in lower groundwater.

Chloride was detected in all sampled Program and Non-Program wells above the domestic water supply standard of 250 mg/L with the exception of ACW-15. Chloride concentrations ranged from a high of 67,000 mg/L in ACW-04 to a low of 168 mg/L in ACW-15 during the fourth quarter sampling event.

As can be seen on Figure 6, the highest levels of chloride continue to be observed in the groundwater samples collected from the northeast portion of the Plant property in the area of the former ponds. Inorganics are migrating both downgradient to the southeast and vertically toward the base of the water bearing unit.

3.2 Organic Constituents

The New Mexico Administrative Code (NMAC) regulation 20.6.2.3103 (A) has established a Human Health Standard of 0.01 mg/L for benzene in groundwater containing TDS levels of 10,000 mg/L or less. The NMOCD Guidelines for Remediation of Leaks, Spills, and Releases recommends using the NMAC 20.6.2.3101 standard as the remediation action levels (New Mexico Oil Conservation Division, 1993), which also recommends a 0.01 mg/L standard.

Figure 7 presents an isopleth map of the benzene concentrations detected in upper groundwater during the 2017 sampling program while Figure 8 presents benzene concentrations in lower groundwater.

Concentrations of benzene exceeding the NMAC benzene standard of 0.01 mg/L were observed in the groundwater samples collected from seven on-site monitoring wells. In the lower zone: ACW-04 (0.0268 mg/L); ACW-11 (0.0126 mg/L); and ACW-20 (0.0553 mg/L) and in the upper zone: ACW-01 (0.115 mg/L); ACW-19 (0.0476 mg/L); ACW-21 (0.0562 mg/L); and ENSR-01 (0.0136 mg/L).

Six off-site monitor wells contained detections of benzene. Reported concentrations of benzene in groundwater collected from ACW-05, ACW-06, and ACW-22 in the upper zone; and ACW-10 and ACW-24 in the lower zone were below the regulatory limit of 0.01 mg/L; however, the concentration of benzene in the water from lower zone well ACW-25 (0.0189 mg/L) was slightly above the NMAC benzene standard.

Groundwater analytical data suggest that natural attenuation mechanisms have effectively mitigated further down-gradient migration of the benzene impacted groundwater.

3.3 Trend Analysis

Trend assessments of current and historic analytical results have been performed. To facilitate these comparisons, trend graphs have been prepared for TDS, chloride, sodium, and benzene concentrations observed in the groundwater samples. These graphs are presented in Appendix F. Concentration trends were analyzed with Minitab® 16 (2013) using the Mann-Kendall by Normal Approximation test in accordance with the EPA guidance document EPA QA/G-9S (Quality Staff, 2006). The Mann-Kendall test involves the difference in number of positive and negative sample concentration pairwise differences. When the test statistic is a large positive number, an increasing trend is indicated while a large negative number is indicative of a decreasing trend. If there is no significant trend, the test statistic will be close to zero. The trend analysis is summarized in Tables 4 through 8.

Quarterly and annual concentration trends of chloride, sodium, and TDS were evaluated over the last ten quarters and last ten years, respectively. Downgradient lower zone monitoring wells ACW-13, ACW-14, and ACW-15 are the leading edge of the chloride impacted groundwater and are sampled quarterly.

The results of the quarterly chloride, sodium, and TDS concentration trend analysis are presented in Table 4. In general, inorganic constituent concentrations are stable in three wells (lower zone well ACW-14, Oxy Water Well, and Doom Water Well) and are increasing in two lower zone wells (ACW-13 and ACW-15).

Trends in annual chloride, sodium, and TDS concentrations over the last ten years are summarized in Table 5, 6, and 7, respectively. In general, these trends indicate the overall levels of inorganics are decreasing in one well, have no observable trends or are stable in seven wells, and are increasing in seven wells. The wells and their overall inorganic concentration trends may be grouped as follows:

- Wells that exhibit a declining overall inorganic concentration trend:
 - o Upper Zone
 - ACW-02A;
- Wells with no overall inorganic concentration trend:
 - o Upper Zone
 - ACW-06, ACW-07, and ENSR-01;
 - o Lower Zone
 - ACW-11, ACW-14, ACW-15, and Doom Water Well;
- Wells with an increasing overall inorganic concentration trend:
 - o Upper Zone
 - ACW-01 and ACW-05;
 - o Lower Zone
 - ACW-04, ACW-09, ACW-10, ACW-12, and ACW-13.

For wells with benzene detections, an assessment of annual concentration trends over the last 10 years is summarized in Table 8. In general, benzene concentrations appear to be decreasing in four wells, have no observable trend in five wells, and are increasing in two wells. The wells and their overall trends for benzene levels can be grouped as follows:

- Wells with a statistically significant decreasing benzene concentration trend:
 - o Upper Zone
 - ACW-02A, ACW-06, and ACW-07;

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- o Lower Zone
 - ACW-10;
- Wells with no statistically significant benzene concentration trend:
 - o Upper Zone
 - ENSR-01;
 - o Lower Zone
 - ACW-04, ACW-09, ACW-11, ACW-12;
- Wells with a statistically significant increasing trend of benzene concentration:
 - o Upper Zone
 - ACW-01, and ACW-05.

Monitoring wells installed in 2014 and 2015 do not have enough benzene concentration data for Mann-Kendall trend analysis.

4 GROUNDWATER REMEDIATION SYSTEM

Continuous groundwater recovery was initiated from recovery well RW-01 in October 1999. Due to chronic scaling problems in RW-01, monitoring well ENSR-02 was tested as a recovery well in 2000 and was permitted as a stand-alone recovery well on January 27, 2003. Program wells ACW-08 and ACW-03 were pilot tested as groundwater recovery wells in April and June 2005, respectively. These two wells were permitted and configured as permanent recovery wells in October 2005. In August 2011, the New Mexico Office of the State Engineer (NMOSE) issued a permit to plug and abandon recovery well ENSR-02 (due to the submersible pump becoming irretrievably lodged in the well casing) and to install recovery well RW-03. Recovery well RW-03 was drilled/installed in May 2012; however, active pumping has not commenced due to a scaling issue with the Shell State #13 SWD discussed below. None of the recovery wells are currently operational. Locations of the wells are depicted on Figure 2.

Below-grade pipelines connect the groundwater recovery wells to a Class II water disposal well located immediately north of the Plant. This well, identified as the Shell State #13 SWD, was approved for disposal by NMOCD on October 23, 1979 and has a perforated injection interval of 3,866 to 3,982 ft. bgl. This injection well is currently owned and operated by Andeavor.

In May 2012, down hole build-up of iron sulfide scale rendered the Shell State #13 SWD injection well unusable and groundwater remediation/recovery activities were halted. The plugging was cleared by a work over in the second quarter of 2013. A bench-scale study determined that scaling of the injection well is due to mixing of recovered groundwater from two endpoints: one has high TDS (microbial inhibiting), elevated hydrocarbons, and high sulfate; the key feature of the other groundwater type is low to moderate TDS. The blending of these two in the piping and injection system dilutes the overall TDS concentration, stimulating the production of iron sulfides and biofilm through a reaction between sulfate and hydrocarbons via sulfate reducing microorganisms. Groundwater remediation activity will continue after the completion of an ongoing feasibility study of groundwater remediation and water treatment and disposal options and construction of associated remedial system upgrades.

Table 9 provides a summary of the volumes of groundwater pumped from each of these wells since inception of the recovery program in 1999. Groundwater recovery in calendar year 2017 totaled 0.0 gallons.

EPNG is permitted by the NMOSE to withdraw a total of 130 acre-feet per year (ac-ft/yr) from the following four sources:

- 35 ac-ft/yr from RW-03, (originally granted for well RW-1, then transferred to ENSR-2 then to RW-03) effective June 1997;
- 35 ac-ft/yr from RW-02 effective June 1997;
- 25 ac-ft/yr from ACW-03 effective October 2005; and
- 35 ac-ft/yr from ACW-08 effective October 2005.

5 CONCLUSIONS

Based upon a review of the data presented herein, Arcadis has developed the following conclusions:

- Groundwater flow direction at the site is from the northwest to the southeast. The hydraulic gradient is approximately 0.004 ft./ft.
- Groundwater analytical data indicates the highest TDS water is located at the base of the aquifer. In the former area of unlined ponds, the TDS concentrations of the lower zone may be 10 times the concentration found in the upper zone. The groundwater analytical data indicate that chloride impacted groundwater has migrated hydraulically downgradient from the Plant property. During 2017, the groundwater samples collected from 13 on-site and 11 off-site monitoring wells contained concentrations of chloride in excess of the EPA's Secondary Drinking Water Standard and New Mexico's Domestic Water Supply Standard of 250 mg/L.
- Benzene concentrations detected in the groundwater collected from seven on-site wells exceed the NMAC benzene standard of 0.01 mg/L. Reported benzene concentrations in all off-site downgradient wells are below the NMAC benzene standard of 0.01 mg/L except in well ACW-25. Groundwater analytical data suggest that natural attenuation mechanisms have effectively mitigated further down-gradient migration of the benzene impacted groundwater.

6 REFERENCES

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- Quality Staff. (2006). Data Quality Assessment: Statistical Methods for Practitioners. Washington, DC: U.S. Environmental Protection Agency.

TABLES



Table 1
Quarterly Monitoring Well Sampling Schedule
EI Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	2017 Quarter 1	2017 Quarter 2	2017 Quarter 3	2017 Quarter 4
Program Wells				
ACW-01	G	G	G	G,S
ACW-02*	G	G	G	G
ACW-02A	G	G	G	G,S
ACW-03**	G	G	G	G
ACW-04	G	G	G	G,S
ACW-05	G	G	G	G,S
ACW-06	G	G	G	G,S
ACW-07	G	G	G	G,S
ACW-08**	G	G	G	G
ACW-09	G	G	G	G,S
ACW-10	G	G	G	G,S
ACW-11	G	G	G	G,S
ACW-12	G	G	G	G,S
ACW-13	G,S	G,S	G,S	G,S
ACW-14	G,S	G,S	G,S	G,S
ACW-15	G,S	G,S	G,S	G,S
ACW-16	G	G	G	G,S
ACW-17	G	G	G	G,S
ACW-18	G	G	G	G,S
ACW-19	G	G	G	G,S
ACW-20	G	G	G	G,S
ACW-21	G	G	G	G,S
ACW-22	G	G	G	G,S
ACW-23	G	G	G	G,S
ACW-24	G	G	G	G,S
ACW-25	G	G	G	G,S
Non-Program Wells				
ENSR-01	G	G	G	G,S
ENSR-02**	PA	PA	PA	PA
ENSR-03	G	G	G	G,S
EPNG-01	G	G	G	G,S
OXY Water Well	G,S	G,S	G,S	G,S
Doom Water Well	G,S	G,S	G,S	G,S
PTP-01	G	G	G	G
RW-01	G	G	G	G
RW-02	G	G	G	G

Table 1
Quarterly Monitoring Well Sampling Schedule
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	2017 Quarter 1	2017 Quarter 2	2017 Quarter 3	2017 Quarter 4
RW-03***	G	G	G	G
RW-04	G	G	G	G

Notes:

G - gauge only

G,S - gauge and sample

PA - plugged and abandoned

*Well could not be developed, not included in sampling program

**Converted to Recovery well

***Replaced ENSR-02

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-01	110 to 130	3302.15	3/3/2015	105.62	3196.53
			6/2/2015	105.66	3196.49
			9/30/2015	105.69	3196.46
			12/1/2015	105.72	3196.43
			3/17/2016	105.69	3196.46
			5/10/2016	105.46	3196.69
			8/16/2016	105.53	3196.62
			11/30/2016	105.96	3196.19
			3/14/2017	105.47	3196.68
			6/21/2017	105.38	3196.77
			9/21/2017	105.43	3196.72
ACW-02A	98 to 118	3302.16	11/28/2017	105.43	3196.72
			3/3/2015	105.95	3196.21
			6/2/2015	105.97	3196.19
			9/30/2015	106.03	3196.13
			12/1/2015	106.00	3196.16
			3/17/2016	105.81	3196.35
			5/10/2016	105.69	3196.47
			8/16/2016	105.72	3196.44
			11/30/2016	105.59	3196.57
			3/14/2017	105.72	3196.44
			6/21/2017	105.63	3196.53
ACW-03	112 to 132	3301.62	9/21/2017	105.68	3196.48
			11/28/2017	105.65	3196.51
			3/3/2015	105.60	3196.02
			6/2/2015	105.62	3196.00
			9/30/2015	105.69	3195.93
			12/1/2015	105.63	3195.99
			3/17/2016	105.62	3196.00
			5/10/2016	105.26	3196.36
			8/16/2016	105.31	3196.31
			11/30/2016	105.33	3196.29
			3/14/2017	105.32	3196.30
			6/21/2017	105.22	3196.40
			9/21/2017	105.30	3196.32
			11/28/2017	105.29	3196.33

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-04	154 to 169	3302.05	3/3/2015	107.41	3194.64
			6/2/2015	107.51	3194.54
			9/30/2015	107.68	3194.37
			12/1/2015	107.70	3194.35
			3/17/2016	107.61	3194.44
			5/10/2016	107.58	3194.47
			8/16/2016	107.50	3194.55
			11/30/2016	107.44	3194.61
			3/14/2017	107.42	3194.63
			6/21/2017	107.32	3194.73
			9/21/2017	107.38	3194.67
ACW-05	105 to 115	3297.18	11/28/2017	107.35	3194.70
			3/3/2015	103.43	3193.75
			6/2/2015	103.42	3193.76
			9/30/2015	103.41	3193.77
			12/1/2015	103.49	3193.69
			3/16/2016	103.42	3193.76
			5/10/2016	103.29	3193.89
			8/16/2016	103.24	3193.94
			11/30/2016	103.28	3193.90
			3/14/2017	103.16	3194.02
			6/21/2017	103.22	3193.96
ACW-06	110 to 120	3302.84	9/21/2017	103.16	3194.02
			11/28/2017	103.28	3193.90
			3/3/2015	107.66	3195.18
			6/2/2015	107.62	3195.22
			9/30/2015	107.63	3195.21
			12/1/2015	107.76	3195.08
			3/16/2016	107.61	3195.23
			5/10/2016	107.46	3195.38
			8/16/2016	107.40	3195.44
			11/30/2016	107.44	3195.40
			3/14/2017	107.43	3195.41
			6/21/2017	107.43	3195.41
			9/21/2017	107.34	3195.50
			11/28/2017	107.85	3194.99

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-07	105 to 115	3297.63	3/3/2015	102.80	3194.83
			6/2/2015	102.75	3194.88
			9/30/2015	102.75	3194.88
			12/1/2015	102.48	3195.15
			3/16/2016	102.44	3195.19
			5/10/2016	102.24	3195.39
			8/16/2016	102.37	3195.26
			11/30/2016	103.45	3194.18
			3/14/2017	102.38	3195.25
			6/21/2017	102.42	3195.21
			9/21/2017	102.34	3195.29
ACW-08	140 to 173	3299.54	11/28/2017	102.43	3195.20
			3/3/2015	103.67	3195.87
			6/2/2015	103.72	3195.82
			9/30/2015	103.79	3195.75
			12/1/2015	103.72	3195.82
			3/17/2016	103.58	3195.96
			5/10/2016	103.41	3196.13
			8/16/2016	103.45	3196.09
			11/30/2016	103.45	3196.09
			3/14/2017	103.43	3196.11
			6/21/2017	103.34	3196.20
ACW-09	140 to 160	3304.69	9/21/2017	103.43	3196.11
			11/28/2017	103.40	3196.14
			3/3/2015	110.66	3194.03
			6/2/2015	110.56	3194.13
			9/30/2015	110.95	3193.74
			12/1/2015	110.60	3194.09
			3/16/2016	110.57	3194.12
			5/10/2016	110.40	3194.29
			8/17/2016	110.45	3194.24
			11/30/2016	110.45	3194.24
			3/14/2017	110.25	3194.44
			6/21/2017	110.33	3194.36
			9/21/2017	110.28	3194.41
			11/28/2017	110.38	3194.31

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-10	140 to 160	3299.82	3/3/2015	106.79	3193.03
			6/2/2015	106.62	3193.20
			9/30/2015	106.65	3193.17
			12/1/2015	106.66	3193.16
			3/16/2016	106.65	3193.17
			5/10/2016	106.50	3193.32
			8/17/2016	106.55	3193.27
			11/30/2016	106.52	3193.30
			3/14/2017	106.35	3193.47
			6/21/2017	106.43	3193.39
			9/21/2017	106.40	3193.42
ACW-11	140 to 160	3301.64	11/28/2017	106.44	3193.38
			3/3/2015	106.10	3195.54
			6/2/2015	106.08	3195.56
			9/30/2015	106.30	3195.34
			12/1/2015	106.17	3195.47
			3/17/2016	106.09	3195.55
			5/10/2016	105.90	3195.74
			8/17/2016	105.88	3195.76
			11/30/2016	105.97	3195.67
			3/14/2017	105.80	3195.84
			6/21/2017	105.73	3195.91
ACW-12	150 to 170	3301.8	9/21/2017	105.84	3195.80
			11/28/2017	105.83	3195.81
			3/3/2015	109.77	3192.03
			6/2/2015	109.62	3192.18
			9/30/2015	109.78	3192.02
			12/1/2015	109.69	3192.11
			3/16/2016	109.70	3192.10
			5/10/2016	109.56	3192.24
			8/17/2016	109.61	3192.19
			11/30/2016	109.59	3192.21
			3/14/2017	109.40	3192.40
			6/21/2017	109.56	3192.24
			9/21/2017	109.47	3192.33
			11/28/2017	109.49	3192.31

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-13	153 to 173	3291.72	3/3/2015	99.56	3192.16
			6/2/2015	99.52	3192.20
			9/30/2015	99.59	3192.13
			12/1/2015	99.65	3192.07
			3/16/2016	99.57	3192.15
			5/10/2016	99.44	3192.28
			8/17/2016	99.50	3192.22
			11/30/2016	99.46	3192.26
			3/14/2017	99.34	3192.38
			6/21/2017	99.37	3192.35
			9/21/2017	99.41	3192.31
			11/28/2017	99.39	3192.33
ACW-14	157 to 177	3294.74	3/3/2015	100.61	3194.13
			6/2/2015	100.55	3194.19
			9/30/2015	100.59	3194.15
			12/1/2015	100.62	3194.12
			3/16/2016	100.58	3194.16
			5/10/2016	100.46	3194.28
			8/17/2016	100.43	3194.31
			11/30/2016	100.04	3194.70
			3/14/2017	100.34	3194.40
			6/21/2017	100.37	3194.37
			9/21/2017	100.42	3194.32
			11/28/2017	100.44	3194.30
ACW-15	150 to 170	3292.75	3/3/2015	102.57	3190.18
			6/2/2015	102.48	3190.27
			9/30/2015	102.56	3190.19
			12/1/2015	102.62	3190.13
			3/16/2016	102.56	3190.19
			5/10/2016	102.42	3190.33
			8/17/2016	102.50	3190.25
			11/30/2016	102.42	3190.33
			3/14/2017	102.28	3190.47
			6/21/2017	102.33	3190.42
			9/21/2017	102.36	3190.39
			11/28/2017	102.36	3190.39

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-16	150 to 170	3307.89	3/3/2015	109.54	3198.35
			6/2/2015	109.61	3198.28
			9/30/2015	109.69	3198.20
			12/1/2015	109.73	3198.16
			3/17/2016	109.65	3198.24
			5/10/2016	109.49	3198.40
			8/16/2016	109.47	3198.42
			11/30/2016	109.46	3198.43
			3/14/2017	109.48	3198.41
			6/21/2017	109.34	3198.55
			9/21/2017	109.33	3198.56
ACW-17	151 to 171	3306.17	11/28/2017	109.40	3198.49
			3/3/2015	108.48	3197.69
			6/2/2015	108.54	3197.63
			9/30/2015	108.59	3197.58
			12/1/2015	108.61	3197.56
			3/17/2016	108.54	3197.63
			5/10/2016	108.33	3197.84
			8/16/2016	108.31	3197.86
			11/30/2016	108.28	3197.89
			3/14/2017	108.48	3197.69
			6/21/2017	108.46	3197.71
ACW-18	160 to 180	3303.15	9/21/2017	108.43	3197.74
			11/28/2017	108.54	3197.63
			3/3/2015	107.41	3195.74
			6/2/2015	107.61	3195.54
			9/30/2015	104.34	3198.81
			12/1/2015	107.80	3195.35
			3/17/2016	107.68	3195.47
			5/10/2016	107.49	3195.66
			8/16/2016	107.55	3195.60
			11/30/2016	107.47	3195.68
			3/14/2017	107.51	3195.64
			6/21/2017	107.41	3195.74
			9/21/2017	107.43	3195.72
			11/28/2017	107.49	3195.66

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-19	98 to 118	3302.68	3/3/2015	106.70	3195.98
			6/2/2015	106.63	3196.05
			9/30/2015	106.73	3195.95
			12/1/2015	106.73	3195.95
			3/17/2016	106.51	3196.17
			5/10/2016	106.37	3196.31
			8/16/2016	106.42	3196.26
			11/30/2016	106.42	3196.26
			3/14/2017	106.42	3196.26
			6/21/2017	106.31	3196.37
			9/21/2017	106.40	3196.28
ACW-20	154 to 174	3303.5	11/28/2017	106.40	3196.28
			3/3/2015	108.95	3194.55
			6/2/2015	107.20	3196.30
			9/30/2015	108.94	3194.56
			12/1/2015	108.96	3194.54
			3/17/2016	108.78	3194.72
			5/10/2016	108.61	3194.89
			8/16/2016	108.65	3194.85
			11/30/2016	108.62	3194.88
			3/14/2016	108.62	3194.88
			6/21/2017	108.52	3194.98
ACW-21			9/21/2017	108.60	3194.90
			11/28/2017	108.59	3194.91
	98 to 118	3301.82	3/3/2015	106.21	3195.61
			6/2/2015	106.18	3195.64
			9/30/2015	106.21	3195.61
			12/1/2015	106.27	3195.55
			3/17/2016	106.20	3195.62
			5/10/2016	106.00	3195.82
			8/16/2016	105.97	3195.85
			11/30/2016	105.92	3195.90
			3/14/2017	105.91	3195.91
			6/21/2017	105.81	3196.01
			9/21/2017	105.82	3196.00
			11/28/2017	105.94	3195.88

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-22	102 to 122	3306.24	12/2/2015	112.29	3193.95
			3/16/2016	112.26	3193.98
			5/10/2016	112.43	3193.81
			8/16/2016	112.15	3194.09
			11/30/2016	112.12	3194.12
			3/14/2017	111.94	3194.30
			6/21/2017	112.04	3194.20
			9/21/2017	112.03	3194.21
			11/28/2017	112.04	3194.20
ACW-23	147 to 167	3306.29	12/2/2015	112.39	3193.90
			3/16/2016	112.41	3193.88
			5/10/2016	112.28	3194.01
			8/17/2016	112.31	3193.98
			11/30/2016	112.29	3194.00
			3/14/2017	112.11	3194.18
			6/21/2017	112.17	3194.12
			9/21/2017	112.09	3194.20
			11/28/2017	112.15	3194.14
ACW-24	166 to 186	3305.56	12/3/2015	110.77	3194.79
			3/16/2016	110.74	3194.82
			5/10/2016	110.58	3194.98
			8/16/2016	110.56	3195.00
			11/30/2016	110.64	3194.92
			3/14/2017	110.60	3194.96
			6/21/2017	110.59	3194.97
			9/21/2017	110.49	3195.07
			11/28/2017	110.65	3194.91
ACW-25	151 to 171	3297.59	12/2/2015	103.72	3193.87
			3/16/2016	103.61	3193.98
			5/10/2016	103.49	3194.10
			8/16/2016	103.44	3194.15
			11/30/2016	103.47	3194.12
			3/14/2017	103.36	3194.23
			6/21/2017	103.43	3194.16
			9/21/2017	103.37	3194.22
			11/28/2017	103.46	3194.13

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ENSR-01	123 to 148	3306.71	3/3/2015	107.97	3198.74
			6/2/2015	108.00	3198.71
			9/30/2015	108.06	3198.65
			12/1/2015	108.07	3198.64
			3/17/2016	108.05	3198.66
			5/10/2016	107.84	3198.87
			8/17/2016	107.81	3198.90
			11/30/2016	107.81	3198.90
			3/14/2017	107.83	3198.88
			6/21/2017	107.68	3199.03
			9/21/2017	107.78	3198.93
			11/28/2017	107.74	3198.97
ENSR-03	123 to 148	3305.05	3/3/2015	107.48	3197.57
			6/2/2015	107.51	3197.54
			9/30/2015	107.37	3197.68
			12/1/2015	107.52	3197.53
			3/17/2016	107.52	3197.53
			5/10/2016	107.28	3197.77
			8/16/2016	107.25	3197.80
			11/30/2016	107.27	3197.78
			3/14/2017	107.20	3197.85
			6/21/2017	107.15	3197.90
			9/21/2017	107.25	3197.80
			11/28/2017	107.25	3197.80
EPNG-01	120 to 160	3310.03	3/3/2015	109.44	3200.59
			6/2/2015	NM	NM
			9/30/2015	109.38	3200.65
			12/1/2015	109.48	3200.55
			3/16/2016	109.46	3200.57
			5/10/2016	109.30	3200.73
			8/16/2016	109.29	3200.74
			11/30/2016	109.31	3200.72
			3/14/2017	109.21	3200.82
			6/21/2017	109.14	3200.89
			9/21/2017	109.18	3200.85
			11/28/2017	109.22	3200.81

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
PTP-01	110 to 130	3305.67	3/3/2015	108.04	3197.63
			6/2/2015	108.09	3197.58
			9/30/2015	108.12	3197.55
			12/1/2015	108.12	3197.55
			3/17/2016	NM	NM
			5/10/2016	NM	NM
			8/16/2016	NM	NM
			11/30/2016	NM	NM
			3/14/2017	NM	NM
			6/21/2017	107.73	3197.94
			9/21/2017	107.83	3197.84
			11/28/2017	107.84	3197.83
RW-01	109 to 179	3302.16	3/3/2015	105.93	3196.23
			6/2/2015	105.91	3196.25
			9/30/2015	106.05	3196.11
			12/1/2015	106.19	3195.97
			3/17/2016	106.00	3196.16
			5/10/2016	105.87	3196.29
			8/16/2016	105.71	3196.45
			11/30/2016	105.51	3196.65
			3/14/2017	105.63	3196.53
			6/21/2017	105.61	3196.55
			9/21/2017	105.69	3196.47
			11/28/2017	105.63	3196.53
RW-02	155 to 175	3303.71	3/3/2015	109.64	3194.07
			6/2/2015	109.64	3194.07
			9/30/2015	109.76	3193.95
			3/16/2016	109.64	3194.07
			5/10/2016	109.49	3194.22
			8/17/2016	109.52	3194.19
			11/30/2016	109.51	3194.20
			3/14/2017	109.27	3194.44
			6/21/2017	109.38	3194.33
			9/21/2017	109.34	3194.37
			11/28/2017	110.42	3193.29

Table 2
Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
RW-03	136.7 to 176.7	3302.65	3/3/2015	106.52	3196.13
			6/2/2015	106.59	3196.06
			9/30/2015	106.70	3195.95
			12/1/2015	106.67	3195.98
			3/17/2016	106.60	3196.05
			5/10/2016	106.40	3196.25
			8/16/2016	106.45	3196.20
			11/30/2016	106.41	3196.24
			3/14/2017	106.38	3196.27
			6/21/2017	106.29	3196.36
			9/21/2017	106.40	3196.25
			11/28/2017	106.39	3196.26
RW-04	154 to 174	3303.26	5/10/2016	108.36	3194.90
			8/16/2016	109.00	3194.26
			11/30/2016	108.89	3194.37
			3/14/2016	108.80	3194.46
			6/21/2017	108.72	3194.54
			9/21/2017	108.75	3194.51
			11/28/2017	108.80	3194.46

Notes:

TOC : Measured from top of casing

ft-amsl : feet above mean sea level

NM : No measurement taken

ft bgl: feet below ground level

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-01		1/6/2015	0.00911	0.00166	0.00053 J	0.00085 J	11,700	5,800	4,490	1,620
		12/3/2015	0.01370	0.00264 J	0.00121 J	0.00213 J	17,700	11,600 H	6,720	3,620
		12/28/2016	0.00753	0.00112	0.00056 J	0.00061 J	14,000	6,970	4,570	2,510 B
		11/28/2017	0.11500	0.00316	0.00079 J	0.00115 J	16,200	16,000	6,020	3,340 B
ACW-02A		1/7/2015	0.00318	0.00100 J	0.00128	0.00097 J	11,800	5,680	3,660	2,540
		12/3/2015	0.00537	0.00308	0.00259	0.00311	10,600	6,750 H	3,140	2,430
		12/1/2016	0.00614 J	< 0.00396	< 0.00424	< 0.00732	10,100	6,390	2,560	2,260 B
		11/28/2017	0.00481	0.00191	0.00202	0.00212	11,100	7,030	3,210	2,590 B
ACW-04		1/7/2015	0.02900	0.00155	0.01660	0.01040	136,000	83,300	63,000	36,200
		12/3/2015	0.03240	0.00114	0.00550	0.00878	115,000	111,000	56,200	39,700
		12/1/2016	0.02570	0.00096 J	0.00495	0.00810	131,000	124,000	64,800	36,900 B
		11/28/2017	0.02680	0.00090 J	0.00395	0.00600	32,800	138,000	67,000	36,400 B
ACW-05		12/1/2015	0.00287	0.00171	0.00021 J	< 0.00037	7,340	4,890	2,270	1,130
		12/2/2016	0.00133	< 0.00020	< 0.00021	< 0.00037	6,250	4,220	2,240	760 B
		11/28/2017	0.00470	0.00030 J	0.00028 J	< 0.00037 U	1,810	5,360	2,660	1,260 B
ACW-06		12/1/2015	0.00019 J	< 0.00020	< 0.00021	< 0.00037	4,930	2,960 H	1,370	1,020
		12/2/2016	0.00019 J	< 0.00020	< 0.00021	< 0.00037	4,270	2,470	1,000	923 B
		11/28/2017	0.00032 J	< 0.00020	< 0.00021	< 0.00037	5,760	3,460	2,140	1,230
ACW-07		1/9/2015	< 0.00030	< 0.00030	0.00728	0.00053 J	10,000	4,940	3,420	2,380
		12/1/2015	0.00549	0.00081 J	0.01560	0.00129 J	10,700	6,430 H	3,490	2,390
		12/2/2016	< 0.00018	< 0.00020	0.01240	< 0.00037	10,500	6,140	3,290	2,160
		11/28/2017	< 0.00018	< 0.00020	0.00036 J	< 0.00037	8,940	5,940	2,810	1,840
ACW-09		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	18,500	10,300	6,310	3,040
		12/1/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	21,400	15,900 H	9,130 F1	4,130
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	20,200	13,000	7,270	3,820 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	26,000	20,000	10,600	3,090 B

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-10		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	4,020	2,770	1,610	268
		12/1/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,050	4,200 H	1,730	294
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,350	4,260	1,760	293
		11/28/2017	0.00025 J	< 0.00020	< 0.00021	< 0.00020	4,640	2,320	2,350	303 B
ACW-11		1/5/2015	0.01490	< 0.00030	< 0.00020	< 0.00023	36,900	23,800	17,700	6,160
		12/4/2015	0.02760	< 0.00020	< 0.00021	< 0.00037	56,200	70,900 H	23,000	7,240 B
		12/1/2016	0.00228	< 0.00020	< 0.00021	< 0.00037	45,800	40,400	20,000	5,810 B
		11/28/2017	0.01260	< 0.00020	< 0.00021	< 0.00037	65,600	39,900 H	30,500	10,700 B
ACW-12		1/5/2015	0.00062	< 0.00030	< 0.00020	< 0.00023	4,610	3,350	1,610	277
		12/1/2015	0.00023 J	0.00041	< 0.00021	< 0.00037	5,000	3,190 H	1,610	274 B
		12/1/2016	< 0.00018	< 0.00021	< 0.00021	< 0.00037	5,070	4,000	1,560	258 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,820	2,430	1,840	348 B
ACW-13		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	1,340	449	272	105
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	1,250	804	276	102
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,340	1,020	313	110
		9/30/2015	< 0.00018	< 0.00021	< 0.00020	< 0.00037	1,310	930	268	102
		12/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,320	966 H	301	109 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00013	< 0.00020	1,310	1,140	249 F1	105
		5/18/2016	< 0.00056	< 0.00055	< 0.00013	< 0.00020	1,340	1,260	284	103
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,300	1,090	293	107
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,330	944	299	112
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,350	1,010	246 B	116
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,350	1,190	327	116
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,430	1,100	329	121
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,550	1,160	363	137 B

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-14		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	772	494	7	103
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	840	490	76	101
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	817	543	83	97
		12/2/2015	< 0.00018 H	< 0.00020 H	< 0.00021 H	< 0.00037 H	836	838 H	94	101 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00129	834	569	86	100
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00129	861	742	262	98
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	842	558	121	102
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	871	577	98	107
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	875	583	96 B	108
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	867	748	128	101
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	877	598	121	107
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	905	613	120	104 B
ACW-15		1/9/2015	< 0.00014	< 0.00030	< 0.00020	< 0.00023	782	449	56	86
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	724	454	67	101
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	785	500	72	91
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	763	475	74	85
		12/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	599	407 H	68	67
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	774	565	86	89
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	865	770	116	86
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	815	588	123	90
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	876	582	122	92
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	864	575	84 B	95
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	880	771	126	90
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	898	635	133	92
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	940	640	168	94 B

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-16		1/6/2015	0.00220	< 0.00030	< 0.00020	< 0.00023	24,400	15,100	10,700	4,010
		12/3/2015	0.00185	0.00033 J	< 0.00021	0.00055 J	26,700	20,600 H	13,400	4,460
		12/1/2016	0.00224	0.00030 J	< 0.00021	< 0.00037	27,400	21,200	11,200	4,480 B
		11/28/2017	0.00243	0.00023 J	< 0.00021	< 0.00037	27,700	21,700	11,700	4,260 B
ACW-17		1/6/2015	< 0.00033	< 0.00030	< 0.00020	< 0.00023	609	7,960	5,500	1,680
		12/3/2015	0.00026 J	< 0.00020	< 0.00021	< 0.00037	14,000	10,800 H	5,950	1,760
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	14,400	11,100	5,520	1,670
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	15,100	11,600	6,420	1,700 B
ACW-18		1/6/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	104,000	64,400	49,700	26,200
		12/3/2015	0.00026 J	< 0.00020	< 0.00021	< 0.00037	102,000	105,000 H	42,900	27,300 B
		12/28/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	105,000	60,300	47,000	28,100 B
		11/28/2017	0.00062 J	< 0.00020	< 0.00021	< 0.00037	106,000	91,400	60,200	27,200 B
ACW-19		1/6/2015	0.07550	0.00064	0.00095	0.00345	3,470	2,180	972	539
		12/3/2015	0.08410	0.00156	0.00924	0.01480	3,970	2,560	1,080	641 B
		12/1/2016	0.06390	0.00052	0.00201	0.00217	4,110	2,520	1,050	587 B
		11/28/2017	0.04760	0.00057 J	0.00137	0.00224	4,600	2,960	1,320	645 B
ACW-20		1/12/2015	0.06820	0.00988	0.00986	0.00755	137,000	86,600	73,200	---
		12/3/2015	0.07080	0.00876	0.01290	0.00995	140,000	116,000 H	70,400	43,500
		12/1/2016	0.09420	0.01050	0.01740	0.01240	130,000	117,000	58,200	40,200
		11/28/2017	0.05530	0.00874	0.00503	0.00410	150,000	136,000	80,600	46,700 B
ACW-21		1/12/2015	0.07290	< 0.00150	0.01660	0.01040	2,010	1,010	410	144
		12/3/2015	0.77500	< 0.00396	0.04450	0.15400	1,990	1,280 H	414	146
		12/1/2016	0.06400	< 0.00396	0.06170	0.04380	2,050	1,270	380	150
		11/28/2017	0.05620	0.00037 J	0.00921	0.00220	1,890	1,280	572	144 B
ACW-22		12/2/2015	< 0.00018	0.00024 J	< 0.00021	< 0.00037	2,080	1,270 H	397	238 B
		12/2/2016	< 0.00018	0.00024 J	< 0.00021	< 0.00037	2,220	1,230	3,150	284 B
		11/28/2017	0.00027 J	0.00024 J	< 0.00021	< 0.00037	2,190	1,350	418	260 B

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-23		12/2/2015	< 0.00018	0.00302	< 0.00021	< 0.00037	2,820	1,940 H	646	291 B
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	3,030	1,930	682	343 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	3,150	2,100	761	326 B
ACW-24		12/2/2015	0.00152	0.00105	< 0.00021	< 0.00037	113,000	84,700 H	56,800	30,800
		12/2/2016	0.00129	< 0.00020	< 0.00021	< 0.00037	112,000	105,000	52,500	29,100 B
		11/28/2017	0.00187	0.00033 J	< 0.00021	< 0.00037	115,000	110,000	64,000	29,600
ACW-25		12/2/2015	0.10600	0.00105	0.00038 J	0.00227	34,300	22,600 H	15,700	4,490
		12/2/2016	0.01660	0.00031	< 0.00021	< 0.00037	40,400	31,200	16,000	5,390
		11/28/2017	0.01890	< 0.00020	< 0.00021	< 0.00037	41,500	33,400 H	22,400	5,660
ENSR-01		1/6/2015	0.00598	0.00039 J	0.00260	0.00111 J	6,610	2,850	2,260	982
		12/1/2016	0.01480	0.00047 J	0.00160	0.00137 J	21,800	15,100	8,620	4,410 B
		11/28/2017	0.01360	0.00055 J	0.00205	0.00124 J	20,700	16,400	8,280	3,740 B
ENSR-03		1/10/2015	0.01250	0.00087	0.00091	< 0.00023	2,790	1,760	750	173
		12/3/2015	0.00830	0.00113	0.00079 J	< 0.00037	2,740	1,850 H	811	191
		12/1/2016	0.01060	< 0.00020	0.00080 J	< 0.00037	2,800	1,840	741	185 B
Oxy Water Well		1/12/2015	< 0.00014	< 0.00030	< 0.00022	< 0.00023	1,450	760	297	105
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	1,340	845	286	89
		6/3/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,450	1,000	298	103
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,330	872	440	101
		12/8/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,230	970	230	99 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	1,400	1,050	234	100
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	1,410	1,200	262	99
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,200	800	221	92
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,160	702	201	92
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,180	730	201 B	100
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,370	1,050	290	107
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,410	980	264	104
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,390	924	289	111 B

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
EPNG-01		1/12/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	2,790	414	64	92
		12/4/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,140	806 H	201	164 B
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	820	522	77	103 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,350	894	274	113 B
Doom Water Well		1/12/2015	< 0.00014	< 0.00030	< 0.00020	< 0.00023	609	423	28	62
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	587	404	29	65
		6/3/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	646	374	30	0
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	616	411	30	66
		12/16/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	643	378	30	66
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	617	388	25	66
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	639	667	36	60
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	625	412	57	64
	D	8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	634	424	57	65
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	635	399	43	66
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	628	429	30 B	70
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	627	577	44	65
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	636	438	43	64
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	665	541	20	67
PTP-01		1/6/2015	< 0.00030	0.00180	0.00631	0.00053	2,230	1,260	519	162
		11/28/2017	0.00061 J	< 0.00030	0.00182	0.00100 J	2,140	1,480	528	178 B

Notes:

< : Denotes a sample value of less than the MDL

--- : No analysis performed

Bold Font: Indicates a detection above the laboratory detection limit

Bold Font: Indicates regulatory limit exceedance

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 not detected at or above the MDL

D: Indicates a duplicate sample

Table 3
Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	-	1,000 mg/L	250 mg/L	--

H: Sample was prepped or analyzed beyond the specified holding time
F1: Indicates the MS and/or MSD recovery is outside of acceptance limits

Table 4
Quarterly Trends in Groundwater
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Mann-Kendall by Normal Approximation (a = 0.05)			Current Trend	Previous Trend	Analytical Result mg/L
	Upward Trend	Downward Trend	Z			
Chloride						
ACW-13	0.024549	0.975451	1.96774	↑	↔	363
ACW-14	0.0194397	0.98056	2.06546	↑	↑	120
ACW-15	0.0021038	0.997896	2.86217	↑	↑	168
OXY Water Well	0.5	0.5	0	↔	↔	289
Doom Water Well	0.360257	0.639743	0.357771	↔	↔	19.9
Sodium						
ACW-13	0.0008359	0.999164	3.14309	↑	↔	137
ACW-14	0.0236461	0.976354	1.98367	↔	↔	104
ACW-15	0.0021038	0.997896	2.86217	↑	↔	94.4
OXY Water Well	0.185547	0.814453	0.894427	↔	↔	111
Doom Water Well	0.360257	0.639743	0.357771	↔	↔	66.8
Total Dissolved Solids						
ACW-13	0.105249	0.894751	1.2522	↔	↑	1160
ACW-14	0.141565	0.858435	1.07331	↔	↔	613
ACW-15	0.024549	0.975451	1.96774	↑	↑	640
OXY Water Well	0.535778	0.464222	-0.0898	↔	↔	924
Doom Water Well	0.0368191	0.963181	1.78885	↑	↔	541

Notes:

↓ Decreasing Trend

↔ Stable (No Trend)

↑ Increasing Trend

Trends: Third quarter of 2015 through fourth quarter of 2017

Analytical Result: Fourth Quarter 2017

Table 5
Annual Chloride Trend in Groundwater
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Mann-Kendall by Normal Approximation (a = 0.05)			Current Trend	Previous Trend	Chloride Analytical Result mg/L
	Upward Trend	Downward Trend	Z			
Upper Zone						
ACW-01	0.0021038	0.997896	2.86217	↑	↑	6,020
ACW-02A	0.999662	0.0003384	-3.39882	↓	↓	3,210
ACW-05	0.0015209	0.998479	2.96349	↑	↑	2,660
ACW-06	0.326711	0.673289	0.449013	↔	↔	2,140
ACW-07	0.998821	0.0011788	-3.04105	↓	↓	2,810
ACW-19	*	*	*	↑	↑	1,320
ACW-21	*	*	*	↑	↔	572
ACW-22	*	*	*	↔	*	418
ENSR-01	0.0537023	0.946298	1.60997	↔	↑	8,280
PTP-01	*	*	*	↔	*	528
Lower Zone						
ACW-04	0.0036452	0.996355	2.68328	↑	↑	67,000
ACW-09	0.0003384	0.999662	3.39882	↑	↑	10,600
ACW-10	0.0003384	0.999662	3.39882	↑	↑	2,350
ACW-11	0.0159116	0.984088	2.14663	↑	↔	30,500
ACW-12	0.0008359	0.999164	3.14309	↑	↑	1,840
ACW-13	0.0003384	0.999662	3.39882	↑	↑	363
ACW-14	0.105249	0.894751	1.2522	↔	↔	120
ACW-15	0.024549	0.975451	1.96774	↑	↔	168
ACW-16	*	*	*	↑	↑	11,700
ACW-17	*	*	*	↑	↔	6,420
ACW-18	*	*	*	↑	↔	60,200
ACW-20	*	*	*	↔	↓	80,600
ACW-23	*	*	*	↑	*	761
ACW-24	*	*	*	↔	*	64,000
ACW-25	*	*	*	↔	*	22,400
OXY Water Well	*	*	*	↔	*	289
Doom Water Well	0.858435	0.141565	-1.07331	↔	↔	19.9

Notes:

↓ Decreasing Trend

↔ Stable (No Trend)

↑ Increasing Trend

* Insufficient data for Mann-Kendall trend analysis, a preliminary trend analysis is presented

Trends: December 2008 through December 2017

Analytical Result: Fourth Quarter 2017

Table 6
Annual Sodium Trend in Groundwater
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Mann-Kendall by Normal Approximation (a = 0.05)			Current Trend	Previous Trend	Sodium Analytical Result mg/L
	Upward Trend	Downward Trend	Z			
Upper Zone						
ACW-01	0.0006411	0.999359	3.21994	↑	↑	3340
ACW-02A	0.999359	0.0006411	-3.21994	↓	↓	2590
ACW-05	0.0026856	0.997314	2.78388	↑	↑	1260
ACW-06	0.429014	0.570986	0.178885	↔	↔	1230
ACW-07	0.838382	0.161618	-0.98783	↔	↔	1840
ACW-19	*	*	*	↔	↔	645
ACW-21	*	*	*	↔	↔	144
ACW-22	*	*	*	↔	*	260
ENSR-01	0.0537023	0.946298	1.60997	↔	↔	3740
PTP-01	*	*	*	↔	*	178
Lower Zone						
ACW-04	0.0006411	0.999359	3.21994	↑	↑	36400
ACW-09	0.0100223	0.989978	2.32551	↑	↑	3090
ACW-10	0.0159116	0.984088	2.14663	↑	↑	303
ACW-11	0.0762031	0.923797	1.43108	↔	↔	10700
ACW-12	0.0159116	0.984088	2.14663	↑	↑	348
ACW-13	0.0011788	0.998821	3.04105	↑	↑	137
ACW-14	0.105249	0.894751	1.2522	↔	↔	104
ACW-15	0.105249	0.894751	1.2522	↔	↔	94.4
ACW-16	*	*	*	↔	↔	4260
ACW-17	*	*	*	↔	↔	1700
ACW-18	*	*	*	↔	↔	27200
ACW-20	*	*	*	↔	↔	46700
ACW-23	*	*	*	↔	*	326
ACW-24	*	*	*	↔	*	29600
ACW-25	*	*	*	↑	*	5660
OXY Water Well	*	*	*	↔	*	111
Doom Water Well	0.0537023	0.946298	1.60997	↔	↔	66.8

Notes:

↓ Decreasing Trend

↔ Stable (No Trend)

↑ Increasing Trend

* Insufficient data for Mann-Kendall trend analysis, a preliminary trend analysis is presented

Trends: December 2008 through December 2017

Analytical Result: Fourth Quarter 2017

Table 7
Annual TDS Trend in Groundwater
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Mann-Kendall by Normal Approximation (a = 0.05)			Current Trend	Previous Trend	TDS Analytical Result mg/L
	Upward Trend	Downward Trend	Z			
Upper Zone						
ACW-01	0.0036452	0.996355	2.68328	↑	↑	16000
ACW-02A	0.993867	0.006133	-2.5044	↓	↓	7030
ACW-05	0.0762031	0.923797	1.43108	↔	↔	5360
ACW-06	0.429014	0.570986	0.178885	↔	↔	3460
ACW-07	0.989978	0.0100223	-2.32551	↓	↓	5940
ACW-19	*	*	*	↑	↑	2960
ACW-21	*	*	*	↔	↑	1280
ACW-22	*	*	*	↔	*	1350
ENSR-01	0.0537023	0.946298	1.60997	↑	↑	16400
PTP-01	*	*	*	↔	*	1480
Lower Zone						
ACW-04	0.0003384	0.999662	3.39882	↑	↑	138000
ACW-09	0.024549	0.975451	1.96774	↑	↑	20000
ACW-10	0.295753	0.704247	0.536656	↔	↑	2320
ACW-11	0.0634246	0.936575	1.52665	↔	↑	39900
ACW-12	0.570986	0.429014	-0.17889	↔	↔	2430
ACW-13	0.295753	0.704247	0.536656	↔	↔	1160
ACW-14	0.141565	0.858435	1.07331	↔	↔	613
ACW-15	0.429014	0.570986	0.178885	↔	↔	16400
ACW-16	*	*	*	↑	↑	21700
ACW-17	*	*	*	↔	↑	11600
ACW-18	*	*	*	↔	↔	91400
ACW-20	*	*	*	↑	↑	136000
ACW-23	*	*	*	↔	*	2100
ACW-24	*	*	*	↑	*	110000
ACW-25	*	*	*	↑	*	33400
OXY Water Well	*	*	*	↑	*	924
Doom Water Well	0.393808	0.606192	0.269408	↔	↔	541

Notes:

↓ Decreasing Trend

↔ Stable (No Trend)

↑ Increasing Trend

* Insufficient data for Mann-Kendall trend analysis, a preliminary trend analysis is presented

Trends: December 2008 through December 2017

Analytical Result: Fourth Quarter 2017

Table 8
Annual Benzene Trend in Groundwater
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Mann-Kendall by Normal Approximation (a = 0.05)			Current Trend	Previous Trend	Benzene Analytical Result mg/L
	Upward Trend	Downward Trend	Z			
Upper Zone						
ACW-01	0.0117711	0.988229	2.26452	↑	↑	0.115
ACW-02A	0.993634	0.0063657	-2.4912	↓	↓	0.00481
ACW-05	0.0187882	0.981212	2.07945	↑	↔	0.0047
ACW-06	0.999829	0.0001711	-3.5811	↓	↓	0.00032
ACW-07	0.974541	0.0254589	-1.95217	↓	↔	0.000176
ACW-19	*	*	*	↓	↔	0.0476
ACW-21	*	*	*	↔	↔	0.0562
ENSR-01	0.0597355	0.940265	1.557	↔	↔	0.0136
PTP-01	*	*	*	↓	*	0.00061
Lower Zone						
ACW-04	0.5	0.5	0	↔	↔	0.0268
ACW-09	0.924145	0.0758552	-1.43352	↔	↔	0.000176
ACW-10	0.97098	0.0290202	-1.89539	↓	↔	0.00025
ACW-11	0.0505208	0.949479	1.63982	↔	↔	0.0126
ACW-12	0.920711	0.0792892	-1.40987	↔	↔	0.000176
ACW-16	*	*	*	↑	↔	0.00243
ACW-20	*	*	*	↔	↑	0.0553
ACW-24	*	*	*	↔	*	0.00187
ACW-25	*	*	*	↔	*	0.0189

Notes:

↓ Decreasing Trend

↔ Stable (No Trend)

↑ Increasing Trend

* Insufficient data for Mann-Kendall trend analysis, a preliminary trend analysis is presented

Trends: December 2008 through December 2017

Analytical Result: Fourth Quarter 2017

Table 9
Groundwater Recovery Volumes by Year
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

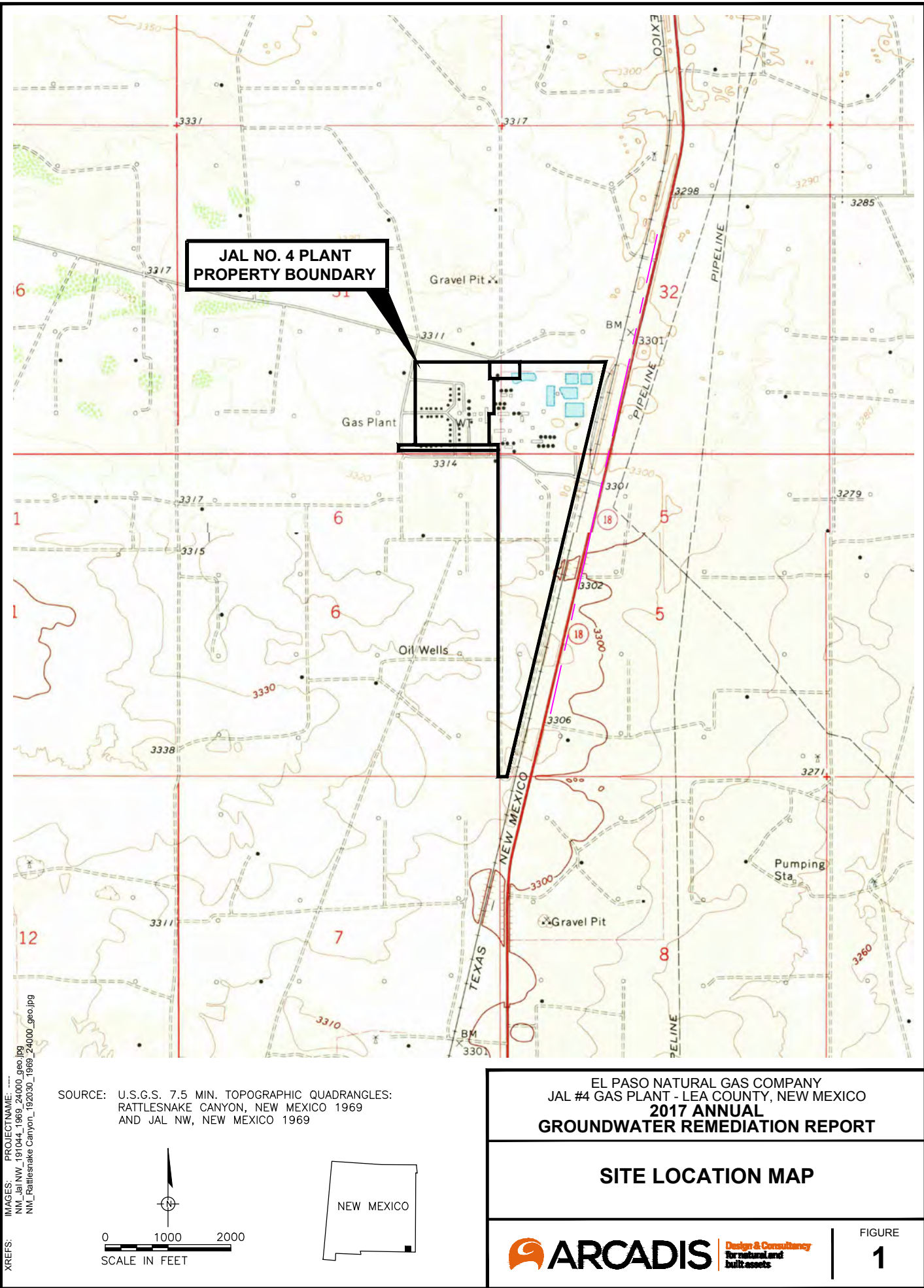
Year	RW-01 (gallons)	RW-02 (gallons)	RW-03 (gallons)	RW-04 (gallons)	ENSR-2 (gallons)	ACW-03 (gallons)	ACW-08 (gallons)	Total (gallons)	Total (acre-feet)
1999	319,280	0	0	0	0	0	0	319,280	0.98
2000	1,575,510	3,967,385	0	0	780,240	0	0	6,323,135	19.40
2001	0	1,672,990	0	0	566,126	0	0	2,239,116	6.87
2002	267,869	2,919,520	0	0	1,675,670	0	0	4,863,059	14.92
2003	501,640	1,598,630	0	0	1,629,400	0	0	3,729,670	11.45
2004	1,241,510	2,029,620	0	0	1,130,850	0	0	4,401,980	13.51
2005	2,333,140	3,493,310	0	0	2,241,812	704,320	1,141,993	9,914,575	30.43
2006	2,367,970	1,205,100	0	0	2,151,020	1,725,100	2,293,637	9,742,827	29.90
2007	2,629,732	2,178,570	0	0	1,523,379	1,022,737	2,151,891	9,506,309	29.17
2008	3,204,015	2,245,830	0	0	338,730	941,069	2,800,513	9,530,157	29.25
2009	2,506,620	2,532,290	0	0	1,582,660	1,775,300	1,445,460	9,842,330	30.21
2010	1,687,110	2,109,680	0	0	792,970	1,530,130	1,292,650	7,412,540	22.75
2011	1,500,210	1,715,830	0	0	10,000	759,000	1,203,220	5,188,260	15.92
2012	422,700	1,112,130	0	0	0	93,140	208,200	1,836,170	5.63
2013	0	0	0	0	0	0	0	0	0.00
2014	0	0	0	0	0	0	0	0	0.00
2015	0	0	0	0	0	0	0	0	0.00
2016*	0	0	0	1,325	0	0	0	1,325	0.00
2017	0	0	0	0	0	0	0	0	0.00
Cumulative Total:	20,557,306	28,780,885	0	1,325	14,422,857	8,550,796	12,537,564	84,850,733	260.40

Notes:

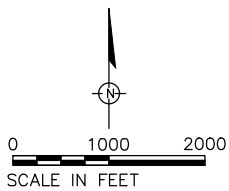
* Groundwater recovered from RW-4 in 2016 is from a pumping test

FIGURES

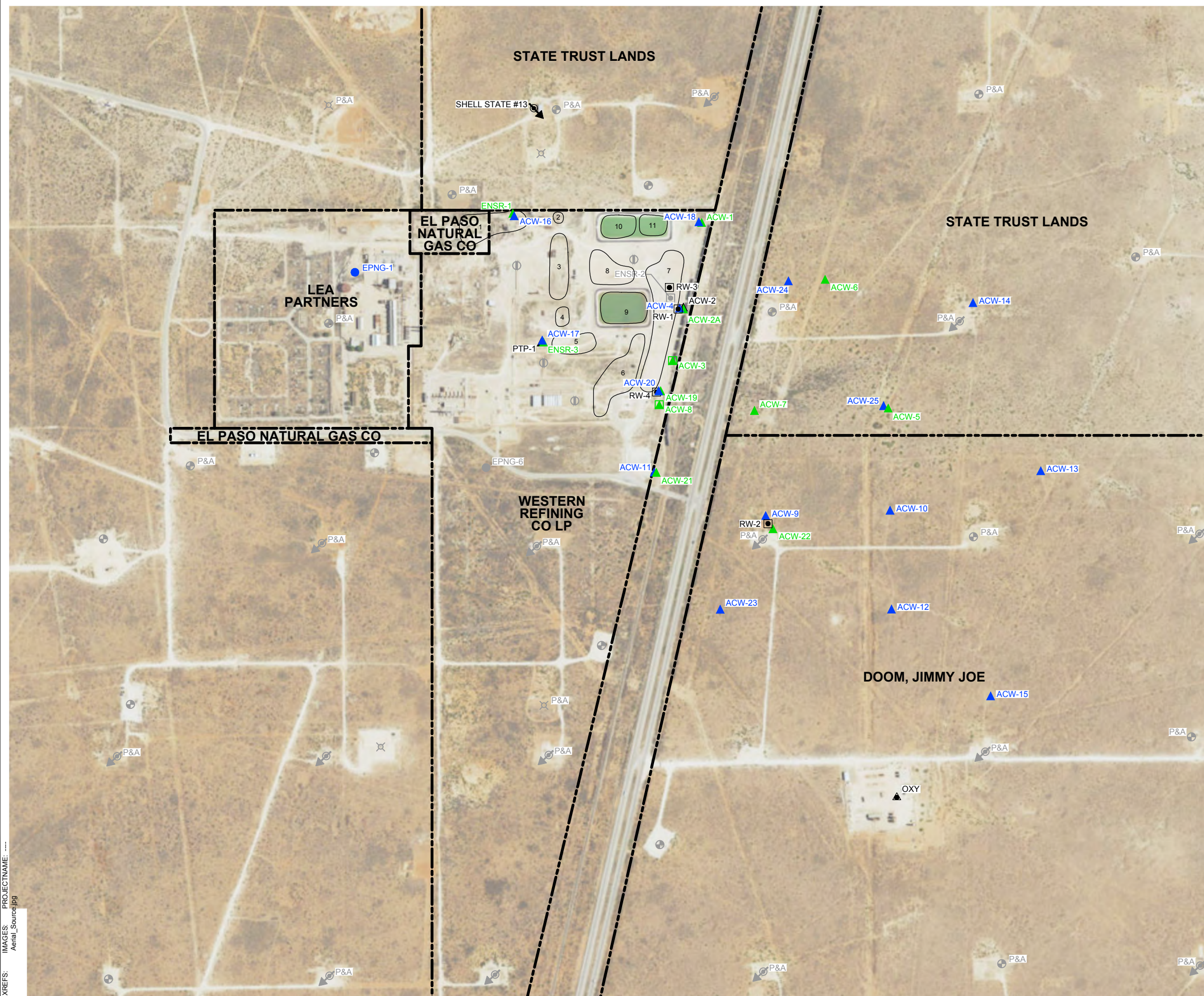




SOURCE: U.S.G.S. 7.5 MIN. TOPOGRAPHIC QUADRANGLES:
 RATTLESNAKE CANYON, NEW MEXICO 1969
 AND JAL NW, NEW MEXICO 1969



EL PASO NATURAL GAS COMPANY JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO 2017 ANNUAL GROUNDWATER REMEDIATION REPORT	
SITE LOCATION MAP	
ARCADIS Design & Consultancy for natural and built assets	FIGURE 1

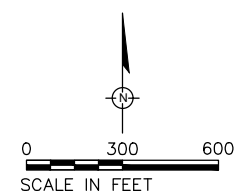


LEGEND

- | | | |
|---|-----------------|--|
|  | SHELL STATE #13 | DISPOSAL WELL |
|  | ACW-5 | GROUNDWATER MONITOR WELL, SCREENED IN THE UPPER PORTION OF THE AQUIFER |
|  | ACW-14 | GROUNDWATER MONITOR WELL, SCREENED IN THE LOWER PORTION OF THE AQUIFER |
|  | RW-2 | GROUNDWATER RECOVERY WELL |
|  | EPNG-1 | WATER SUPPLY WELL |
|  | EPNG-6 | PLUGGED/ABANDONED WATER SUPPLY WELL |
|  | OXY | WATER SUPPLY WELL |
|  | ACW-8 | GROUNDWATER MONITOR WELL CONVERTED TO GROUNDWATER RECOVERY WELL |
|  | ENSR-2 | PLUGGED/ABANDONED MAY 2012 |
|  | | APPROXIMATE PROPERTY BOUNDARY |
|  | | INJECTION WELL (WATER FLOOD) |
|  | | OIL WELL |
|  | | GAS WELL |
|  | | LPG STORAGE WELL |
|  | 4 | FORMER POND LOCATION WITH POND NUMBER |

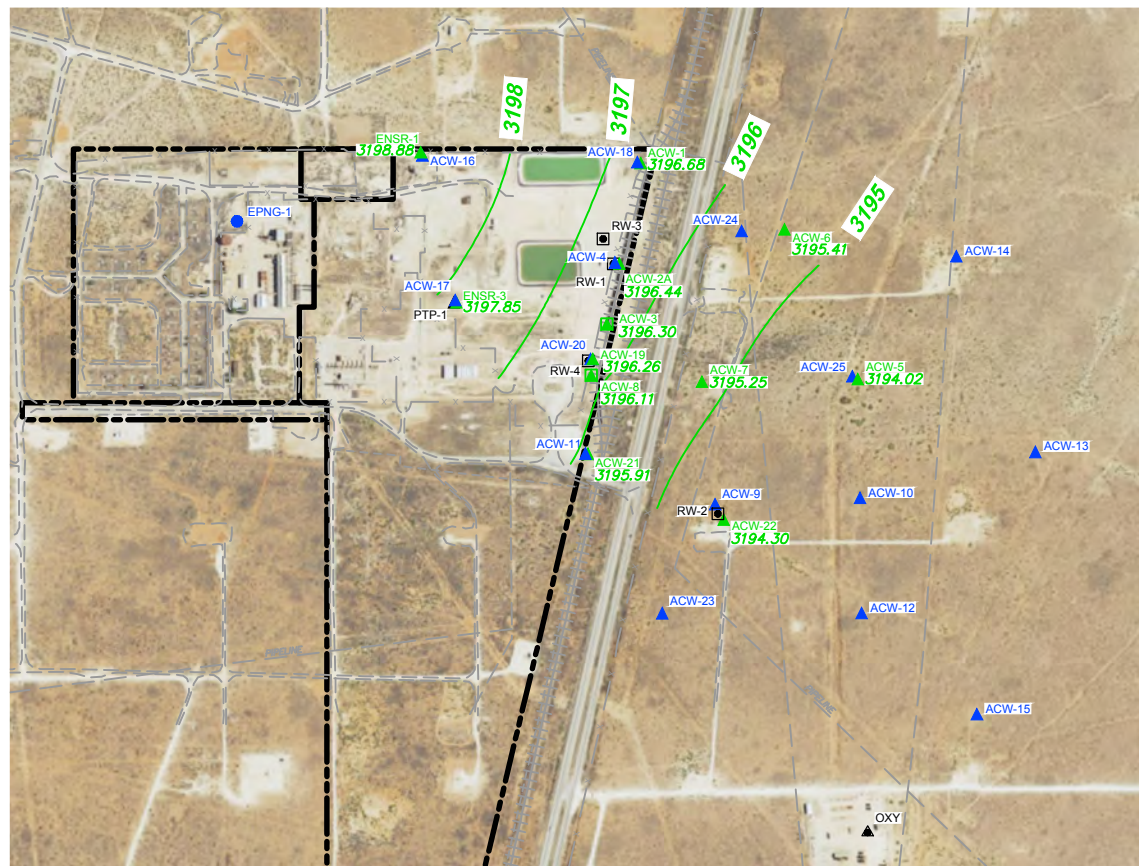
NOTES

- 1) JAL #4 PLANT PROPERTY IS LOCATED WITHIN SECTIONS 31 AND 32 OF TOWNSHIP 23 SOUTH, RANGE 37 EAST, AND SECTIONS 5 AND 6 OF TOWNSHIP 24 SOUTH, RANGE 37 EAST, LEA COUNTY, NEW MEXICO.
- 2) SITE BASE AREA DIGITIZED FROM 11/04/76 AERIAL PHOTOGRAPH WITH PLANT PROPERTY BOUNDARY, WELLS INSERTED FROM VARIOUS OTHER SOURCES, AND DRAWING FILES PROVIDED BY SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC OF TULSA, OKLAHOMA.
- 3) RECOVERY SYSTEM WAS NOT OPERATED IN 2017.
- 4) AERIAL PHOTO SOURCED FROM ESRI.
- 5) SOURCE OF LAND OWNERSHIP IS THE LEA COUNTY APPRAISAL DISTRICT.
- 6) SOURCE OF INDUSTRY-RELATED WELLS IS NMOCD OIL & GAS MAP.

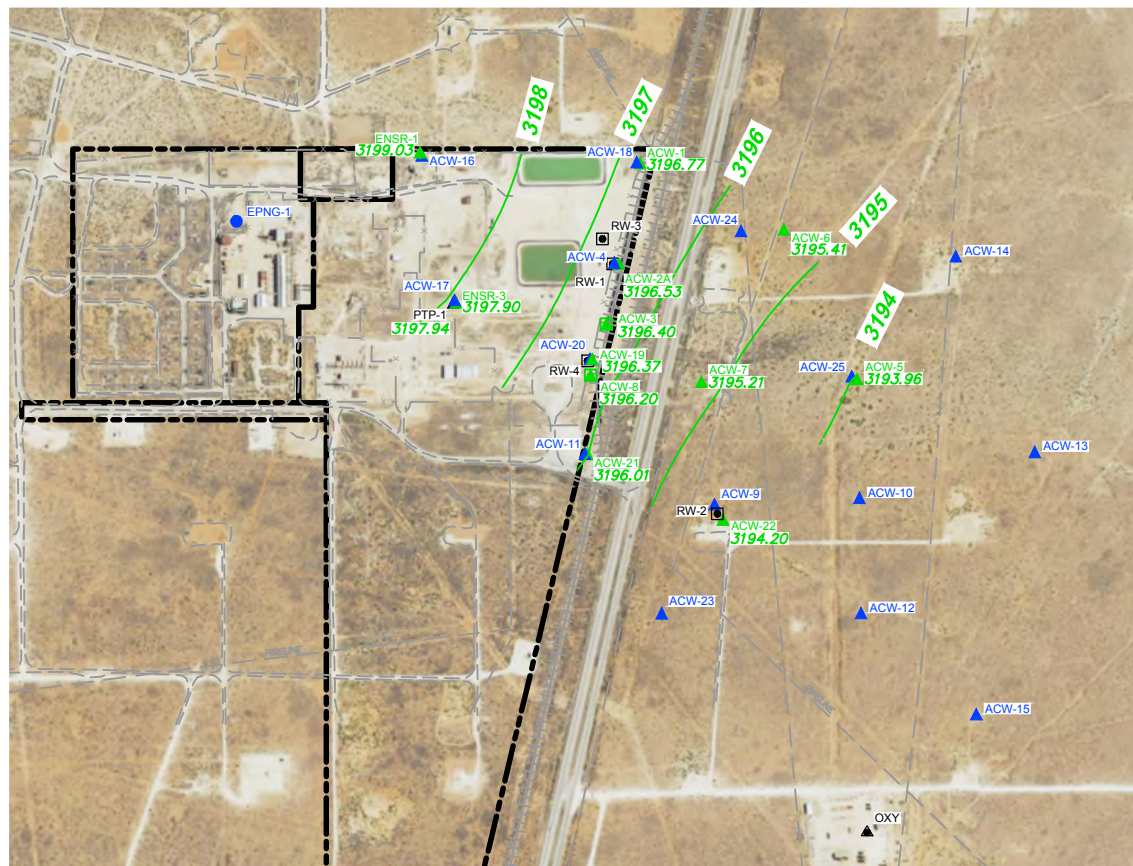


EL PASO NATURAL GAS COMPANY
JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO
**2017 ANNUAL
GROUNDWATER REMEDIATION REPORT**

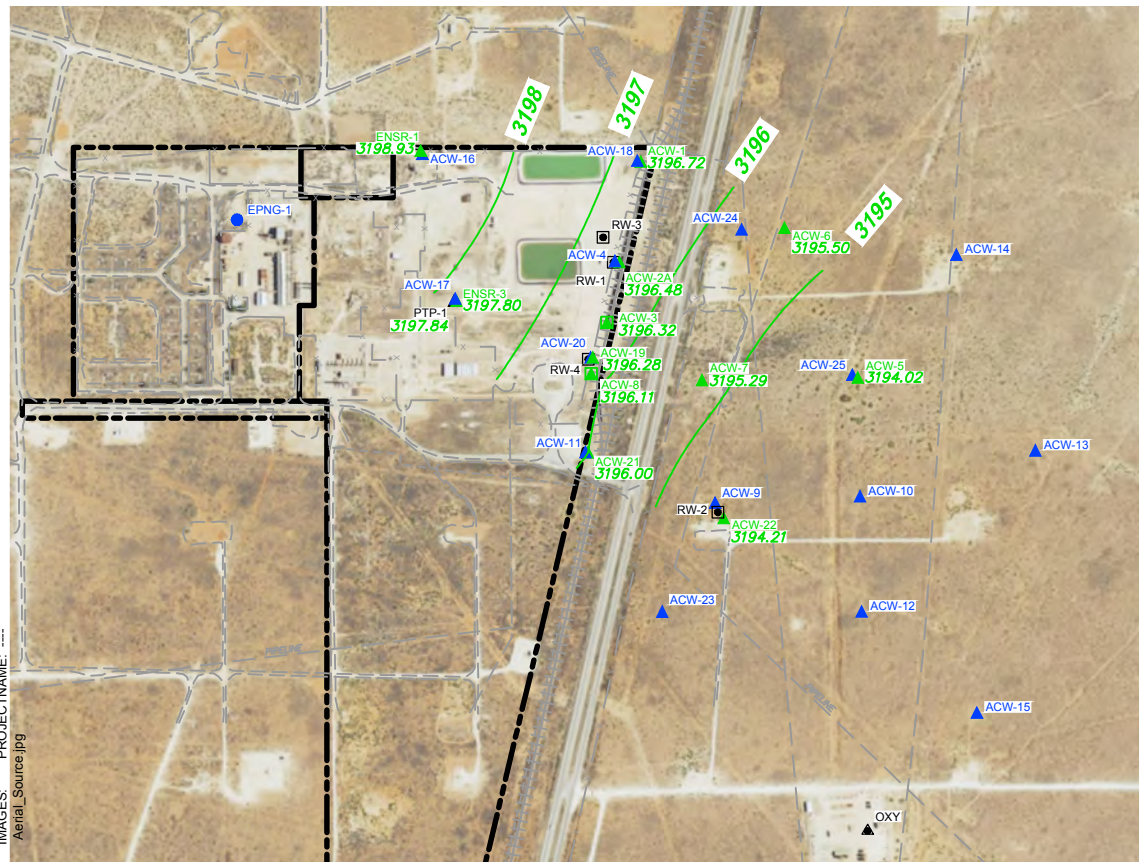
SITE LAYOUT



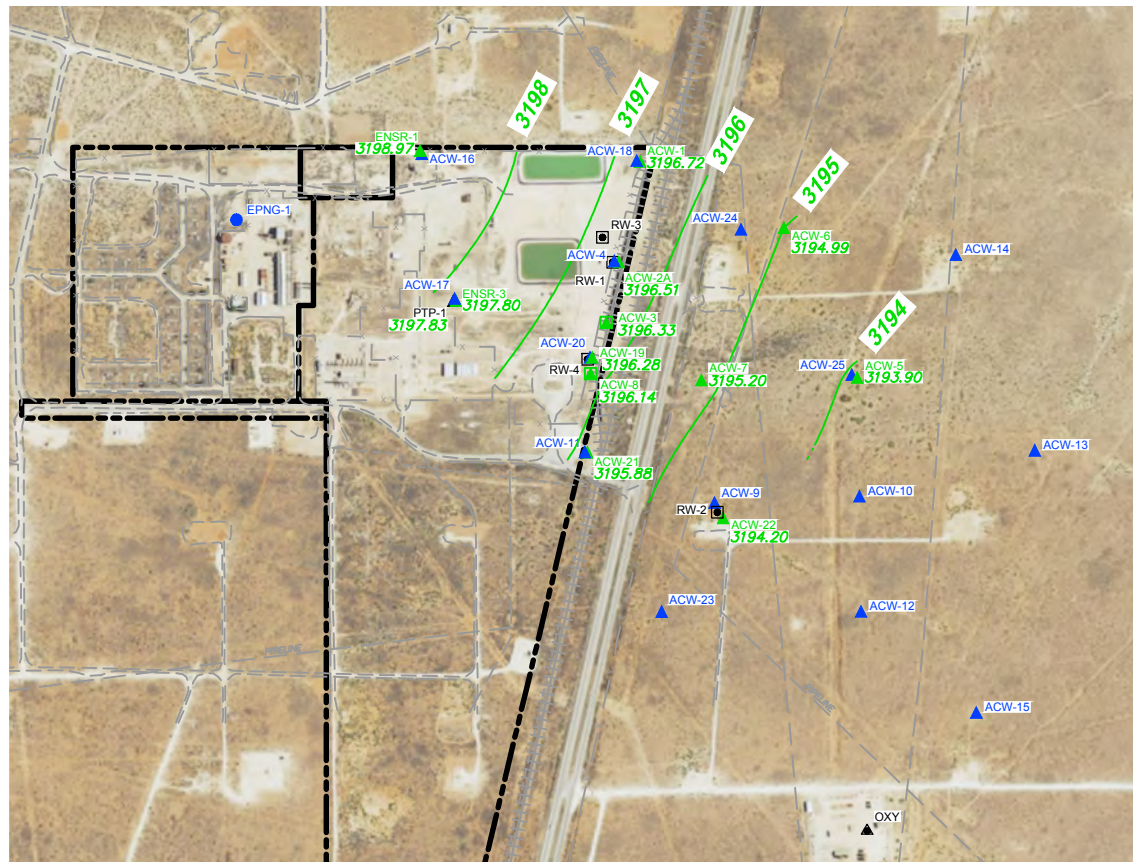
1st QUARTER 2017 (MARCH 14, 2017)



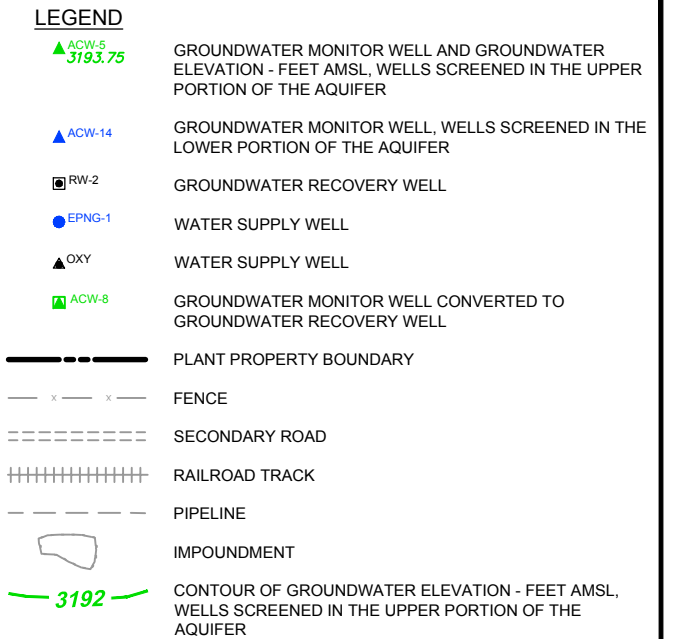
2nd QUARTER 2017 (JUNE 21, 2017)



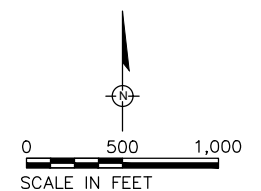
3rd QUARTER 2017 (SEPTEMBER 21, 2017)



4th QUARTER 2017 (NOVEMBER 28, 2017)



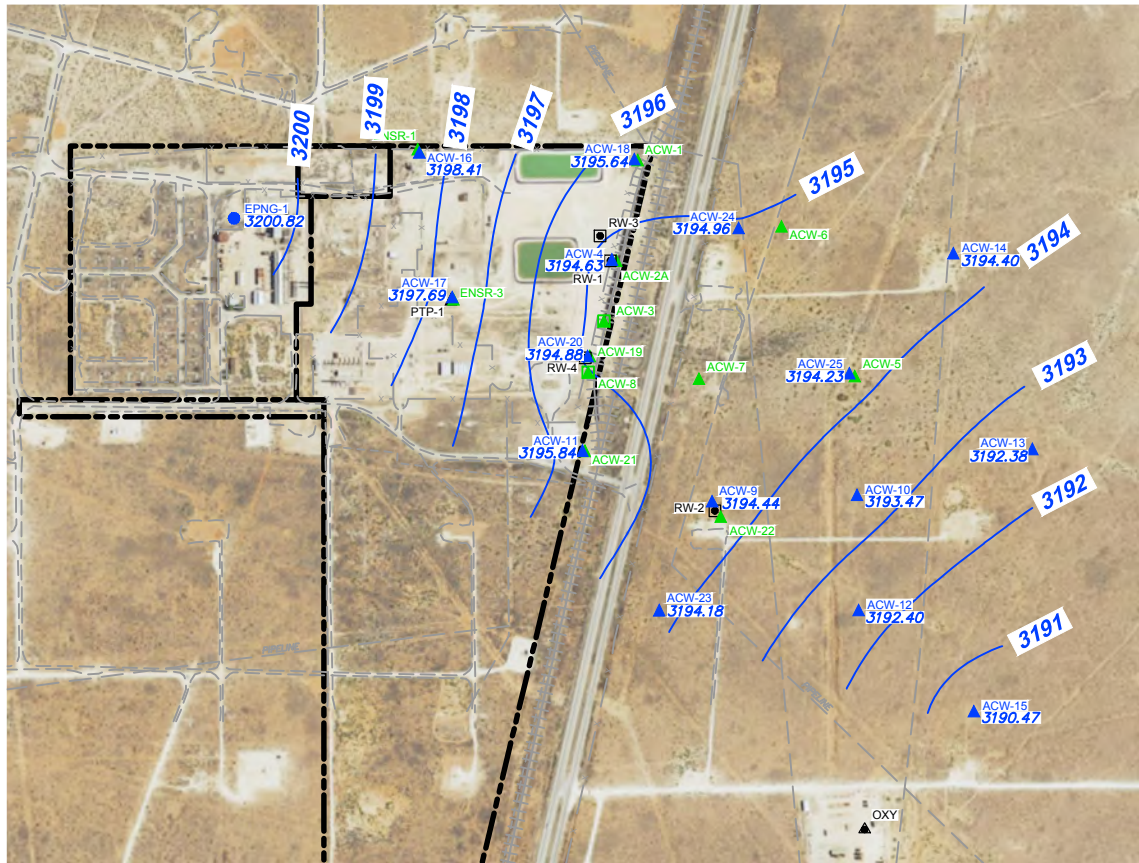
- NOTES**
- JAL #4 PLANT PROPERTY IS LOCATED WITHIN SECTIONS 31 AND 32 OF TOWNSHIP 23 SOUTH, RANGE 37 EAST, AND SECTIONS 5 AND 6 OF TOWNSHIP 24 SOUTH, RANGE 37 EAST, LEA COUNTY, NEW MEXICO.
 - SITE BASE AREA DIGITIZED FROM 11/04/76 AERIAL PHOTOGRAPH WITH PLANT PROPERTY BOUNDARY, WELLS INSERTED FROM OTHER SOURCES, AND DRAWING FILES PROVIDED BY SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC OF TULSA, OKLAHOMA.
 - RECOVERY SYSTEM WAS NOT OPERATED IN 2017.
 - AERIAL PHOTO SOURCED FROM ESRI.



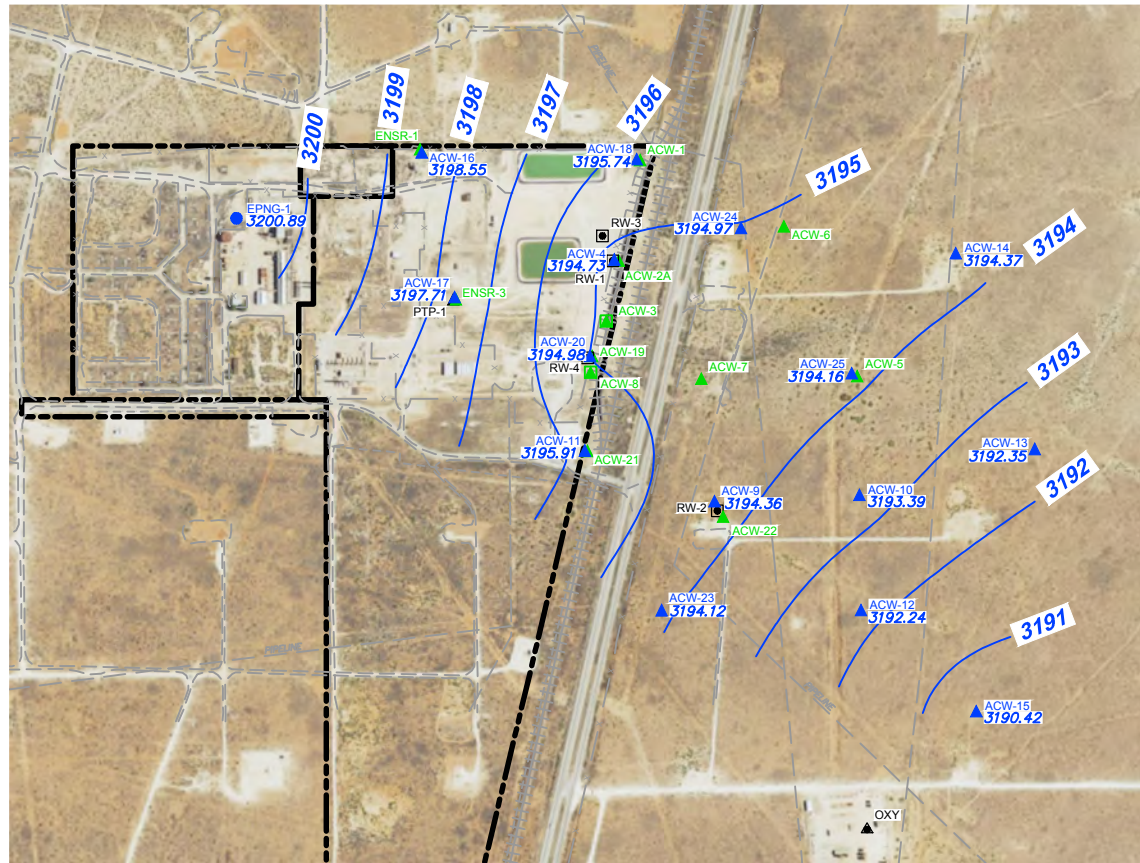
EL PASO NATURAL GAS COMPANY
JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO
**2017 ANNUAL
GROUNDWATER REMEDIATION REPORT**

**GROUNDWATER POTENTIOMETRIC
SURFACE -
UPPER GROUNDWATER**

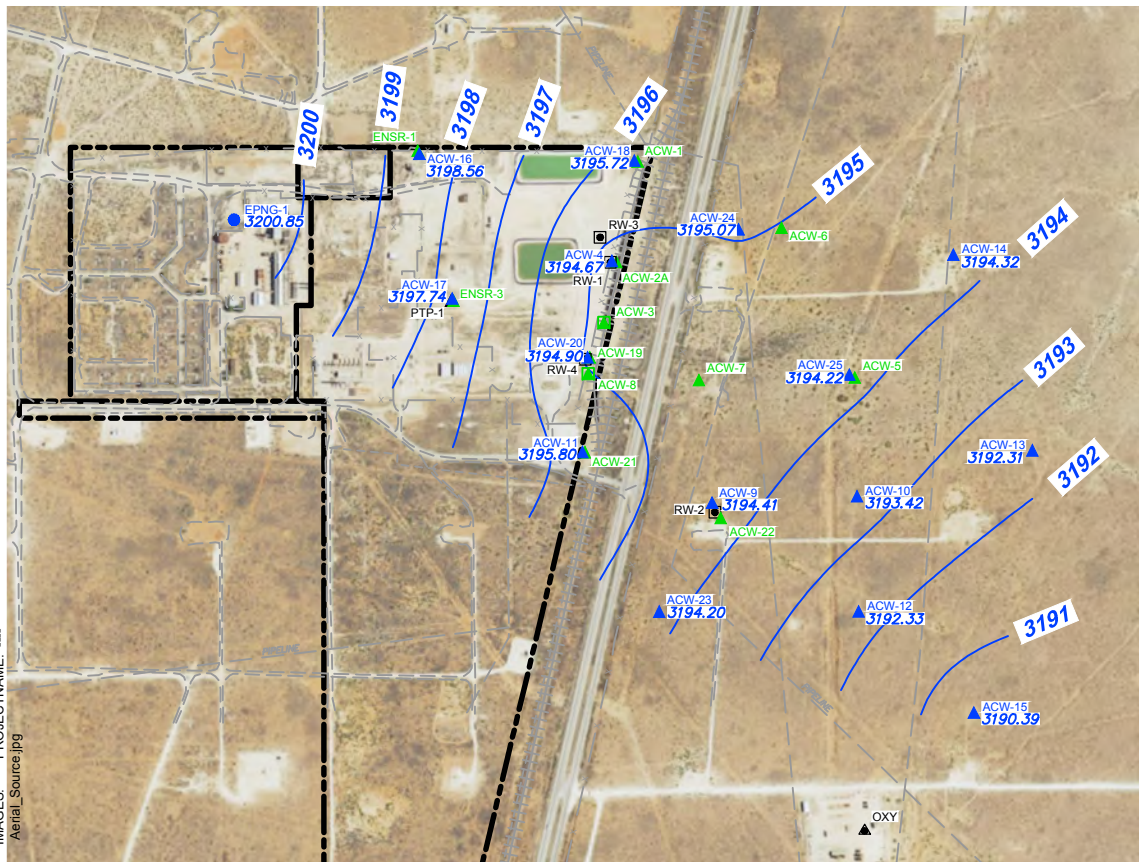
CITY: Milwaukee WI DIV/GROUP: ENV LD: C. McKeough PIC: E. R. Overs PM: H. McConnell TM: H. McConnell LTR (OPTIONAL): OFF=REF
C:\Users\cmckeough\OneDrive - ARCADIS\BIM 360 Docs\KINDER MORGAN ENERGY PARTNERS L PEPNG JAL#4 Annual GW Reporting\2018\MT001179.000301-DWG+LOWER GWContour 2017.dwg LAYOUT: 4 SAVED: 2/1/2018 1:55 PM ACADVER: 20.1S (LMS TECH) PAGES: 1 OF 1
PLOT: STYLETABLE: BLACKGRAY.ctb PLOTTED: 2/1/2018 2:32 PM BY: MCKEOUGH, CAROL
XREFS: IMAGES: PROJECTNAME: Aerial Source.jpg



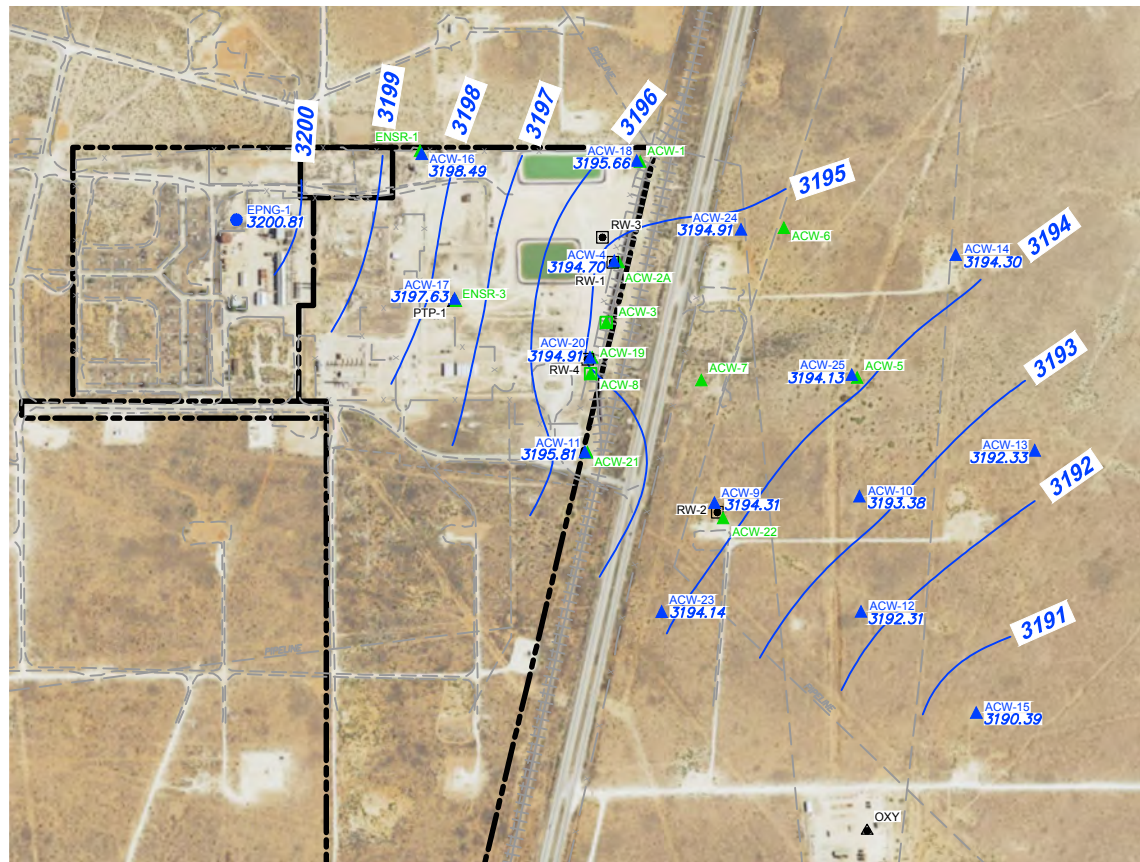
1st QUARTER 2017 (MARCH 14, 2017)



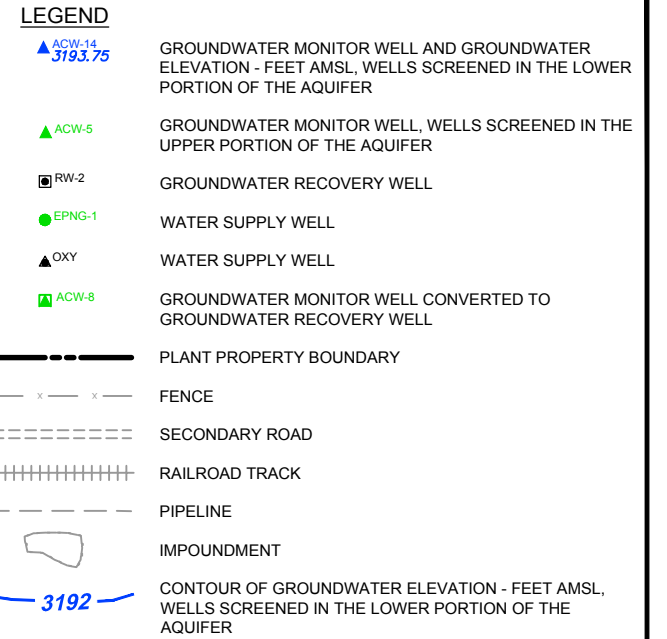
2nd QUARTER 2017 (JUNE 21, 2017)



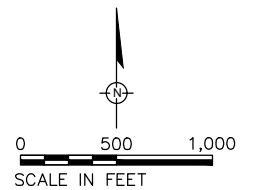
3rd QUARTER 2017 (SEPTEMBER 21, 2017)



4th QUARTER 2017 (NOVEMBER 28, 2017)



- NOTES**
- 1) JAL #4 PLANT PROPERTY IS LOCATED WITHIN SECTIONS 31 AND 32 OF TOWNSHIP 23 SOUTH, RANGE 37 EAST, AND SECTIONS 5 AND 6 OF TOWNSHIP 24 SOUTH, RANGE 37 EAST, LEA COUNTY, NEW MEXICO.
 - 2) SITE BASE AREA DIGITIZED FROM 11/04/76 AERIAL PHOTOGRAPH WITH PLANT PROPERTY BOUNDARY, WELLS INSERTED FROM OTHER SOURCES, AND DRAWING FILES PROVIDED BY SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC OF TULSA, OKLAHOMA.
 - 3) RECOVERY SYSTEM WAS NOT OPERATED IN 2017.
 - 4) AERIAL PHOTO SOURCED FROM ESRI.

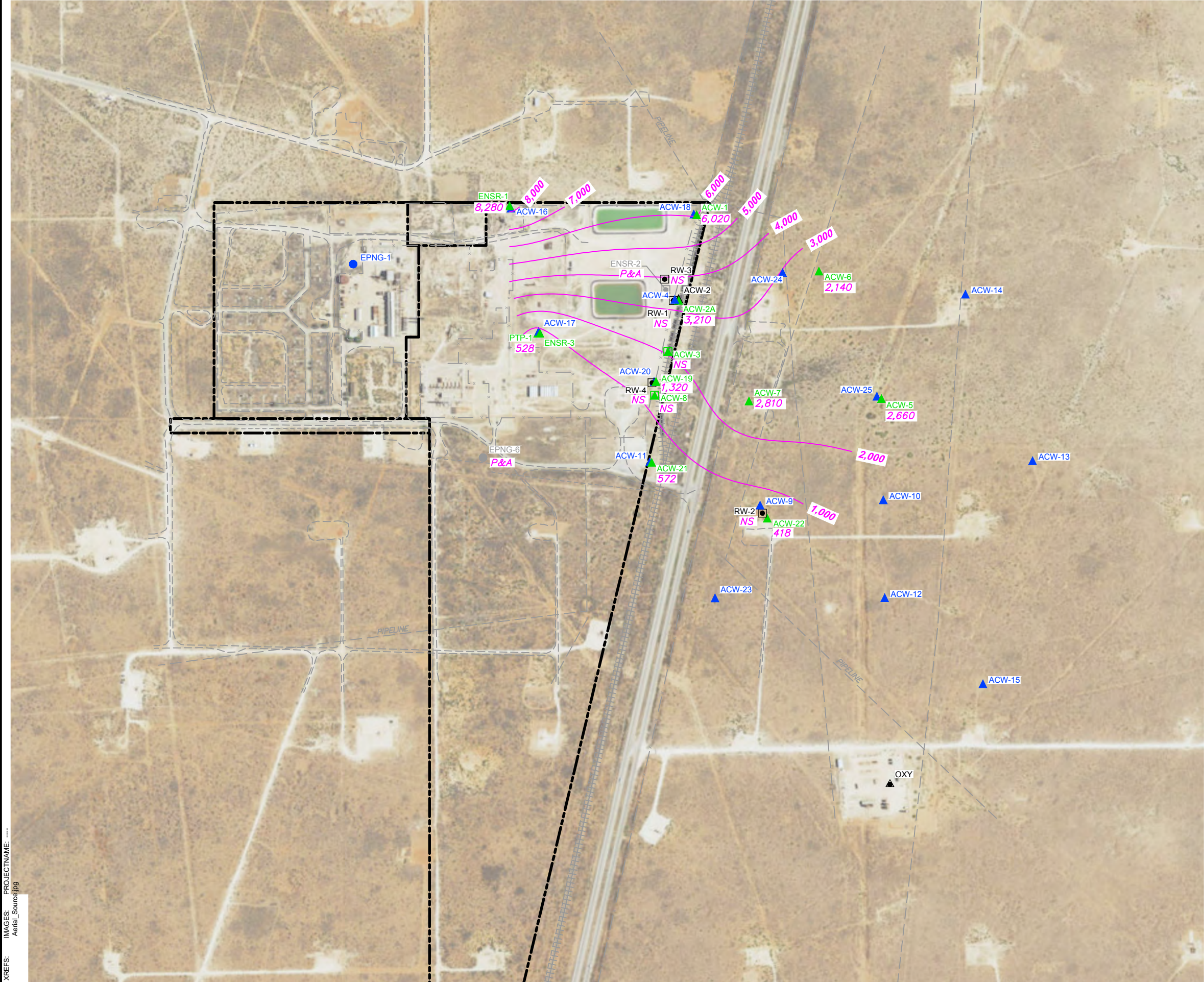


EL PASO NATURAL GAS COMPANY
JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO
**2017 ANNUAL
GROUNDWATER REMEDIATION REPORT**

**GROUNDWATER POTENTIOMETRIC
SURFACE -
LOWER GROUNDWATER**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
4



▲ ACW-5
2,270

▲ ACW-14

■ RW-2
NS

● EPNG-1
201

● EPNG-6

▲ OXY

▲ ACW-8
NS

■ ENSR-2

GROUNDWATER MONITOR WELL SCREENED IN THE UPPER PORTION OF THE AQUIFER, AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

GROUNDWATER MONITOR WELL SCREENED IN THE LOWER PORTION OF THE AQUIFER

GROUNDWATER RECOVERY WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

WATER SUPPLY WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

PLUGGED/ABANDONED WATER SUPPLY WELL

WATER SUPPLY WELL

GROUNDWATER MONITOR WELL CONVERTED TO GROUNDWATER RECOVERY WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

PLUGGED/ABANDONED MAY 2012

— x — x —

+++++

◻

NS

P&A

1,000

APPROXIMATE PROPERTY BOUNDARY

FENCE

SECONDARY ROAD

RAILROAD TRACK

PIPELINE

IMPOUNDMENT

NOT SAMPLED

PLUGGED AND ABANDONED

CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF CHLORIDE IN GROUNDWATER, mg/L (DASHED WHERE INFERRED)

NOTES

1) EPA's SECONDARY DRINKING WATER STANDARD (SMCL) FOR CHLORIDE IN PUBLIC WATER SUPPLY SYSTEMS IS 250 MILLIGRAMS PER LITER (mg/L).

2) NEW MEXICO ENVIRONMENTAL DIVISION HAS ESTABLISHED OTHER STANDARDS FOR DOMESTIC WATER SUPPLY OF 250 mg/L FOR CHLORIDE IN GROUNDWATER CONTAINING TDS LEVELS OF 10,000 mg/L OR LESS.

3) JAL #4 PLANT PROPERTY IS LOCATED WITHIN SECTIONS 31 AND 32 OF TOWNSHIP 23 SOUTH, RANGE 37 EAST, AND SECTIONS 5 AND 6 OF TOWNSHIP 24 SOUTH, RANGE 37 EAST, LEA COUNTY, NEW MEXICO.

4) SITE BASE AREA DIGITIZED FROM 11/04/76 AERIAL PHOTOGRAPH WITH PLANT PROPERTY BOUNDARY, WELLS INSERTED FROM VARIOUS OTHER SOURCES, AND DRAWING FILES PROVIDED BY SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC OF TULSA, OKLAHOMA.

5) RECOVERY SYSTEM WAS NOT OPERATED IN 2017.

6) AERIAL PHOTO SOURCED FROM ESRI.

7) SOURCE OF INDUSTRY-RELATED WELLS IS NMOC OIL & GAS MAP.

▲

0 300 600

SCALE IN FEET

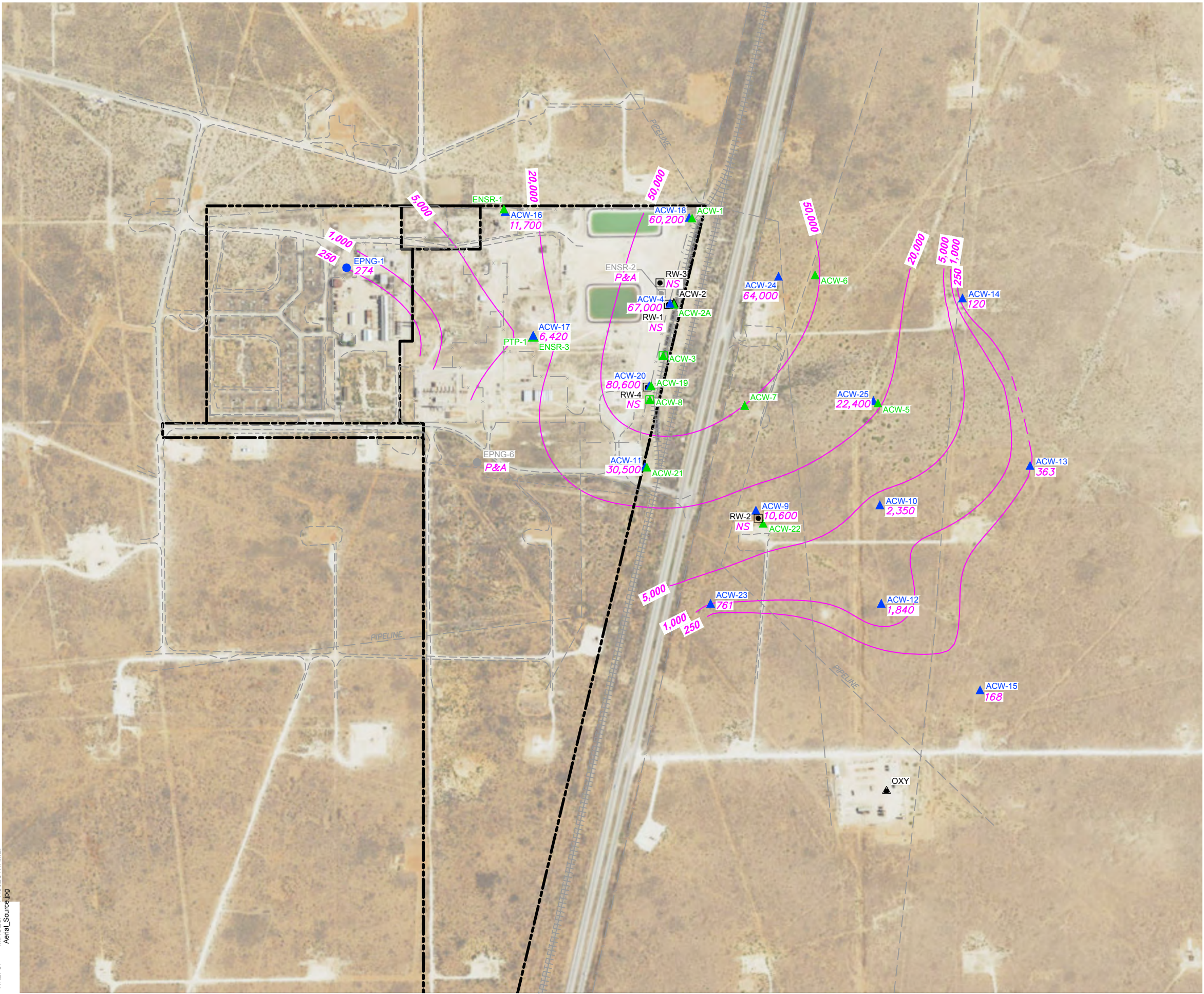
EL PASO NATURAL GAS COMPANY
JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO
2017 ANNUAL
GROUNDWATER REMEDIATION REPORT

ISOPLETH OF CHLORIDE
CONCENTRATIONS IN UPPER
GROUNDWATER - 4th QUARTER 2017

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built assets

FIGURE
5



LEGEND

▲ ACW-5

▲ ACW-14
2,270

■ RW-2
NS

● EPNG-1
201

● EPNG-6

▲ OXY

▲ ACW-8

■ ENSR-2

|||||

○

NS

P&A

1,000

GROUNDWATER MONITOR WELL SCREENED IN THE UPPER PORTION OF THE AQUIFER

GROUNDWATER MONITOR WELL SCREENED IN THE LOWER PORTION OF THE AQUIFER AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

GROUNDWATER RECOVERY WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

WATER SUPPLY WELL AND CONCENTRATION OF CHLORIDE IN GROUNDWATER, mg/L

PLUGGED/ABANDONED WATER SUPPLY WELL

WATER SUPPLY WELL

GROUNDWATER MONITOR WELL CONVERTED TO GROUNDWATER RECOVERY WELL

PLUGGED/ABANDONED MAY 2012

APPROXIMATE PROPERTY BOUNDARY

FENCE

SECONDARY ROAD

RAILROAD TRACK

PIPELINE

IMPOUNDMENT

NOT SAMPLED

PLUGGED AND ABANDONED

CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF CHLORIDE IN GROUNDWATER, mg/L (DASHED WHERE INFERRED)

- NOTES
- 1) EPA's SECONDARY DRINKING WATER STANDARD (SMCL) FOR CHLORIDE IN PUBLIC WATER SUPPLY SYSTEMS IS 250 MILLIGRAMS PER LITER (mg/L).

2) NEW MEXICO ENVIRONMENTAL DIVISION HAS ESTABLISHED OTHER STANDARDS FOR DOMESTIC WATER SUPPLY OF 250 mg/L FOR CHLORIDE IN GROUNDWATER CONTAINING TDS LEVELS OF 10,000 mg/L OR LESS.

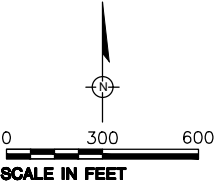
3) JAL #4 PLANT PROPERTY IS LOCATED WITHIN SECTIONS 31 AND 32 OF TOWNSHIP 23 SOUTH, RANGE 37 EAST, AND SECTIONS 5 AND 6 OF TOWNSHIP 24 SOUTH, RANGE 37 EAST, LEA COUNTY, NEW MEXICO.

4) SITE BASE AREA DIGITIZED FROM 11/04/76 AERIAL PHOTOGRAPH WITH PLANT PROPERTY BOUNDARY, WELLS INSERTED FROM VARIOUS OTHER SOURCES, AND DRAWING FILES PROVIDED BY SAIC ENERGY, ENVIRONMENT & INFRASTRUCTURE, LLC OF TULSA, OKLAHOMA.

5) RECOVERY SYSTEM WAS NOT OPERATED IN 2017.

6) AERIAL PHOTO SOURCED FROM ESRI.

7) SOURCE OF INDUSTRY-RELATED WELLS IS NMOC OIL & GAS MAP.



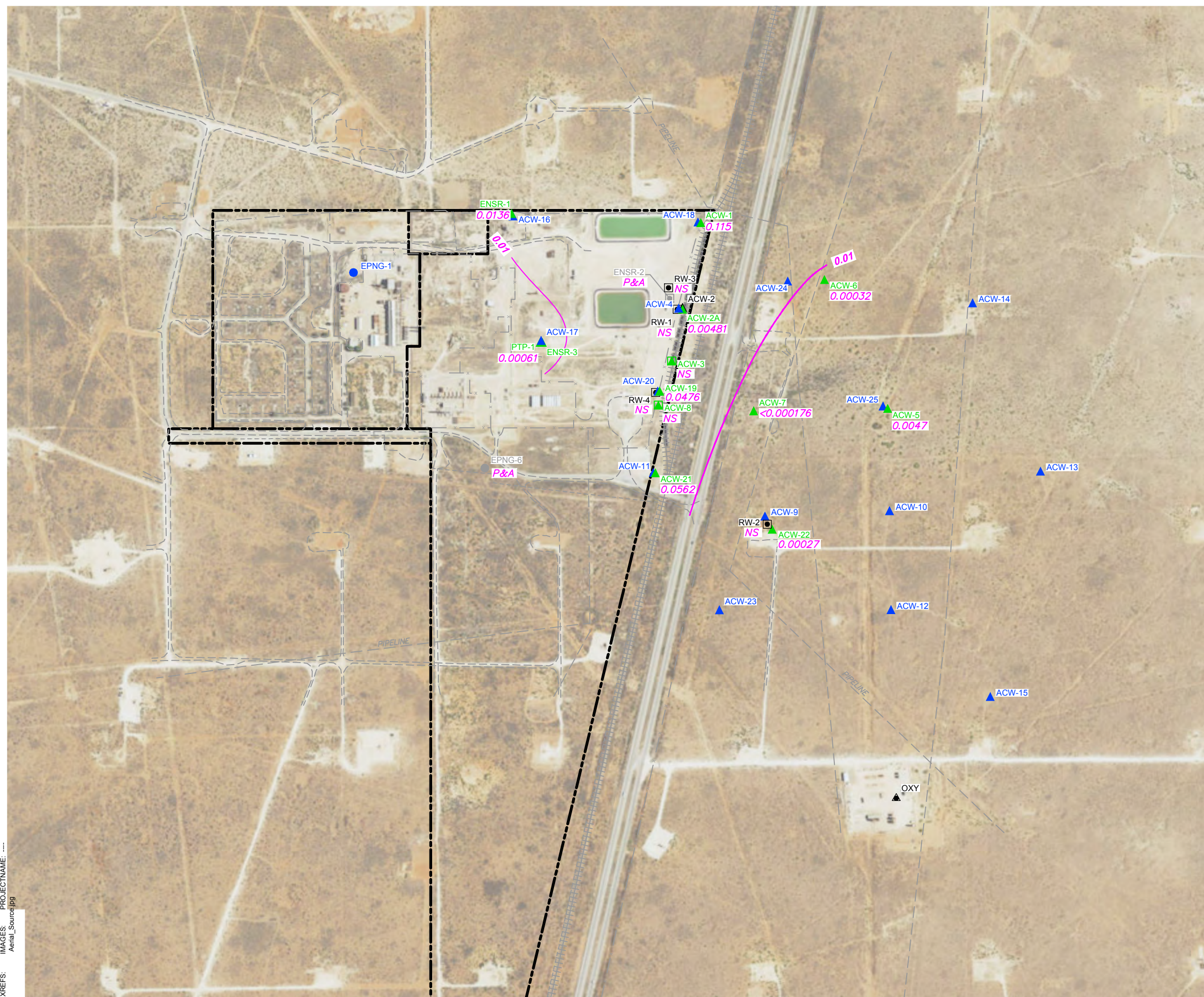
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GROUNDWATER - 4th QUARTER 2017

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FIGURE
6

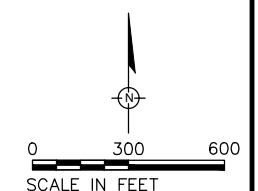


LEGEND

-  **ACW-5**
0.115
-  **ACW-14**
-  **RW-2**
NS
-  **EPNG-1**
0.0136
-  **EPNG-6**
-  **OXY**
-  **ACW-8**
NS
-  **ENSR-2**
- 
- 
- 
- 
- 
- 
- NS*
- P&A*
- 
- 0.01*
- GROUNDWATER MONITOR WELL SCREENED IN THE
 UPPER PORTION OF THE AQUIFER, AND CONCENTRATION
 OF BENZENE IN GROUNDWATER, mg/L
- GROUNDWATER MONITOR WELL SCREENED IN THE
 LOWER PORTION OF THE AQUIFER
- GROUNDWATER RECOVERY WELL AND CONCENTRATION
 OF BENZENE IN GROUNDWATER, mg/L
- WATER SUPPLY WELL AND CONCENTRATION OF BENZENE
 IN GROUNDWATER, mg/L
- PLUGGED/ABANDONED WATER SUPPLY WELL
- WATER SUPPLY WELL
- GROUNDWATER MONITOR WELL CONVERTED TO
 GROUNDWATER RECOVERY WELL AND CONCENTRATION
 OF BENZENE IN GROUNDWATER, mg/L
- PLUGGED/ABANDONED MAY 2012
- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- SECONDARY ROAD
- RAILROAD TRACK
- PIPELINE
- IMPOUNDMENT
- NOT SAMPLED
- PLUGGED AND ABANDONED
- CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF
 BENZENE IN GROUNDWATER, mg/L (DASHED WHERE
 INFERRED)

NOTES

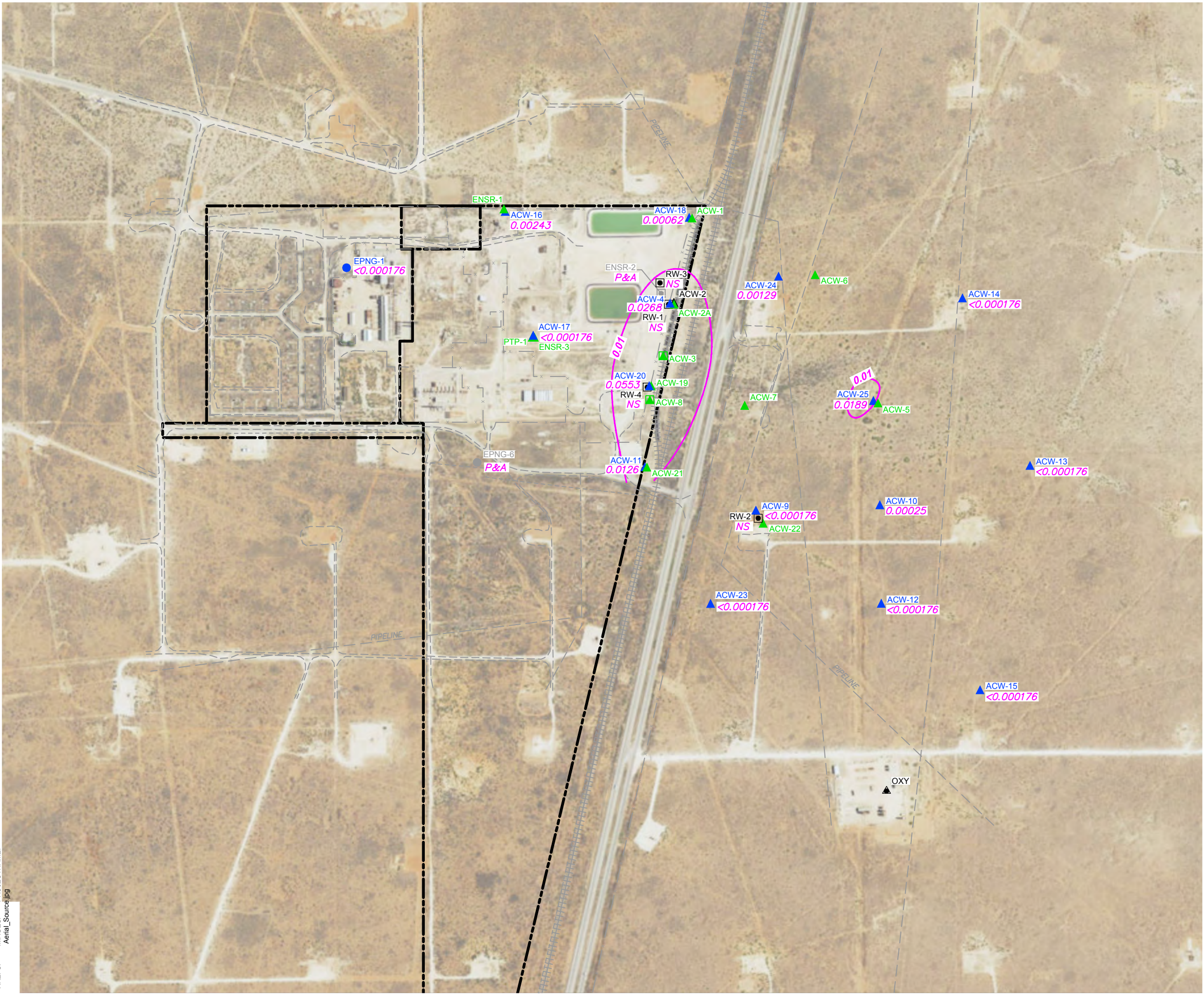
- 1) NEW MEXICO ENVIRONMENTAL DIVISION HAS ESTABLISHED A HUMAN HEALTH STANDARD OF 10 µg/L (0.01 mg/L) FOR BENZENE IN GROUNDWATER.
- 2) EPA'S PRIMARY DRINKING WATER STANDARD (MCL) FOR BENZENE IN PUBLIC WATER SUPPLY SYSTEMS IS 5 µg/L (0.005 mg/L).
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JAL #4 GAS PLANT - LEA COUNTY, NEW MEXICO
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**ISOPLETH OF BENZENE
CONCENTRATIONS IN UPPER
GROUNDWATER - 4th QUARTER 2017**

FIGURE
7



LEGEND

▲ ACW-5

▲ ACW-14
<0.000176

■ RW-2
NS

● EPNG-1
<0.000176

● EPNG-6

▲ OXY

▲ ACW-8
NS

■ ENSR-2

GROUNDWATER MONITOR WELL SCREENED IN THE UPPER PORTION OF THE AQUIFER

GROUNDWATER MONITOR WELL SCREENED IN THE LOWER PORTION OF THE AQUIFER AND CONCENTRATION OF BENZENE IN GROUNDWATER, mg/L

GROUNDWATER RECOVERY WELL AND CONCENTRATION OF BENZENE IN GROUNDWATER, mg/L

WATER SUPPLY WELL AND CONCENTRATION OF BENZENE IN GROUNDWATER, mg/L

PLUGGED/ABANDONED WATER SUPPLY WELL

WATER SUPPLY WELL

GROUNDWATER MONITOR WELL CONVERTED TO GROUNDWATER RECOVERY WELL

PLUGGED/ABANDONED MAY 2012

--- x --- x ---

+++++

NS

P&A

0.01

APPROXIMATE PROPERTY BOUNDARY

FENCE

SECONDARY ROAD

RAILROAD TRACK

PIPELINE

IMPOUNDMENT

NOT SAMPLED

PLUGGED AND ABANDONED

CONTOUR LINE SHOWING EQUAL CONCENTRATIONS OF CHLORIDE IN GROUNDWATER, mg/L (DASHED WHERE INFERRED)

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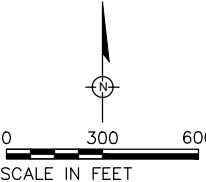
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ISOPLETH OF BENZENE
CONCENTRATIONS IN LOWER
GROUNDWATER - 4th QUARTER 2017

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FIGURE
8

APPENDIX A

Site Chronology



SITE CHRONOLOGY

Date	Activity
1952	Jal #4 Plant was constructed. It consisted of a gas plant, purification plant, dehydration plant, and compressor facilities. Brine and wastewater was stored in 8 unlined, retention ponds from 1952 to 1981.
1981	Since 1981, brine produced at the plant has been discharged into 3 ponds (brine ponds #9, #10 and #11) with synthetic liners.
October 19, 1982	EPNG met with NMOCD in Santa Fe, NM to discuss the Plant's Wastewater Disposal Plan.
November 16, 1982	Soil samples in dry ponds (#3 and #8) were taken and analyzed for various organic compounds. The analyses were reported in the Plant's Discharge Plan. Groundwater Discharge Plan for Jal #4 was approved by NMOCD.
November 29, 1982	EPNG representative met with NMOCD in Santa Fe, NM to discuss the closure plan for disposal ponds and to provide a progress report on the evaluation of organic constituents in pond sludges.
December 20, 1982	EPNG sampled and analyzed pond sludge for organic constituents. Only total phenols exceeded NMOCD standards.
1982	All ponds, not including the 3 brine ponds, were closed and capped in accordance with NMOCD. A leak detection system was installed in the brine ponds.
February 1985	In conjunction with the closure of the ponds it was necessary to ensure that storm water would not be generated in the area of the former ponds. Substantial grading east of the plant boundary was conducted, culverts were installed under the railroad and highway, and drainage was directed away from Plant property.
1987	EPNG plant operations were shutdown. Christie Gas began operating compressor facilities and using the lined ponds.
May 20, 1988	Texaco and Meridian, considering a possible joint venture, performed an environmental safety audit of Jal #4 to become acquainted with the environmental/safety concerns, if any, that would have to be addressed by Texaco and Meridian co- ownership and operation of the proposed cryogenic plant. The audit included a subsurface investigation which resulted in the detection of several organic compounds (i.e.: phenols, PCB, BTEX) in subsurface soils near pond #3.
1989	A leak was detected in a brine pond, the exact one is not known. Two brine ponds were retired. In response to the reported leak, NMOCD requested a hydrologic study be performed.
May 2, 1989	Texaco collected surface samples, sludges, soil, and core samples at Jal #3 and Jal #4. Neither Texaco nor EPNG found anything unusual in the data except for chloride contamination in the deepest core on pond #3 at Jal #4. This led to the drilling of 3 monitor wells (ENSR-1 through ENSR-3) and a limited groundwater study. The preliminary findings indicated chloride contamination.

Date	Activity
May 10, 1989	EPNG received a copy of the new discharge plan from KWB for submittal to NMOCD.
May 23, 1989	EPNG requested KWB be contracted to provide continuing consulting services on geotechnical issues.
June 7, 1989	EPNG requested ENSR be contracted to conduct a closed pit and groundwater survey.
June 16, 1989	ENSR submitted a workplan for subsurface investigation/ monitoring well installation to assess the presence of potential soil and groundwater contamination based on Texaco's previous investigations.
August 1989	Groundwater quality assessment was performed by ENSR, including the results of installing ENSR-1 through ENSR-3.
August 18, 1989	NMOCD required that EPNG take corrective action steps concerning the Plant's brine ponds. EPNG applied with NMOCD to exempt one brine pond receiving only brine water and no oil-bearing wastewater from Rule R-8952.
August 31, 198	EPNG met with NMOCD to discuss Answer data from the groundwater quality report. EPNG provided analytical results from soil samples, and a brief chronology of Texaco's environmental audit. The scope of the geotechnical study was negotiated.
March 21, 1990	EPNG submitted South Region Compliance Engineering's closure plan for two brine storage ponds and for the plugging of gas wells to the NMOCD.
April 4, 1990	NMOCD approved closure plan for the brine storage ponds.
May 1, 1990	KWB began an expanded geohydrological study.
May 24, 1990	EPNG filed a report for the period 11-86 to 5-90 with NMOCD concerning an on-site disposal well that has been inactive during this time.
June 1990	"Proposed scope of work for environmental investigation of the EPNG refinery" was prepared by John Mathes at the request of Meridian Oil, Inc. The purpose of this work is to obtain Phase II data and cost estimate assumptions. Phase I. KWB resampled wells to determine: aquifer characteristics, depth to groundwater, flow direction, hydraulic gradient, and plume configuration.
August 1990	KWB finalized the Phase I report, "Expanded Hydrogeology Study for the Jal 4 Facility." In the report KWB stated that inorganic and organic contaminants were detected above WQCC standards. Computer modelling suggested the contamination plume is migrating to the southeast and is off-site. EPNG was granted an extension by NMOCD until 3-31-91 to close the brine ponds.

Date	Activity
October 4, 1990	Results from Phase I investigations indicated that a contamination plume with high levels of chloride and low levels of benzene exists beneath the plant. The existence of the plume may be due to past plant operations. KWD recommended Phase II activities which include the drilling of three additional monitor wells and the drilling of an observation well to obtain information on aquifer conductivity.
November 1990	Phase II. KWB installed and sampled ACW wells (ACW-1 through ACW-3), installed piezometer (PTP-1), performed pump tests, and defined a chloride contamination plume.
January 1991	KWB finalized the Phase II report, "Expanded Hydrogeology Study for the Jal-4 Facility." The report confirmed that the chloride contamination groundwater plume is tied to past operation of the wastewater ponds. KWB suggested that any remediation required must deal with the removal of salts from the groundwater.
February 26, 1991	NMOCD requested EPNG to decide on a plan of action for closing or repairing the brine pits by 3-31-91.
March 14, 1991	EPNG met with NMOCD to discuss the sale of Jal #4 "B" Plant and propane storage wells to Christie Gas.
March 18, 1991	EPNG notified Christie Gas of the existence of a new discharge plan for the Plant.
March 27, 1991	EPNG submitted a request to NMOCD for time extension to close or repair 2 brine storage ponds.
April 24, 1991	EPNG sent supplemental information to Christie Gas regarding requested information about Jal #4's environmental and other compliance issues.
July 15, 1991	Ownership of 4 LPG storage wells at Jal #4 were transferred from EPNG to Christie Gas.
October 1991	International Technology Corporation submitted an expanded geohydrological study (Phase III) for Jal #4.
December 13, 1991	EPNG sent copies of Jal #4's Discharge Plan to Christie Gas Corporation.
February 5, 1992	BEI performed a "Terrain Conductivity Survey for Jal #4." Readings were unreliable due to interference in the study area.
February 1992	Phase III. BEI determined vertical and horizontal extent of the contamination plume, confirmed EM survey, and made recommendations for remediation.
May 15, 1992	Permission was received from the State of New Mexico to enter state lands to drill three monitoring wells for remediation of chloride contaminated groundwater.
July 7, 1992	BEI installed four new monitoring wells; one at the Plant, and three on state property east of the Plant (ACW-4 through ACW-7).
September 2, 1992	Application sent to State of New Mexico Commissioner of Public Lands to request permission to enter state lands to drill four new groundwater recovery wells as part of Phase IV activities.

Date	Activity
November 1992	BEI finalized the Phase III report, "Groundwater Study Jal No. 4 Plant." Groundwater analysis detected inorganic and organic contaminants exceeding WQCC standards. The source of the contamination is believed to be from the brine ponds, however, the exact pond or ponds is still unknown.
December 1992	Christie Gas sold the plant to Texas LPG Storage Company.
January 27, 1993	Rights obtained for construction of 2 monitoring wells on Mr. Doom's grazing lease as part Phase IV activities to monitor the extent of off-site chlorine contamination.
March 30, 1993	Meeting between NMOCD and EPNG was held to discuss groundwater study/remediation at Jal #4. EPNG requested this meeting to update NMOCD on Phase III monitoring well installation and sampling results and to discuss Phase IV installation of 4 additional monitoring wells. NMOCD recommended what contaminants EPNG should sample for, requested that a status report be prepared once Phase IV activities are completed, and requested modelling for remedial options.
June 14, 1993	Phase IV. BEI initiated a monitoring well installation program (ACW-8 through ACW-11).
November 18, 1993	BEI finalized the "Phase IV Groundwater Investigation Report, Jal No. 4 Plant." The report recommended the initiation of possible "pump and inject" on-site groundwater recovery and disposal, installation of a monitoring well cluster at the leading edge of the chloride plume, continued quarterly sampling, and an evaluation of the recovery system following a one-year period of operation.
October 16, 1996	Philip Environmental Submitted Phase II Site Assessment Report detailing the installation and results of installing monitoring wells ACW-12 through ACW-14 and recover wells RW-1 through RW-2.
January 1997	Groundwater monitoring program began including quarterly and annual sampling with Annual Reporting to the NMOCD.
October, 1999	Groundwater Recovery began from RW-01. Monitoring well ACW-15 was installed.
January, 2000	Groundwater Recovery began from RW-02.
February 6, 2003	Atkins Americas, Inc. prepared a groundwater modelling report.
April 2005	Monitoring wells ACW-3 and ACW-8 pilot tests as groundwater recovery wells.
October 2005	Monitoring wells ACW-3 and ACW-8 were permitted by the NMOSE to be operated as production wells and were configured as permanent recovery wells and made operational.
March 2007	Texas LPG Storage company sold the plant to Western Refining, Inc.
January 2012	Groundwater monitoring continued. The well screen of Shell State #13 was fouled in 2012 and the groundwater recovery system was shut in.

Date	Activity
May 2012	The recovery pump became stuck in ENSR-02. The well was plugged and replaced with RW-3.
January 2013	Groundwater monitoring continued, the recovery system was not operated.
January 2014	Groundwater monitoring continued, the recovery system was not operated.
October 2014	Monitoring wells ACW-16 through ACW-21 installed within the plant boundary adjacent to existing wells with alternate screened intervals.
January 2015	Groundwater monitoring continued, the recovery system was not operated.
November 2015	Monitoring wells ACW-22 through ACW-25 were installed east of the plant boundary to further delineate organic and inorganic impacts downgradient from the site. Recovery well RW-4 was installed along the plants eastern border.
January 2016	Groundwater monitoring continued, the recovery system was not operated. The recovery system infrastructure was inspected in 2016. The electrical components are aging significant components need to be replaced or upgraded to meet current engineering standards. The system piping passed pressure testing.
November 9, 2016	Arcadis completed a hydrocarbon treatability study and analyzed the relationship between BTEX biodegradation and Groundwater Salinity at the site to identify the conditions leading to fouling of the injection well screen.
2017	Tesoro Corporation acquired Western Refining, Inc. and will operate the facility as Andeavor Corporation.
October 27, 2017	Arcadis completed a site investigation to further define the vertical and horizontal distribution of chloride and hydrocarbon concentrations within the existing monitor well network footprint, access the upper and lower groundwater quality conditions, increase the accuracy of the hydraulic gradient model across the site, and to develop a surface elevation model of the base of the water bearing zone.
2017	Quarterly groundwater monitoring continued at the site.

APPENDIX B

Historical Potentiometric Surface Elevation Data



Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-01	110 to 130	3300.87	2/19/1997	106.65	3194.22
			5/7/1997	105.59	3195.28
			8/19/1997	105.61	3195.26
			10/21/1997	105.71	3195.16
			2/24/1998	105.62	3195.25
			5/12/1998	105.59	3195.28
			8/11/1998	105.61	3195.26
			10/20/1998	105.67	3195.20
			2/23/1999	105.72	3195.15
			5/11/1999	105.66	3195.21
			8/11/1999	105.68	3195.19
			10/18/1999	105.73	3195.14
			2/22/2000	105.81	3195.06
			5/9/2000	105.90	3194.97
			8/7/2000	105.99	3194.88
			10/26/2000	106.10	3194.77
			2/20/2001	106.19	3194.68
			5/1/2001	105.90	3194.97
			8/1/2001	105.89	3194.98
			10/22/2001	106.05	3194.82
			2/20/2002	106.30	3194.57
			4/29/2002	106.30	3194.57
			9/24/2002	106.04	3194.83
			11/3/2002	106.30	3194.57
			3/31/2003	106.22	3194.65
			5/20/2003	106.41	3194.46
			8/18/2003	106.39	3194.48
			11/4/2003	106.19	3194.68
			2/25/2004	106.19	3194.68
			5/13/2004	106.15	3194.72
			8/25/2004	106.46	3194.41
			11/9/2004	106.57	3194.30
			5/25/2005	106.38	3194.49
			8/23/2005	106.52	3194.35
			12/12/2005	106.56	3194.31
			2/14/2006	106.72	3194.15
			5/9/2006	106.87	3194.00
			8/23/2006	106.89	3193.98

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Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-01 (cont'd)	110 to 130	3300.87	12/14/2006	106.45	3194.42
			3/5/2007	106.61	3194.26
			5/16/2007	106.58	3194.29
			8/23/2007	106.50	3194.37
			11/12/2007	106.77	3194.10
			2/20/2008	106.50	3194.37
			6/10/2008	106.65	3194.22
			8/8/2008	106.69	3194.18
			11/17/2008	106.64	3194.23
			3/4/2009	106.91	3193.96
			5/18/2009	106.94	3193.93
			8/27/2009	106.90	3193.97
			2/24/2010	106.55	3194.32
			6/28/2010	106.51	3194.36
			9/20/2010	106.49	3194.38
			12/6/2010	106.47	3194.40
			12/6/2010	106.47	3194.40
			2/16/2011	106.43	3194.44
			5/10/2011	106.49	3194.38
			8/16/2011	106.35	3194.52
			11/9/2011	106.34	3194.53
			2/13/2012	106.12	3194.75
			5/7/2012	106.20	3194.67
			8/13/2012	106.10	3194.77
			11/8/2012	106.01	3194.86
			3/1/2013	105.85	3195.02
			6/26/2013	105.99	3194.88
			10/2/2013	105.96	3194.91
			12/13/2013	105.83	3195.04
			3/31/2014	105.72	3195.15
			5/28/2014	105.70	3195.17
			9/11/2014	105.76	3195.11
			1/6/2015	106.01	3194.86
	110 to 130	3302.15	3/3/2015	105.62	3196.53
			6/2/2015	105.66	3196.49
			9/30/2015	105.69	3196.46
			12/1/2015	105.72	3196.43
			3/17/2016	105.69	3196.46

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Jal No. 4 Gas Plant
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ACW-01 (cont'd)	110 to 130	3302.15	5/10/2016	105.46	3196.69
			8/16/2016	105.53	3196.62
			11/30/2016	105.96	3196.19
			3/14/2017	105.47	3196.68
			6/21/2017	105.38	3196.77
			9/21/2017	105.43	3196.72
			11/28/2017	105.43	3196.72
ACW-02A	98 to 118	3300.88	5/12/1999	106.00	3194.88
			10/18/1999	106.09	3194.79
			5/8/2000	107.27	3193.61
			10/26/2000	107.51	3193.37
			5/2/2001	106.31	3194.57
			10/22/2001	106.85	3194.03
			4/30/2002	106.82	3194.06
			9/24/2002	106.55	3194.33
			11/3/2002	107.00	3193.88
			3/31/2003	107.04	3193.84
			5/20/2003	106.87	3194.01
			8/18/2003	107.74	3193.14
			11/4/2003	106.57	3194.31
			2/25/2004	106.53	3194.35
			5/13/2004	106.46	3194.42
			8/25/2004	107.67	3193.21
			11/9/2004	107.77	3193.11
			2/15/2005	107.50	3193.38
			5/25/2005	107.47	3193.41
			8/23/2005	108.25	3192.63
			12/12/2005	107.54	3193.34
			2/14/2006	108.75	3192.13
			5/9/2006	108.63	3192.25
			8/23/2006	107.91	3192.97
			12/14/2006	107.18	3193.70
			3/5/2007	108.06	3192.82
			5/16/2007	108.03	3192.85
			8/23/2007	107.18	3193.70
			11/12/2007	108.37	3192.51
			2/20/2008	108.05	3192.83
			6/10/2008	108.26	3192.62

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Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-02A (cont'd)	98 to 118	3300.88	8/8/2008	108.32	3192.56
			11/17/2008	108.28	3192.60
			2/27/2009	108.28	3192.60
			3/4/2009	108.65	3192.23
			5/18/2009	108.70	3192.18
			8/27/2009	108.28	3192.60
			2/24/2010	107.68	3193.20
			6/28/2010	107.45	3193.43
			9/20/2010	107.87	3193.01
			12/6/2010	107.97	3192.91
			2/16/2011	107.05	3193.83
			5/10/2011	106.70	3194.18
			8/16/2011	107.61	3193.27
			11/9/2011	107.48	3193.40
			2/13/2012	106.61	3194.27
			5/7/2012	106.64	3194.24
			8/13/2012	103.38	3197.50
			11/8/2012	106.32	3194.56
			3/1/2013	106.33	3194.55
			6/26/2013	106.28	3194.60
			10/2/2013	106.26	3194.62
			12/13/2013	106.21	3194.67
			3/31/2014	106.05	3194.83
			5/28/2014	106.04	3194.84
			9/11/2014	106.02	3194.86
			1/6/2015	NM	NM
		3302.16	3/3/2015	105.95	3196.21
			6/2/2015	105.97	3196.19
			9/30/2015	106.03	3196.13
			12/1/2015	106.00	3196.16
			3/17/2016	105.81	3196.35
			5/10/2016	105.69	3196.47
			8/16/2016	105.72	3196.44
			11/30/2016	105.59	3196.57
			3/14/2017	105.72	3196.44
			6/21/2017	105.63	3196.53
			9/21/2017	105.68	3196.48
			11/28/2017	105.65	3196.51

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Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-03	112 to 132	3300.34	5/8/2000	105.98	3194.36
			10/26/2000	106.21	3194.13
			5/1/2001	105.94	3194.40
			10/23/2001	106.15	3194.19
			4/30/2002	106.30	3194.04
			9/24/2002	106.13	3194.21
			11/3/2002	106.44	3193.90
			3/31/2003	106.31	3194.03
			5/20/2003	106.42	3193.92
			8/18/2003	106.53	3193.81
			11/3/2003	106.19	3194.15
			2/25/2004	106.18	3194.16
			5/13/2004	106.12	3194.22
			8/25/2004	106.61	3193.73
			11/9/2004	106.69	3193.65
			2/15/2005	106.53	3193.81
			5/23/2005	106.68	3193.66
			8/23/2005	pumping	NM
			12/12/2005	pumping	NM
			2/14/2006	pumping	NM
			5/9/2006	pumping	NM
			8/23/2006	pumping	NM
			12/11/2006	pumping	NM
			3/5/2007	pumping	NM
			5/16/2007	pumping	NM
			8/23/2007	pumping	NM
			11/12/2007	pumping	NM
			2/20/2008	pumping	NM
			6/10/2008	pumping	NM
			8/8/2008	pumping	NM
			11/18/2008	pumping	NM
			3/4/2009	pumping	NM
			5/18/2009	pumping	NM
			8/27/2009	pumping	NM
			2/24/2010	pumping	NM
			6/28/2010	pumping	NM
			9/20/2010	pumping	NM
			12/6/2010	pumping	NM

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-03 (cont'd)	112 to 132	3300.34	2/16/2011	pumping	NM
			5/10/2011	pumping	NM
			8/16/2011	pumping	NM
			11/9/2011	pumping	NM
			2/13/2012	106.52	3193.82
			5/7/2012	pumping	NM
			8/13/2012	pumping	NM
			11/5/2012	140.00	3160.34
			3/1/2013	NM	NM
			6/26/2013	95.59	3204.75
			10/2/2013	NM	NM
			12/13/2013	NM	NM
			3/31/2014	105.61	3194.73
			5/28/2014	105.63	3194.71
			9/11/2014	105.70	3194.64
			1/6/2015	NM	NM
		3301.62	3/3/2015	105.60	3196.02
			6/2/2015	105.62	3196.00
			9/30/2015	105.69	3195.93
			12/1/2015	105.63	3195.99
			3/17/2016	105.62	3196.00
			5/10/2016	105.26	3196.36
			8/16/2016	105.31	3196.31
			11/30/2016	105.33	3196.29
			3/14/2017	105.32	3196.30
			6/21/2017	105.22	3196.40
			9/21/2017	105.30	3196.32
			11/28/2017	105.29	3196.33
ACW-04	154 to 169	3299.48	5/8/2000	113.57	3185.91
			10/26/2000	113.25	3186.23
			5/2/2001	106.00	3193.48
			10/22/2001	107.99	3191.49
			4/30/2002	107.88	3191.60
			9/24/2002	107.71	3191.77
			11/2/2002	107.90	3191.58
			3/31/2003	107.90	3191.58
			5/20/2003	107.76	3191.72
			8/18/2003	113.13	3186.35

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-04 (cont'd)	154 to 169	3299.48	11/4/2003	107.34	3192.14
			2/25/2004	107.18	3192.30
			5/13/2004	107.07	3192.41
			8/25/2004	110.90	3188.58
			11/9/2004	110.51	3188.97
			2/15/2005	109.64	3189.84
			5/25/2005	109.40	3190.08
			8/23/2005	112.98	3186.50
			12/12/2005	107.43	3192.05
			2/14/2006	113.71	3185.77
			5/9/2006	112.42	3187.06
			8/23/2006	107.80	3191.68
			12/11/2006	107.16	3192.32
			3/5/2007	113.32	3186.16
			5/16/2007	113.30	3186.18
			8/23/2007	107.16	3192.32
			11/12/2007	113.48	3186.00
			2/20/2008	112.34	3187.14
			6/10/2008	112.15	3187.33
			8/8/2008	112.09	3187.39
			11/17/2008	111.38	3188.10
			3/4/2009	112.30	3187.18
			5/18/2009	112.21	3187.27
			8/27/2009	109.86	3189.62
			2/24/2010	108.71	3190.77
			6/28/2010	107.62	3191.86
			9/20/2010	110.23	3189.25
			12/6/2010	110.77	3188.71
			2/16/2011	107.45	3192.03
			5/10/2011	107.06	3192.42
			8/16/2011	110.02	3189.46
			11/9/2011	109.80	3189.68
			2/13/2012	106.80	3192.68
			5/7/2012	106.88	3192.60
			8/13/2012	106.53	3192.95
			11/8/2012	106.46	3193.02
			3/1/2013	107.99	3191.49
			6/26/2013	108.13	3191.35

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-04 (cont'd)	154 to 169	3299.48	10/2/2013	108.01	3191.47
			12/13/2013	107.95	3191.53
			3/31/2014	107.70	3191.78
			5/28/2014	107.71	3191.77
			9/11/2014	107.78	3191.70
			1/6/2015	NM	NM
		3302.05	3/3/2015	107.41	3194.64
			6/2/2015	107.51	3194.54
			9/30/2015	107.68	3194.37
			12/1/2015	107.70	3194.35
			3/17/2016	107.61	3194.44
			5/10/2016	107.58	3194.47
			8/16/2016	107.50	3194.55
			11/30/2016	107.44	3194.61
			3/14/2017	107.42	3194.63
			6/21/2017	107.32	3194.73
			9/21/2017	107.38	3194.67
			11/28/2017	107.35	3194.70
ACW-05	105 to 115	3294.75	2/19/1997	103.08	3191.67
			5/7/1997	103.06	3191.69
			8/19/1997	103.07	3191.68
			10/22/1997	103.06	3191.69
			2/24/1998	103.10	3191.65
			5/13/1998	103.10	3191.65
			8/11/1998	103.15	3191.60
			10/21/1998	103.22	3191.53
			2/23/1999	103.26	3191.49
			5/13/1999	103.17	3191.58
			8/11/1999	103.17	3191.58
			10/21/1999	103.25	3191.50
			2/22/2000	103.30	3191.45
			5/10/2000	103.32	3191.43
			8/7/2000	103.40	3191.35
			10/26/2000	103.50	3191.25
			2/20/2001	103.62	3191.13
			5/6/2001	103.57	3191.18
			8/1/2001	103.46	3191.29
			10/24/2001	103.70	3191.05

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-05 (cont'd)	105 to 115	3294.75	2/20/2002	103.70	3191.05
			4/30/2002	103.70	3191.05
			9/24/2002	103.57	3191.18
			11/6/2002	103.81	3190.94
			3/31/2003	103.72	3191.03
			5/20/2003	103.85	3190.90
			8/18/2003	103.79	3190.96
			11/5/2003	103.70	3191.05
			2/25/2004	103.77	3190.98
			5/13/2004	103.73	3191.02
			8/25/2004	103.88	3190.87
			11/12/2004	103.97	3190.78
			2/15/2005	103.88	3190.87
			5/25/2005	103.93	3190.82
			8/23/2005	103.92	3190.83
			12/13/2005	103.90	3190.85
			2/14/2006	103.99	3190.76
			5/9/2006	103.98	3190.77
			8/23/2006	104.15	3190.60
			12/12/2006	104.11	3190.64
			3/7/2007	104.11	3190.64
			5/16/2007	104.09	3190.66
			8/23/2007	104.18	3190.57
			11/14/2007	104.11	3190.64
			2/20/2008	103.97	3190.78
			6/10/2008	104.17	3190.58
			8/8/2008	104.19	3190.56
			11/18/2008	104.12	3190.63
			3/4/2009	104.25	3190.50
			5/18/2009	104.24	3190.51
			8/27/2009	102.30	3192.45
			2/18/2010	104.16	3190.59
			6/28/2010	104.16	3190.59
			9/20/2010	104.20	3190.55
			12/6/2010	104.18	3190.57
			2/16/2011	104.24	3190.51
			5/10/2011	104.00	3190.75
			8/16/2011	104.04	3190.71

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-05 (cont'd)	105 to 115	3294.75	11/9/2011	104.05	3190.70
			2/13/2012	103.95	3190.80
			5/7/2012	104.05	3190.70
			8/13/2012	103.85	3190.90
			11/7/2012	103.75	3191.00
			3/1/2013	103.62	3191.13
			6/26/2013	103.68	3191.07
			10/2/2013	103.63	3191.12
			12/13/2013	103.57	3191.18
			3/31/2014	103.54	3191.21
			5/28/2014	103.39	3191.36
			9/11/2014	103.52	3191.23
			12/29/2014	103.80	3190.95
		3297.18	3/3/2015	103.43	3193.75
			6/2/2015	103.42	3193.76
			9/30/2015	103.41	3193.77
			12/1/2015	103.49	3193.69
			3/16/2016	103.42	3193.76
			5/10/2016	103.29	3193.89
			8/16/2016	103.24	3193.94
			11/30/2016	103.28	3193.90
			3/14/2017	103.16	3194.02
			6/21/2017	103.22	3193.96
			9/21/2017	103.16	3194.02
			11/28/2017	103.28	3193.90
ACW-06	110 to 120	3300.53	2/19/1997	107.53	3193.00
			5/8/1997	107.50	3193.03
			8/18/1997	107.51	3193.02
			10/22/1997	107.57	3192.96
			2/24/1998	107.54	3192.99
			5/13/1998	107.55	3192.98
			8/11/1998	107.57	3192.96
			10/21/1998	107.70	3192.83
			2/23/1999	107.68	3192.85
			5/13/1999	107.62	3192.91
			8/11/1999	107.60	3192.93
			10/21/1999	107.68	3192.85
			2/22/2000	107.72	3192.81

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-06 (cont'd)	110 to 120	3300.53	5/10/2000	107.75	3192.78
			8/7/2000	107.84	3192.69
			10/26/2000	107.90	3192.63
			2/20/2001	108.00	3192.53
			5/6/2001	107.95	3192.58
			8/1/2001	107.87	3192.66
			10/24/2001	108.09	3192.44
			2/20/2002	108.07	3192.46
			4/29/2002	108.08	3192.45
			9/24/2002	107.94	3192.59
			11/4/2002	108.16	3192.37
			3/31/2003	108.08	3192.45
			5/20/2003	108.20	3192.33
			8/18/2003	108.08	3192.45
			11/5/2003	108.15	3192.38
			2/25/2004	108.12	3192.41
			5/13/2004	108.09	3192.44
			8/25/2004	108.24	3192.29
			11/12/2004	108.28	3192.25
			2/15/2005	108.24	3192.29
			5/25/2005	108.26	3192.27
			8/23/2005	108.27	3192.26
			12/13/2005	108.30	3192.23
			2/14/2006	108.41	3192.12
			5/9/2006	108.47	3192.06
			8/23/2006	108.62	3191.91
			12/12/2006	108.43	3192.10
			3/7/2007	108.45	3192.08
			5/16/2007	108.41	3192.12
			8/23/2007	108.45	3192.08
			11/13/2007	108.50	3192.03
			2/20/2008	108.35	3192.18
			6/10/2008	108.30	3192.23
			8/8/2008	108.53	3192.00
			11/18/2008	108.51	3192.02
			3/4/2009	108.61	3191.92
			5/18/2009	108.63	3191.90
			8/27/2009	108.64	3191.89

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-06 (cont'd)	110 to 120	3300.53	2/18/2010	108.44	3192.09
			6/28/2010	108.43	3192.10
			9/20/2010	108.44	3192.09
			12/6/2010	108.37	3192.16
			2/16/2011	108.40	3192.13
			5/10/2011	108.23	3192.30
			8/16/2011	108.26	3192.27
			11/9/2011	108.27	3192.26
			2/13/2012	108.10	3192.43
			5/7/2012	108.18	3192.35
			8/13/2012	108.02	3192.51
			11/7/2012	107.96	3192.57
			3/1/2013	107.84	3192.69
			6/26/2013	107.42	3193.11
			10/2/2013	107.84	3192.69
			12/13/2013	107.81	3192.72
			3/31/2014	107.76	3192.77
			5/28/2014	107.66	3192.87
			9/11/2014	107.70	3192.83
			1/13/2015	107.87	3192.66
		3302.84	3/3/2015	107.66	3195.18
			6/2/2015	107.62	3195.22
			9/30/2015	107.63	3195.21
			12/1/2015	107.76	3195.08
			3/16/2016	107.61	3195.23
			5/10/2016	107.46	3195.38
			8/16/2016	107.40	3195.44
			11/30/2016	107.44	3195.40
			3/14/2017	107.43	3195.41
			6/21/2017	107.43	3195.41
			9/21/2017	107.34	3195.50
			11/28/2017	107.85	3194.99
ACW-07	105 to 115	3295.36	5/12/1999	102.62	3192.74
			10/21/1999	102.75	3192.61
			5/10/2000	102.92	3192.44
			10/26/2000	103.20	3192.16
			5/6/2001	103.08	3192.28
			10/24/2001	103.35	3192.01

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-07 (cont'd)	105 to 115	3295.36	4/30/2002	103.35	3192.01
			9/24/2002	103.21	3192.15
			11/5/2002	103.45	3191.91
			3/31/2003	103.36	3192.00
			5/20/2003	103.47	3191.89
			8/18/2003	103.42	3191.94
			11/5/2003	103.25	3192.11
			2/25/2004	103.28	3192.08
			5/13/2004	103.21	3192.15
			8/25/2004	103.57	3191.79
			11/12/2004	103.71	3191.65
			2/15/2005	103.55	3191.81
			5/24/2005	103.65	3191.71
			8/23/2005	103.70	3191.66
			12/12/2005	103.82	3191.54
			2/14/2006	103.92	3191.44
			5/9/2006	104.00	3191.36
			8/23/2006	104.11	3191.25
			12/12/2006	103.91	3191.45
			3/7/2007	104.02	3191.34
			5/16/2007	104.00	3191.36
			8/23/2007	104.00	3191.36
			11/13/2007	103.92	3191.44
			2/20/2008	103.71	3191.65
			6/10/2008	104.04	3191.32
			8/8/2008	104.11	3191.25
			11/18/2008	104.03	3191.33
			3/4/2009	104.22	3191.14
			5/18/2009	104.24	3191.12
			8/27/2009	104.23	3191.13
			2/19/2010	103.89	3191.47
			6/28/2010	103.88	3191.48
			9/20/2010	104.00	3191.36
			12/6/2010	103.94	3191.42
			2/16/2011	103.91	3191.45
			5/10/2011	103.57	3191.79
			8/16/2011	103.73	3191.63
			11/9/2011	103.63	3191.73

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Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-07 (cont'd)	105 to 115	3295.36	2/13/2012	103.47	3191.89
			5/7/2012	103.59	3191.77
			8/13/2012	103.26	3192.10
			11/7/2012	103.15	3192.21
			3/1/2013	102.93	3192.43
			6/26/2013	103.08	3192.28
			10/2/2013	102.95	3192.41
			12/13/2013	102.91	3192.45
			3/31/2014	102.91	3192.45
			5/28/2014	102.74	3192.62
			9/11/2014	102.82	3192.54
			1/13/2015	102.91	3192.45
		3297.63	3/3/2015	102.80	3194.83
			6/2/2015	102.75	3194.88
			9/30/2015	102.75	3194.88
			12/1/2015	102.48	3195.15
			3/16/2016	102.44	3195.19
			5/10/2016	102.24	3195.39
			8/16/2016	102.37	3195.26
			11/30/2016	103.45	3194.18
			3/14/2017	102.38	3195.25
			6/21/2017	102.42	3195.21
			9/21/2017	102.34	3195.29
			11/28/2017	102.43	3195.20
ACW-08	140 to 173	3297.27	5/11/1999	104.17	3193.10
			10/18/1999	104.29	3192.98
			5/9/2000	104.40	3192.87
			10/26/2000	104.64	3192.63
			5/1/2001	104.48	3192.79
			10/24/2001	104.60	3192.67
			4/29/2002	104.81	3192.46
			9/24/2002	104.51	3192.76
			11/4/2002	104.72	3192.55
			3/31/2003	104.71	3192.56
			5/20/2003	104.85	3192.42
			8/18/2003	104.82	3192.45
			11/3/2003	104.62	3192.65
			2/25/2004	104.70	3192.57

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Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-08 (cont'd)	140 to 173	3297.27	5/13/2004	104.62	3192.65
			8/25/2004	104.92	3192.35
			11/9/2004	104.97	3192.30
			2/15/2005	104.91	3192.36
			5/24/2005	pumping	NM
			8/23/2005	pumping	NM
			12/12/2005	pumping	NM
			2/14/2006	pumping	NM
			5/9/2006	pumping	NM
			8/23/2006	pumping	NM
			12/11/2006	pumping	NM
			3/6/2007	pumping	NM
			5/16/2007	pumping	NM
			8/23/2007	pumping	NM
			11/12/2007	pumping	NM
			2/20/2008	pumping	NM
			6/10/2008	pumping	NM
			8/8/2008	pumping	NM
			11/18/2008	pumping	NM
			3/4/2009	pumping	NM
			5/18/2009	pumping	NM
			8/27/2009	pumping	NM
			2/24/2010	pumping	NM
			6/28/2010	pumping	NM
			9/20/2010	pumping	NM
			12/6/2010	pumping	NM
			2/16/2011	pumping	NM
			5/10/2011	pumping	NM
			8/16/2011	pumping	NM
			11/9/2011	pumping	NM
			2/13/2012	pumping	NM
			5/7/2012	pumping	NM
			8/13/2012	pumping	NM
			11/5/2012	164.45	3132.82
			3/1/2013	NM	NM
			6/26/2013	104.20	3193.07
			10/2/2013	94.16	3203.11
			12/13/2013	NM	NM

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-08 (cont'd)	140 to 173	3297.27	3/31/2014	103.95	3193.32
			5/28/2014	103.64	3193.63
			9/11/2014	103.77	3193.50
			1/6/2015	104.04	3193.23
		3299.54	3/3/2015	103.67	3195.87
			6/2/2015	103.72	3195.82
			9/30/2015	103.79	3195.75
			12/1/2015	103.72	3195.82
			3/17/2016	103.58	3195.96
			5/10/2016	103.41	3196.13
			8/16/2016	103.45	3196.09
			11/30/2016	103.45	3196.09
			3/14/2017	103.43	3196.11
			6/21/2017	103.34	3196.20
			9/21/2017	103.43	3196.11
			11/28/2017	103.40	3196.14
ACW-09	140 to 160	3302.47	2/19/1997	110.24	3192.23
			5/8/1997	110.25	3192.22
			8/19/1997	110.26	3192.21
			10/23/1997	110.28	3192.19
			2/24/1998	110.29	3192.18
			5/13/1998	110.30	3192.17
			8/11/1998	110.32	3192.15
			10/21/1998	110.40	3192.07
			2/23/1999	110.54	3191.93
			5/13/1999	110.45	3192.02
			8/11/1999	110.45	3192.02
			10/22/1999	110.50	3191.97
			2/22/2000	111.18	3191.29
			5/12/2000	111.89	3190.58
			8/7/2000	111.22	3191.25
			10/26/2000	112.20	3190.27
			2/20/2001	112.41	3190.06
			5/4/2001	110.85	3191.62
			8/1/2001	110.70	3191.77
			10/25/2001	112.17	3190.30
			2/20/2002	111.98	3190.49
			5/1/2002	111.29	3191.18

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-09 (cont'd)	140 to 160	3302.47	9/24/2002	111.08	3191.39
			11/6/2002	112.11	3190.36
			3/31/2003	111.56	3190.91
			5/20/2003	111.90	3190.57
			8/18/2003	111.17	3191.30
			11/6/2003	110.99	3191.48
			2/25/2004	111.01	3191.46
			5/13/2004	110.99	3191.48
			8/25/2004	112.52	3189.95
			11/10/2004	112.42	3190.05
			2/15/2005	112.16	3190.31
			5/25/2005	112.49	3189.98
			8/23/2005	111.81	3190.66
			12/14/2005	112.46	3190.01
			2/14/2006	111.38	3191.09
			5/9/2006	111.36	3191.11
			8/23/2006	112.58	3189.89
			12/13/2006	112.22	3190.25
			3/7/2007	112.89	3189.58
			5/16/2007	112.85	3189.62
			8/23/2007	112.12	3190.35
			11/15/2007	111.43	3191.04
			2/20/2008	111.27	3191.20
			6/10/2008	111.84	3190.63
			8/8/2008	112.03	3190.44
			11/19/2008	112.90	3189.57
			3/4/2009	112.34	3190.13
			5/18/2009	112.24	3190.23
			8/27/2009	112.92	3189.55
			2/24/2010	112.11	3190.36
			6/28/2010	112.80	3189.67
			9/20/2010	112.60	3189.87
			12/6/2010	112.03	3190.44
			2/16/2011	111.71	3190.76
			5/10/2011	110.37	3192.10
			8/16/2011	112.19	3190.28
			11/9/2011	111.80	3190.67
			2/13/2012	112.08	3190.39

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-09 (cont'd)	140 to 160	3302.47	5/7/2012	112.33	3190.14
			8/13/2012	111.09	3191.38
			11/7/2012	111.01	3191.46
			3/1/2013	110.73	3191.74
			6/26/2013	110.93	3191.54
			10/2/2013	110.81	3191.66
			12/13/2013	110.72	3191.75
			3/31/2014	110.73	3191.74
			5/28/2014	110.64	3191.83
			9/11/2014	110.09	3192.38
			1/13/2015	110.74	3191.73
		3304.69	3/3/2015	110.66	3194.03
			6/2/2015	110.56	3194.13
			9/30/2015	110.95	3193.74
			12/1/2015	110.60	3194.09
			3/16/2016	110.57	3194.12
			5/10/2016	110.40	3194.29
			8/17/2016	110.45	3194.24
			11/30/2016	110.45	3194.24
			3/14/2017	110.25	3194.44
			6/21/2017	110.33	3194.36
			9/21/2017	110.28	3194.41
			11/28/2017	110.38	3194.31
ACW-10	140 to 160	3297.57	2/19/1997	106.31	3191.26
			5/8/1997	106.32	3191.25
			8/19/1997	106.33	3191.24
			10/23/1997	106.35	3191.22
			2/24/1998	106.38	3191.19
			5/14/1998	106.38	3191.19
			8/11/1998	106.41	3191.16
			10/22/1998	106.54	3191.03
			2/23/1999	106.52	3191.05
			5/14/1999	106.45	3191.12
			8/11/1999	106.47	3191.10
			10/22/1999	106.52	3191.05
			2/22/2000	106.39	3191.18
			5/12/2000	106.63	3190.94
			8/7/2000	106.77	3190.80

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-10 (cont'd)	140 to 160	3297.57	10/26/2000	106.89	3190.68
			2/20/2001	106.99	3190.58
			5/6/2001	106.82	3190.75
			8/1/2001	106.76	3190.81
			10/25/2001	107.01	3190.56
			2/20/2002	107.08	3190.49
			5/1/2002	107.05	3190.52
			9/24/2002	106.91	3190.66
			11/8/2002	107.09	3190.48
			3/31/2003	107.07	3190.50
			5/20/2003	107.17	3190.40
			8/18/2003	107.09	3190.48
			11/6/2003	107.08	3190.49
			2/25/2004	107.02	3190.55
			5/13/2004	106.98	3190.59
			8/25/2004	107.21	3190.36
			11/11/2004	107.32	3190.25
			2/15/2005	107.20	3190.37
			5/25/2005	107.28	3190.29
			8/23/2005	107.23	3190.34
			12/14/2005	107.36	3190.21
			2/14/2006	107.21	3190.36
			5/9/2006	107.20	3190.37
			8/23/2006	107.37	3190.20
			12/13/2006	107.35	3190.22
			3/8/2007	107.38	3190.19
			5/16/2007	107.37	3190.20
			8/23/2007	107.47	3190.10
			11/14/2007	107.32	3190.25
			2/20/2008	107.18	3190.39
			6/10/2008	107.42	3190.15
			8/8/2008	107.44	3190.13
			11/19/2008	107.40	3190.17
			3/4/2009	107.51	3190.06
			5/18/2009	107.50	3190.07
			8/27/2009	107.56	3190.01
			2/19/2010	107.42	3190.15
			6/28/2010	107.44	3190.13

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-10 (cont'd)	140 to 160	3297.57	9/20/2010	107.46	3190.11
			12/6/2010	107.42	3190.15
			2/16/2011	107.51	3190.06
			5/10/2011	107.30	3190.27
			8/16/2011	107.32	3190.25
			11/9/2011	107.30	3190.27
			2/13/2012	107.24	3190.33
			5/7/2012	107.34	3190.23
			8/13/2012	107.08	3190.49
			11/6/2012	107.00	3190.57
			3/1/2013	106.83	3190.74
			6/26/2013	106.96	3190.61
			10/2/2013	106.83	3190.74
			12/13/2013	106.78	3190.79
			3/31/2014	106.78	3190.79
			5/28/2014	106.67	3190.90
			9/11/2014	106.75	3190.82
			1/13/2015	106.83	3190.74
		3299.82	3/3/2015	106.79	3193.03
			6/2/2015	106.62	3193.20
			9/30/2015	106.65	3193.17
			12/1/2015	106.66	3193.16
			3/16/2016	106.65	3193.17
			5/10/2016	106.50	3193.32
			8/17/2016	106.55	3193.27
			11/30/2016	106.52	3193.30
			3/14/2017	106.35	3193.47
			6/21/2017	106.43	3193.39
			9/21/2017	106.40	3193.42
			11/28/2017	106.44	3193.38
ACW-11	140 to 160	3299.33	2/19/1997	106.01	3193.32
			5/6/1997	105.95	3193.38
			8/19/1997	106.00	3193.33
			10/21/1997	106.02	3193.31
			10/20/1998	106.17	3193.16
			5/12/1998	106.00	3193.33
			8/11/1998	106.07	3193.26
			10/20/1998	106.17	3193.16

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-11 (cont'd)	140 to 160	3299.33	2/23/1999	106.20	3193.13
			5/12/1999	106.07	3193.26
			8/11/1999	106.15	3193.18
			10/20/1999	106.16	3193.17
			2/22/2000	106.27	3193.06
			5/9/2000	106.31	3193.02
			8/7/2000	106.54	3192.79
			10/26/2000	106.65	3192.68
			2/20/2001	106.70	3192.63
			5/1/2001	106.45	3192.88
			8/1/2001	106.40	3192.93
			10/23/2001	106.57	3192.76
			2/20/2002	106.79	3192.54
			4/29/2002	106.78	3192.55
			9/24/2002	106.60	3192.73
			11/6/2002	106.80	3192.53
			3/31/2003	106.75	3192.58
			5/20/2003	106.92	3192.41
			8/18/2003	106.85	3192.48
			11/4/2003	106.72	3192.61
			2/25/2004	106.76	3192.57
			5/13/2004	106.69	3192.64
			8/25/2004	106.93	3192.40
			11/10/2004	106.92	3192.41
			2/15/2005	106.91	3192.42
			5/23/2005	107.01	3192.32
			8/23/2005	107.11	3192.22
			12/13/2005	107.20	3192.13
			2/14/2006	107.39	3191.94
			5/9/2006	107.40	3191.93
			8/23/2006	107.44	3191.89
			12/13/2006	107.32	3192.01
			3/7/2007	107.44	3191.89
			5/16/2007	107.42	3191.91
			8/23/2007	107.47	3191.86
			11/13/2007	107.36	3191.97
			2/20/2008	107.12	3192.21
			6/10/2008	107.42	3191.91

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-11 (cont'd)	140 to 160	3299.33	8/8/2008	107.47	3191.86
			11/18/2008	107.43	3191.90
			3/4/2009	107.58	3191.75
			5/18/2009	107.58	3191.75
			8/27/2009	107.54	3191.79
			2/25/2010	107.17	3192.16
			6/28/2010	107.22	3192.11
			9/20/2010	107.35	3191.98
			12/6/2010	107.31	3192.02
			2/16/2011	107.42	3191.91
			5/10/2011	107.02	3192.31
			8/16/2011	107.04	3192.29
			11/9/2011	107.00	3192.33
			2/13/2012	106.89	3192.44
			5/7/2012	107.00	3192.33
			8/13/2012	106.64	3192.69
			11/7/2012	106.57	3192.76
			3/1/2013	106.38	3192.95
			6/26/2013	106.52	3192.81
			10/2/2013	106.49	3192.84
			12/13/2013	106.48	3192.85
			3/31/2014	106.20	3193.13
			5/28/2014	106.19	3193.14
			9/11/2014	106.18	3193.15
			1/5/2015	106.41	3192.92
		3301.64	3/3/2015	106.10	3195.54
			6/2/2015	106.08	3195.56
			9/30/2015	106.30	3195.34
			12/1/2015	106.17	3195.47
			3/17/2016	106.09	3195.55
			5/10/2016	105.90	3195.74
			8/17/2016	105.88	3195.76
			11/30/2016	105.97	3195.67
			3/14/2017	105.80	3195.84
			6/21/2017	105.73	3195.91
			9/21/2017	105.84	3195.80
			11/28/2017	105.83	3195.81
ACW-12	150 to 170	3299.56	2/19/1997	109.32	3190.24

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-12 (cont'd)	150 to 170	3299.56	5/8/1997	109.32	3190.24
			8/20/1997	99.29	3200.27
			10/23/1997	109.39	3190.17
			2/24/1998	109.38	3190.18
			5/14/1998	109.35	3190.21
			8/11/1998	109.40	3190.16
			10/22/1998	109.51	3190.05
			2/23/1999	109.54	3190.02
			5/14/1999	109.44	3190.12
			8/11/1999	109.54	3190.02
			10/22/1999	109.52	3190.04
			2/22/2000	109.50	3190.06
			5/11/2000	109.57	3189.99
			8/7/2000	109.65	3189.91
			10/26/2000	109.78	3189.78
			2/20/2001	109.90	3189.66
			5/3/2001	109.75	3189.81
			8/1/2001	109.76	3189.80
			10/25/2001	109.99	3189.57
			2/20/2002	109.97	3189.59
			5/1/2002	109.98	3189.58
			9/24/2002	109.77	3189.79
			11/7/2002	109.91	3189.65
			3/31/2003	109.99	3189.57
			5/20/2003	110.13	3189.43
			8/18/2003	110.03	3189.53
			11/6/2003	110.02	3189.54
			2/25/2004	110.00	3189.56
			5/13/2004	109.98	3189.58
			8/25/2004	110.13	3189.43
			11/11/2004	110.20	3189.36
			2/15/2005	110.12	3189.44
			5/25/2005	110.17	3189.39
			8/23/2005	110.13	3189.43
			12/14/2005	110.21	3189.35
			2/14/2006	110.11	3189.45
			5/9/2006	110.08	3189.48
			8/23/2006	110.25	3189.31

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-12 (cont'd)	150 to 170	3299.56	12/12/2006	110.17	3189.39
			3/8/2007	110.28	3189.28
			5/16/2007	110.25	3189.31
			8/23/2007	110.36	3189.20
			11/14/2007	110.31	3189.25
			2/20/2008	110.11	3189.45
			6/10/2008	110.33	3189.23
			8/8/2008	110.35	3189.21
			11/19/2008	110.34	3189.22
			3/4/2009	110.36	3189.20
			5/18/2009	110.39	3189.17
			8/27/2009	110.43	3189.13
			2/24/2010	110.34	3189.22
			6/28/2010	110.40	3189.16
			9/20/2010	110.38	3189.18
			12/6/2010	110.35	3189.21
			2/16/2011	110.47	3189.09
			5/10/2011	110.31	3189.25
			8/16/2011	110.30	3189.26
			11/9/2011	110.30	3189.26
			2/13/2012	110.25	3189.31
			5/7/2012	110.33	3189.23
			8/13/2012	110.13	3189.43
			11/6/2012	110.04	3189.52
			3/1/2013	109.85	3189.71
			6/26/2013	110.02	3189.54
			10/2/2013	109.89	3189.67
			12/13/2013	109.83	3189.73
			3/31/2014	109.79	3189.77
			5/28/2014	109.70	3189.86
			9/11/2014	109.79	3189.77
			1/13/2015	109.03	3190.53
		3301.8	3/3/2015	109.77	3192.03
			6/2/2015	109.62	3192.18
			9/30/2015	109.78	3192.02
			12/1/2015	109.69	3192.11
			3/16/2016	109.70	3192.10
			5/10/2016	109.56	3192.24

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-12 (cont'd)	150 to 170	3301.8	8/17/2016	109.61	3192.19
			11/30/2016	109.59	3192.21
			3/14/2017	109.40	3192.40
			6/21/2017	109.56	3192.24
			9/21/2017	109.47	3192.33
			11/28/2017	109.49	3192.31
ACW-13	153 to 173	3289.46	2/20/1997	99.28	3190.18
			5/8/1997	99.29	3190.17
			8/20/1997	99.29	3190.17
			10/23/1997	99.27	3190.19
			2/24/1998	99.31	3190.15
			5/14/1998	99.31	3190.15
			8/11/1998	99.36	3190.10
			10/22/1998	99.40	3190.06
			2/23/1999	99.45	3190.01
			5/14/1999	99.38	3190.08
			8/11/1999	99.44	3190.02
			10/22/1999	99.44	3190.02
			2/23/2000	99.48	3189.98
			5/11/2000	99.47	3189.99
			8/7/2000	99.53	3189.93
			10/26/2000	99.50	3189.96
			2/20/2001	99.65	3189.81
			5/6/2001	99.62	3189.84
			8/1/2001	99.61	3189.85
			10/25/2001	99.61	3189.85
			2/20/2002	99.72	3189.74
			5/1/2002	99.73	3189.73
			9/24/2002	99.61	3189.85
			11/7/2002	99.80	3189.66
			3/28/2003	99.79	3189.67
			5/19/2003	99.83	3189.63
			8/19/2003	99.83	3189.63
			11/6/2003	99.86	3189.60
			2/26/2004	99.84	3189.62
			5/12/2004	99.81	3189.65
			8/24/2004	99.87	3189.59
			11/11/2004	99.94	3189.52

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El Paso Natural Gas Company, LLC
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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-13 (cont'd)	153 to 173	3289.46	2/14/2005	99.84	3189.62
			5/24/2005	99.83	3189.63
			8/22/2005	99.84	3189.62
			12/15/2005	99.90	3189.56
			2/13/2006	99.83	3189.63
			5/8/2006	99.86	3189.60
			8/22/2006	100.03	3189.43
			12/11/2006	99.99	3189.47
			3/8/2007	99.95	3189.51
			5/15/2007	100.02	3189.44
			8/22/2007	100.02	3189.44
			11/15/2007	100.01	3189.45
			2/19/2008	99.94	3189.52
			6/9/2008	100.04	3189.42
			8/9/2008	100.02	3189.44
			11/20/2008	100.10	3189.36
			3/3/2009	100.04	3189.42
			5/19/2009	100.04	3189.42
			8/27/2009	99.98	3189.48
			2/19/2010	100.04	3189.42
			6/28/2010	100.09	3189.37
			9/20/2010	100.07	3189.39
			12/6/2010	100.01	3189.45
			2/16/2011	100.10	3189.36
			5/10/2011	100.03	3189.43
			8/16/2011	99.97	3189.49
			11/9/2011	100.00	3189.46
			2/13/2012	99.97	3189.49
			5/7/2012	99.95	3189.51
			8/13/2012	99.89	3189.57
			11/6/2012	99.85	3189.61
			3/1/2013	99.70	3189.76
			6/26/2013	99.83	3189.63
			10/2/2013	99.78	3189.68
			12/13/2013	100.25	3189.21
			3/31/2014	99.67	3189.79
			5/28/2014	99.63	3189.83
			9/11/2014	99.59	3189.87

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-13 (cont'd)	153 to 173	3289.46	1/13/2015	99.70	3189.76
		3291.72	3/3/2015	99.56	3192.16
			6/2/2015	99.52	3192.20
			9/30/2015	99.59	3192.13
			12/1/2015	99.65	3192.07
			3/16/2016	99.57	3192.15
			5/10/2016	99.44	3192.28
			8/17/2016	99.50	3192.22
			11/30/2016	99.46	3192.26
			3/14/2017	99.34	3192.38
			6/21/2017	99.37	3192.35
			9/21/2017	99.41	3192.31
			11/28/2017	99.39	3192.33
ACW-14	157 to 177	3291.18	2/19/1997	NM	NM
			5/6/1997	NM	NM
			8/20/1997	100.41	3190.77
			10/22/1997	100.38	3190.80
			2/24/1998	100.47	3190.71
			5/13/1998	100.42	3190.76
			8/11/1998	100.47	3190.71
			10/21/1998	100.54	3190.64
			2/23/1999	100.57	3190.61
			5/13/1999	100.49	3190.69
			8/9/1999	100.49	3190.69
			10/21/1999	100.55	3190.63
			2/22/2000	100.56	3190.62
			5/10/2000	100.52	3190.66
			8/7/2000	100.61	3190.57
			10/26/2000	100.62	3190.56
			2/20/2001	100.75	3190.43
			5/3/2001	100.72	3190.46
			8/1/2001	100.75	3190.43
			10/24/2001	100.75	3190.43
			2/19/2002	100.80	3190.38
			4/30/2002	100.80	3190.38
			9/24/2002	100.71	3190.47
			11/4/2002	100.80	3190.38
			3/26/2003	100.89	3190.29

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-14 (cont'd)	157 to 177	3291.18	5/20/2003	100.97	3190.21
			8/20/2003	100.95	3190.23
			11/5/2003	100.96	3190.22
			2/26/2004	100.94	3190.24
			5/12/2004	100.86	3190.32
			8/24/2004	100.93	3190.25
			11/12/2004	100.99	3190.19
			2/14/2005	100.94	3190.24
			5/24/2005	100.93	3190.25
			8/22/2005	100.94	3190.24
			12/14/2005	101.01	3190.17
			2/13/2006	100.91	3190.27
			5/9/2006	101.05	3190.13
			8/22/2006	101.15	3190.03
			12/11/2006	101.06	3190.12
			3/7/2007	101.06	3190.12
			5/15/2007	101.11	3190.07
			8/22/2007	101.12	3190.06
			11/14/2007	101.15	3190.03
			2/19/2008	101.02	3190.16
			6/9/2008	101.04	3190.14
			8/9/2008	101.13	3190.05
			11/19/2008	101.14	3190.04
			3/3/2009	101.12	3190.06
			5/19/2009	101.15	3190.03
			8/27/2009	101.22	3189.96
			2/18/2010	101.13	3190.05
			6/28/2010	101.15	3190.03
			9/20/2010	101.14	3190.04
			12/6/2010	101.13	3190.05
			2/16/2011	101.16	3190.02
			5/10/2011	101.05	3190.13
			8/16/2011	100.99	3190.19
			11/9/2011	101.04	3190.14
			2/13/2012	100.98	3190.20
			5/7/2012	101.00	3190.18
			8/13/2012	100.95	3190.23
			11/7/2012	100.87	3190.31

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-14 (cont'd)	157 to 177	3291.18	3/1/2013	100.73	3190.45
			6/26/2013	100.84	3190.34
			10/2/2013	101.19	3189.99
			12/13/2013	101.16	3190.02
			3/31/2014	100.69	3190.49
			5/28/2014	100.66	3190.52
			9/11/2014	100.55	3190.63
			1/13/2015	100.73	3190.45
		3294.74	3/3/2015	100.61	3194.13
			6/2/2015	100.55	3194.19
			9/30/2015	100.59	3194.15
			12/1/2015	100.62	3194.12
			3/16/2016	100.58	3194.16
			5/10/2016	100.46	3194.28
			8/17/2016	100.43	3194.31
			11/30/2016	100.04	3194.70
			3/14/2017	100.34	3194.40
			6/21/2017	100.37	3194.37
			9/21/2017	100.42	3194.32
			11/28/2017	100.44	3194.30
ACW-15	150 to 170	3290.54	10/23/1999	102.39	3188.15
			2/23/2000	102.41	3188.13
			5/11/2000	102.42	3188.12
			8/7/2000	102.45	3188.09
			10/26/2000	102.42	3188.12
			2/20/2001	102.55	3187.99
			5/6/2001	102.51	3188.03
			8/1/2001	102.58	3187.96
			10/25/2001	102.56	3187.98
			2/19/2002	102.57	3187.97
			5/2/2002	102.65	3187.89
			9/24/2002	102.55	3187.99
			11/7/2002	102.68	3187.86
			3/28/2003	102.74	3187.80
			5/19/2003	102.72	3187.82
			8/19/2003	102.75	3187.79
			11/7/2003	102.78	3187.76
			2/26/2004	102.75	3187.79

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-15 (cont'd)	150 to 170	3290.54	5/12/2004	102.76	3187.78
			8/24/2004	102.78	3187.76
			11/11/2004	102.75	3187.79
			2/14/2005	102.75	3187.79
			5/24/2005	102.75	3187.79
			8/22/2005	102.76	3187.78
			12/13/2005	102.78	3187.76
			2/13/2006	102.76	3187.78
			5/8/2006	102.79	3187.75
			8/22/2006	102.91	3187.63
			12/11/2006	102.89	3187.65
			3/8/2007	102.79	3187.75
			5/15/2007	102.87	3187.67
			8/22/2007	102.91	3187.63
			11/15/2007	102.83	3187.71
			2/19/2008	102.84	3187.70
			6/9/2008	102.93	3187.61
			8/9/2008	102.89	3187.65
			11/19/2008	102.95	3187.59
			3/3/2009	103.05	3187.49
			5/19/2009	102.89	3187.65
			8/27/2009	102.95	3187.59
			2/17/2010	102.92	3187.62
			6/28/2010	103.00	3187.54
			9/20/2010	102.99	3187.55
			12/6/2010	102.92	3187.62
			2/16/2011	102.99	3187.55
			5/10/2011	102.51	3188.03
			8/16/2011	102.89	3187.65
			11/9/2011	102.91	3187.63
			2/13/2012	102.87	3187.67
			5/7/2012	102.95	3187.59
			8/13/2012	102.86	3187.68
			11/5/2012	102.82	3187.72
			3/1/2013	102.64	3187.90
			6/26/2013	102.80	3187.74
			10/2/2013	102.67	3187.87
			12/13/2013	102.62	3187.92

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-15 (cont'd)	150 to 170	3290.54	3/31/2014	102.33	3188.21
			5/28/2014	102.60	3187.94
			9/11/2014	102.66	3187.88
			1/13/2015	102.69	3187.85
		3292.75	3/3/2015	102.57	3190.18
			6/2/2015	102.48	3190.27
			9/30/2015	102.56	3190.19
			12/1/2015	102.62	3190.13
			3/16/2016	102.56	3190.19
			5/10/2016	102.42	3190.33
			8/17/2016	102.50	3190.25
			11/30/2016	102.42	3190.33
			3/14/2017	102.28	3190.47
			6/21/2017	102.33	3190.42
			9/21/2017	102.36	3190.39
			11/28/2017	102.36	3190.39
ACW-16	150 to 170	3307.89	9/11/2014	109.66	3198.23
			1/6/2015	110.97	3196.92
			3/3/2015	109.54	3198.35
			6/2/2015	109.61	3198.28
			9/30/2015	109.69	3198.20
			12/1/2015	109.73	3198.16
			3/17/2016	109.65	3198.24
			5/10/2016	109.49	3198.40
			8/16/2016	109.47	3198.42
			11/30/2016	109.46	3198.43
			3/14/2017	109.48	3198.41
			6/21/2017	109.34	3198.55
			9/21/2017	109.33	3198.56
			11/28/2017	109.40	3198.49
ACW-17	151 to 171	3306.17	9/11/2014	108.62	3197.55
			1/6/2015	108.85	3197.32
			3/3/2015	108.48	3197.69
			6/2/2015	108.54	3197.63
			9/30/2015	108.59	3197.58
			12/1/2015	108.61	3197.56
			3/17/2016	108.54	3197.63
			5/10/2016	108.33	3197.84

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-17 (cont'd)	151 to 171	3306.17	8/16/2016	108.31	3197.86
			11/30/2016	108.28	3197.89
			3/14/2017	108.48	3197.69
			6/21/2017	108.46	3197.71
			9/21/2017	108.43	3197.74
			11/28/2017	108.54	3197.63
ACW-18	160 to 180	3303.15	9/11/2014	107.91	3195.24
			1/6/2015	108.03	3195.12
			3/3/2015	107.41	3195.74
			6/2/2015	107.61	3195.54
			9/30/2015	104.34	3198.81
			12/1/2015	107.80	3195.35
			3/17/2016	107.68	3195.47
			5/10/2016	107.49	3195.66
			8/16/2016	107.55	3195.60
			11/30/2016	107.47	3195.68
			3/14/2017	107.51	3195.64
			6/21/2017	107.41	3195.74
			9/21/2017	107.43	3195.72
			11/28/2017	107.49	3195.66
ACW-19	98 to 118	3302.68	9/11/2014	106.81	3195.87
			1/6/2015	109.32	3193.36
			3/3/2015	106.70	3195.98
			6/2/2015	106.63	3196.05
			9/30/2015	106.73	3195.95
			12/1/2015	106.73	3195.95
			3/17/2016	106.51	3196.17
			5/10/2016	106.37	3196.31
			8/16/2016	106.42	3196.26
			11/30/2016	106.42	3196.26
			3/14/2017	106.42	3196.26
			6/21/2017	106.31	3196.37
			9/21/2017	106.40	3196.28
			11/28/2017	106.40	3196.28
ACW-20	154 to 174	3303.5	9/11/2014	109.41	3194.09
			1/6/2015	107.30	3196.20
			3/3/2015	108.95	3194.55
			6/2/2015	107.20	3196.30

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-20 (cont'd)	154 to 174	3303.5	9/30/2015	108.94	3194.56
			12/1/2015	108.96	3194.54
			3/17/2016	108.78	3194.72
			5/10/2016	108.61	3194.89
			8/16/2016	108.65	3194.85
			11/30/2016	108.62	3194.88
			3/14/2016	108.62	3194.88
			6/21/2017	108.52	3194.98
			9/21/2017	108.60	3194.90
			11/28/2017	108.59	3194.91
ACW-21	98 to 118	3301.82	9/11/2014	120.46	3181.36
			1/5/2015	106.51	3195.31
			3/3/2015	106.21	3195.61
			6/2/2015	106.18	3195.64
			9/30/2015	106.21	3195.61
			12/1/2015	106.27	3195.55
			3/17/2016	106.20	3195.62
			5/10/2016	106.00	3195.82
			8/16/2016	105.97	3195.85
			11/30/2016	105.92	3195.90
			3/14/2017	105.91	3195.91
			6/21/2017	105.81	3196.01
			9/21/2017	105.82	3196.00
			11/28/2017	105.94	3195.88
ACW-22	102 to 122	3306.24	12/2/2015	112.29	3193.95
			3/16/2016	112.26	3193.98
			5/10/2016	112.43	3193.81
			8/16/2016	112.15	3194.09
			11/30/2016	112.12	3194.12
			3/14/2017	111.94	3194.30
			6/21/2017	112.04	3194.20
			9/21/2017	112.03	3194.21
			11/28/2017	112.04	3194.20
ACW-23	147 to 167	3306.29	12/2/2015	112.39	3193.90
			3/16/2016	112.41	3193.88
			5/10/2016	112.28	3194.01
			8/17/2016	112.31	3193.98
			11/30/2016	112.29	3194.00

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Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ACW-23 (cont'd)	147 to 167	3306.29	3/14/2017	112.11	3194.18
			6/21/2017	112.17	3194.12
			9/21/2017	112.09	3194.20
			11/28/2017	112.15	3194.14
ACW-24	166 to 186	3305.56	12/3/2015	110.77	3194.79
			3/16/2016	110.74	3194.82
			5/10/2016	110.58	3194.98
			8/16/2016	110.56	3195.00
			11/30/2016	110.64	3194.92
			3/14/2017	110.60	3194.96
			6/21/2017	110.59	3194.97
			9/21/2017	110.49	3195.07
ACW-25	151 to 171	3297.59	12/2/2015	103.72	3193.87
			3/16/2016	103.61	3193.98
			5/10/2016	103.49	3194.10
			8/16/2016	103.44	3194.15
			11/30/2016	103.47	3194.12
			3/14/2017	103.36	3194.23
			6/21/2017	103.43	3194.16
			9/21/2017	103.37	3194.22
ENSR-01	123 to 148	3305.4	11/28/2017	103.46	3194.13
			2/25/2004	108.63	3196.77
			5/13/2004	108.60	3196.80
			8/25/2004	108.57	3196.83
			11/10/2004	108.40	3197.00
			12/13/2005	108.33	3197.07
			2/14/2006	108.45	3196.95
			5/9/2006	108.61	3196.79
			8/23/2006	108.71	3196.69
			12/15/2006	108.50	3196.90
			3/6/2007	108.52	3196.88
			5/16/2007	108.52	3196.88
			8/23/2007	108.61	3196.79
			11/13/2007	108.54	3196.86
			2/20/2008	108.42	3196.98
			6/10/2008	108.58	3196.82
			8/8/2008	108.63	3196.77

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ENSR-01 (cont'd)	123 to 148	3305.4	11/18/2008	108.75	3196.65
			3/4/2009	108.75	3196.65
			5/18/2009	108.82	3196.58
			8/27/2009	108.78	3196.62
			2/25/2010	108.38	3197.02
			6/28/2010	108.35	3197.05
			9/20/2010	108.39	3197.01
			12/6/2010	108.44	3196.96
			2/16/2011	108.49	3196.91
			5/10/2011	108.24	3197.16
			8/16/2011	108.02	3197.38
			11/9/2011	108.15	3197.25
			2/13/2012	108.25	3197.15
			5/7/2012	108.45	3196.95
			8/13/2012	108.33	3197.07
			11/7/2012	108.34	3197.06
			3/1/2013	108.29	3197.11
			6/26/2013	108.43	3196.97
			10/2/2013	108.28	3197.12
			12/13/2013	108.19	3197.21
			3/31/2014	108.12	3197.28
			5/28/2014	108.11	3197.29
			9/11/2014	108.18	3197.22
			1/6/2015	108.19	3197.21
		3306.71	3/3/2015	107.97	3198.74
			6/2/2015	108.00	3198.71
			9/30/2015	108.06	3198.65
			12/1/2015	108.07	3198.64
			3/17/2016	108.05	3198.66
			5/10/2016	107.84	3198.87
			8/17/2016	107.81	3198.90
			11/30/2016	107.81	3198.90
			3/14/2017	107.83	3198.88
			6/21/2017	107.68	3199.03
			9/21/2017	107.78	3198.93
			11/28/2017	107.74	3198.97
ENSR-03	123 to 148	3303.8	2/25/2004	108.11	3195.69
			5/13/2004	108.07	3195.73

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ENSR-03 (cont'd)	123 to 148	3303.8	8/25/2004	108.14	3195.66
			11/10/2004	108.10	3195.70
			12/12/2005	108.21	3195.59
			2/14/2006	108.26	3195.54
			5/9/2006	108.41	3195.39
			8/23/2006	108.52	3195.28
			12/14/2006	108.18	3195.62
			3/6/2007	108.35	3195.45
			5/16/2007	108.34	3195.46
			8/23/2007	108.31	3195.49
			11/12/2007	108.26	3195.54
			2/20/2008	108.08	3195.72
			6/10/2008	108.31	3195.49
			8/8/2008	108.38	3195.42
			11/17/2008	108.31	3195.49
			3/4/2009	108.54	3195.26
			5/18/2009	108.61	3195.19
			8/27/2009	108.57	3195.23
			2/25/2010	108.12	3195.68
			6/28/2010	108.12	3195.68
			9/20/2010	108.20	3195.60
			12/6/2010	108.18	3195.62
			2/16/2011	108.30	3195.50
			5/10/2011	109.99	3193.81
			8/16/2011	107.93	3195.87
			11/9/2011	107.93	3195.87
			2/13/2012	107.93	3195.87
			5/7/2012	108.04	3195.76
			8/13/2012	107.84	3195.96
			11/7/2012	107.85	3195.95
			3/1/2013	107.76	3196.04
			6/26/2013	107.92	3195.88
			10/2/2013	107.78	3196.02
			12/13/2013	107.70	3196.10
			3/31/2014	107.63	3196.17
			5/28/2014	107.61	3196.19
			9/11/2014	107.62	3196.18
			1/6/2015	107.87	3195.93

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
ENSR-03 (cont'd)	123 to 148	3305.05	3/3/2015	107.48	3197.57
			6/2/2015	107.51	3197.54
			9/30/2015	107.37	3197.68
			12/1/2015	107.52	3197.53
			3/17/2016	107.52	3197.53
			5/10/2016	107.28	3197.77
			8/16/2016	107.25	3197.80
			11/30/2016	107.27	3197.78
			3/14/2017	107.20	3197.85
			6/21/2017	107.15	3197.90
			9/21/2017	107.25	3197.80
			11/28/2017	107.25	3197.80
EPNG-01	120 to 160	3308.6	3/6/2007	110.02	3198.58
			5/16/2007	110.00	3198.60
			8/23/2007	109.87	3198.73
			11/12/2007	109.66	3198.94
			5/18/2009	110.00	3198.60
			8/27/2009	109.03	3199.57
			2/24/2010	109.24	3199.36
			6/28/2010	108.33	3200.27
			9/20/2010	109.42	3199.18
			12/6/2010	109.18	3199.42
			2/16/2011	109.62	3198.98
			5/10/2011	109.20	3199.40
			8/16/2011	109.98	3198.62
			11/9/2011	109.00	3199.60
			2/13/2012	109.55	3199.05
			5/7/2012	109.80	3198.80
			8/13/2012	109.73	3198.87
			11/7/2012	109.85	3198.75
			5/29/2014	109.85	3198.75
			9/11/2014	109.62	3198.98
			1/6/2015	109.47	3199.13
		3310.03	3/3/2015	109.44	3200.59
			6/2/2015	NM	NM
			9/30/2015	109.38	3200.65
			12/1/2015	109.48	3200.55
			3/16/2016	109.46	3200.57

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
EPNG-01 (cont'd)	120 to 160	3310.03	5/10/2016	109.30	3200.73
			8/16/2016	109.29	3200.74
			11/30/2016	109.31	3200.72
			3/14/2017	109.21	3200.82
			6/21/2017	109.14	3200.89
			9/21/2017	109.18	3200.85
			11/28/2017	109.22	3200.81
PTP-01	110 to 130	3304.41	2/25/2004	108.67	3195.74
			5/13/2004	108.65	3195.76
			8/25/2004	108.72	3195.69
			11/10/2004	108.60	3195.81
			12/12/2005	108.68	3195.73
			2/14/2006	108.83	3195.58
			5/9/2006	108.97	3195.44
			8/23/2006	109.06	3195.35
			12/14/2006	108.78	3195.63
			3/6/2007	108.91	3195.50
			5/16/2007	108.91	3195.50
			8/23/2007	108.87	3195.54
			11/12/2007	108.83	3195.58
			2/20/2008	108.64	3195.77
			6/10/2008	108.85	3195.56
			8/8/2008	108.93	3195.48
			11/17/2008	108.86	3195.55
			3/4/2009	109.09	3195.32
			5/18/2009	109.15	3195.26
			8/27/2009	109.13	3195.28
			2/25/2010	108.69	3195.72
			6/28/2010	108.68	3195.73
			9/20/2010	108.78	3195.63
			12/6/2010	108.76	3195.65
			2/16/2011	108.84	3195.57
			5/10/2011	108.58	3195.83
			8/16/2011	108.50	3195.91
			11/9/2011	108.52	3195.89
			2/13/2012	108.49	3195.92
			5/7/2012	108.61	3195.80
			8/13/2012	108.40	3196.01

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
PTP-01 (cont'd)	110 to 130	3304.41	11/7/2012	106.43	3197.98
			3/1/2013	108.33	3196.08
			6/26/2013	108.49	3195.92
			10/2/2013	108.36	3196.05
			12/13/2013	108.30	3196.11
			3/31/2014	106.29	3198.12
			5/28/2014	108.16	3196.25
			9/11/2014	108.19	3196.22
			1/6/2015	108.34	3196.07
		3305.67	3/3/2015	108.04	3197.63
			6/2/2015	108.09	3197.58
			9/30/2015	108.12	3197.55
			12/1/2015	108.12	3197.55
			3/17/2016	NM	NM
			5/10/2016	NM	NM
			8/16/2016	NM	NM
			11/30/2016	NM	NM
			3/14/2017	NM	NM
			6/21/2017	107.73	3197.94
			9/21/2017	107.83	3197.84
			11/28/2017	107.84	3197.83
RW-01	109 to 179	3302.16	3/6/2007	NM	NM
			5/16/2007	NM	NM
			8/23/2007	107.15	3195.01
			11/12/2007	NM	NM
			11/9/2011	NM	NM
			2/13/2012	106.72	3195.44
			5/7/2012	pumping	NM
			8/13/2012	pumping	NM
			11/5/2012	pumping	NM
			3/31/2014	106.00	3196.16
			9/11/2014	106.06	3196.10
			3/3/2015	105.93	3196.23
			6/2/2015	105.91	3196.25
			9/30/2015	106.05	3196.11
			12/1/2015	106.19	3195.97
			3/17/2016	106.00	3196.16
			5/10/2016	105.87	3196.29

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
RW-01 (cont'd)	109 to 179	3302.16	8/16/2016	105.71	3196.45
			11/30/2016	105.51	3196.65
			3/14/2017	105.63	3196.53
			6/21/2017	105.61	3196.55
			9/21/2017	105.69	3196.47
			11/28/2017	105.63	3196.53
RW-02	155 to 175	3303.71	2/13/2012	pumping	NM
			5/7/2012	pumping	NM
			8/13/2012	pumping	NM
			11/5/2012	pumping	NM
			3/31/2014	108.62	3195.09
			3/3/2015	109.64	3194.07
			6/2/2015	109.64	3194.07
			9/30/2015	109.76	3193.95
			3/16/2016	109.64	3194.07
			5/10/2016	109.49	3194.22
			8/17/2016	109.52	3194.19
			11/30/2016	109.51	3194.20
			3/14/2017	109.27	3194.44
			6/21/2017	109.38	3194.33
			9/21/2017	109.34	3194.37
			11/28/2017	110.42	3193.29
RW-03	136.7 to 176.7	3302.65	8/13/2012	107.15	3195.50
			11/8/2012	107.13	3195.52
			3/31/2014	106.79	3195.86
			3/3/2015	106.52	3196.13
			6/2/2015	106.59	3196.06
			9/30/2015	106.70	3195.95
			12/1/2015	106.67	3195.98
			3/17/2016	106.60	3196.05
			5/10/2016	106.40	3196.25
			8/16/2016	106.45	3196.20
			11/30/2016	106.41	3196.24
			3/14/2017	106.38	3196.27
			6/21/2017	106.29	3196.36
			9/21/2017	106.40	3196.25
			11/28/2017	106.39	3196.26
RW-04	154 to 174	3303.26	5/10/2016	108.36	3194.90

Appendix B
Historical Potentiometric Surface Elevation
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	Screened Interval (ft bgl)	Top of Casing Elevation (ft-amsl)	Date Measured	Depth to Groundwater (ft-TOC)	Groundwater Elevation (ft-amsl)
RW-04 (cont'd)	154 to 174	3303.26	8/16/2016	109.00	3194.26
			11/30/2016	108.89	3194.37
			3/14/2016	108.80	3194.46
			6/21/2017	108.72	3194.54
			9/21/2017	108.75	3194.51
			11/28/2017	108.80	3194.46

Notes:

TOC : Measured from top of casing
ft-amsl : feet above mean sea level
NM : No measurement taken
ft bgl: feet below ground level

APPENDIX C

HMI Quarterly Groundwater Monitoring Reports





Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

March 23, 2017

Mr. Hank McConnell, P.G.
Arcadis
1004 N. Big Spring Street, Suite 300
Midland, Texas 79701

Subject: 1Q17 Groundwater Monitoring, March 14, 2017
Jal #4 Gas Plant, Jal, New Mexico

Dear Mr. McConnell:

This document summarizes groundwater monitoring field activities conducted by HMI on behalf of El Paso Natural Gas Company at the Jal #4 Gas Plant.

Contents

Field Activities Narrative
Table 1: Gauging Data and Groundwater Field Parameters, March 14, 2017
Groundwater Sampling Forms and Field Instrument Calibration Record
Chain-of-Custody Form
El Paso ARF
Groundwater Sampling SOP

Field Activities Narrative

1. Sitewide gauging and well depth measurements were conducted on March 14, 2017.

2. HMI equipped the sampled-well network with dedicated bladder pumps in 1Q17. Pump intake depths matched historical Hydrasleeve intake depths reported by Arcadis. Bladder pumps will remain property of HMI, and HMI respectfully requests the opportunity to retrieve these pumps once HMI's monitoring activities are completed at the site.
3. Groundwater sampling was conducted at three monitor wells, in accordance with EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling), and the attached Groundwater Sampling SOP. Low-flow groundwater sampling was conducted using dedicated bladder pumps, with intake depths reported on Table 1. Low-flow purging was conducted at EPA-recommended purge rates of 0.1 - 0.2 liters/minute. Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential were monitored at ½-liter intervals, in an air-tight flow-through cell. Turbidity was measured outside the cell. Well drawdown was also monitored at the same intervals. Upon field parameter stabilization, the water input tube was disconnected from the flow-through cell, and groundwater samples were collected directly into lab-supplied bottles and placed in iced coolers. The groundwater sampling process is documented on the attached groundwater sampling forms.

4. Additionally, two water supply wells (OXY Well and Doom Well) were sampled.

5. Field QA/QC Sampling Replicated Historical Protocol:

Duplicate (Dup-01) collected at ACW-14 (all project analytes)
Trip Blank (BTEX)

6. Dual interface gauging probes were decontaminated prior to use, and between wells, using a Liquinox-water wash, and distilled water rinse.
7. Samples were shipped FedEx overnight to Test America-Houston for analysis, per the attached COC. Proper chain-of-custody was maintained.
8. Purgewater is placed in the southern, lined brine pond, per site personnel.

9. Site notes:

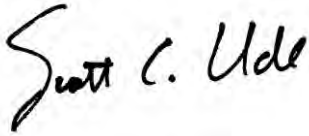
Facility Manager (Ken Parker) to be notified of planned date for routine sampling events
OXY Well is sampled through an outdoor spigot
Doom Well is sampled through a spigot in a well shed, on Mr. Dylan Doom's ranch

Joe Wiley requested that ENSR-3 become a "gauge-only" well; and that HMI utilize their steel cable and winch to try to clear a blockage of a Hydrasleeve/rope assembly that is tightly wedged above the water column in PTP-01; if the blockage is cleared, a dedicated pump will be installed, as planned, in PTP-01 in 2Q17.

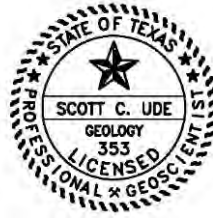
HMI appreciates the opportunity to assist El Paso Natural Gas Company with this project. If you have any questions or require additional information please feel free to call us at 713.464.5206.

Sincerely,

HYDROLOGIC MONITORING

Handwritten signature of Scott C. Ude in black ink.

Scott C. Ude, P.G.



The seal appearing on this document was authorized by Scott C. Ude, P.G. 353 on March 23, 2017.

Attachments

cc: Joe Wiley, P.G., El Paso Natural Gas Company

Table 1
Gauging Data and Groundwater Field Parameters

El Paso Natural Gas Company - Jal #4 Gas Plant
Lea County, New Mexico
March 14, 2017

Well I.D.	1Q17 Additional # Wells Gauged	1Q17 # Wells Sampled	Ded. Blad Pump	Top of Casing Elev (ft-msl)	Depth to LNAPL (ft-toc)	Depth to Water (ft-toc)	LNAPL Thickness (ft)	DNAPL Thickness (ft)	GW Elev* (ft-msl)	Water Column (ft)	Total Depth (ft-toc)	Stickup (ft)	Screen Interval (ft-bgs)	Sample Intake (ft-toc)	Casing Diam	pH (S.U.)	Temp. (C)	S.C. (umhos)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	Water Clarity	Comments
ACW-01	1		Yes	3,302.15	NP	105.47	0.00	0.00	3196.68	29.98	135.45	1.9	110-130	5' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-02A	2		Yes	3,302.16	NP	105.72	0.00	0.00	3196.44	19.77	125.49	2.0	98-118	5' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-03	3			3,301.62	NP	105.32	0.00	0.00	3196.30	29.80	135.12	1.6	112-132	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-04	4		Yes	3,302.05	NP	107.42	0.00	0.00	3194.63	63.68	171.10	1.7	154-169	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-05	5		Yes	3,297.18	NP	103.16	0.00	0.00	3194.02	14.21	117.37	1.5	105-115	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-06	6		Yes	3,302.84	NP	107.43	0.00	0.00	3195.41	15.20	122.63	1.7	110-120	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-07	7		Yes	3,297.63	NP	102.38	0.00	0.00	3195.25	15.01	117.39	1.5	105-115	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-08	8			3,299.54	NP	103.43	0.00	0.00	3196.11	53.48	156.91	1.2	140-160	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-09	9		Yes	3,304.69	NP	110.25	0.00	0.00	3194.44	52.23	162.48	2.4	140-160	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-10	10		Yes	3,299.82	NP	106.35	0.00	0.00	3193.47	56.69	163.04	2.5	140-160	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-11	11		Yes	3,301.64	NP	105.80	0.00	0.00	3195.84	55.88	161.68	2.1	140-161	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-12	12		Yes	3,301.80	NP	109.40	0.00	0.00	3192.40	62.53	171.93	2.5	150-170	3' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-13		1	Yes	3,291.72	NP	99.34	0.00	0.00	3192.38	76.28	175.62	2.0	153-173	3' off base	4" PVC	6.55	21.6	1,337	3.9	79.8	39.7	Clear	
ACW-14		2	Yes	3,294.74	NP	100.34	0.00	0.00	3194.40	75.88	176.22	2.0	157-177	3' off base	4" PVC	7.62	22.8	445	5.5	89.2	2.2	Clear	Dup-01
ACW-15		3	Yes	3,292.75	NP	102.28	0.00	0.00	3190.47	69.29	171.57	2.3	150-170	3' off base	4" PVC	7.72	22.1	450	3.8	45.1	72.0	Sl. Cloudy	
ACW-16	13		Yes	3,307.89	NP	109.48	0.00	0.00	3198.41	67.46	176.94	2.4	156-176	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-17	14		Yes	3,306.17	NP	108.48	0.00	0.00	3197.69	63.30	171.78	2.6	151-171	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-18	15		Yes	3,303.15	NP	107.51	0.00	0.00	3195.64	69.69	177.20	2.5	160-180	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-19	16		Yes	3,302.68	NP	106.42	0.00	0.00	3196.26	14.74	121.16	2.2	98-118	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-20	17		Yes	3,303.50	NP	108.62	0.00	0.00	3194.88	65.41	174.03	2.2	154-174	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-21	18		Yes	3,301.82	NP	105.91	0.00	0.00	3195.91	14.61	120.52	2.1	98-118	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-22	19		Yes	3,306.24	NP	111.94	0.00	0.00	3194.30	13.10	125.04	2.5	102-122	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-23	20		Yes	3,306.29	NP	112.11	0.00	0.00	3194.18	57.60	169.71	2.3	147-167	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-24	21		Yes	3,305.56	NP	110.60	0.00	0.00	3194.96	78.52	189.12	2.2	166-186	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-25	22		Yes	3,297.59	NP	103.36	0.00	0.00	3194.23	71.32	174.68	2.1	151-171	2' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
Doom		4		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.63	21.5	632	4.8	37.5	1.5	Clear	
ENSR-01	23		Yes	3,306.71	NP	107.83	0.00	0.00	3198.88	47.52	155.35	1.6	123-148	5' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ENSR-03	24			3,305.05	NP	107.20	0.00	0.00	3197.85	47.90	155.10	1.5	123-148	5' off base	4" PVC	NS	NS	NS	NS	NS	NS	NS	Changed to gauge-only, per El Paso
EPNG-01	25		Yes	3,310.03	NP	109.21	0.00	0.00	3200.82	54.72	163.93	AG	120-160	3' off base	6" Steel	NS	NS	NS	NS	NS	NS	NS	6" inner; 12.5" outer; steel; fmr supply
OXY		5		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	20.4	1,167	3.8	18.5	28.3	Clear	
PTP-01	26		**	3,305.67	NM	NM	NM	NM	#VALUE!	NM	NM	2.3	110-130	5' off base	2" PVC	NS	NS	NS	NS	NS	NS	NS	Attempt clearing; pump install 2Q17
RW-01	27			3,302.16	NP	105.63	0.00	0.00	3196.53	76.00	181.63	1.8	109-179	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-02	28			3,303.71	NP	109.27	0.00	0.00	3194.44	64.38	173.65	1.4	105-175	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-03	29			3,302.65	NP	106.38	0.00	0.00	3196.27	71.31	177.69	1.4	136.7-176.7	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-04	30			3,303.26	NP	108.80	0.00	0.00	3194.46	67.36	176.16	1.6	154-174	NA	NA	NS	NS	NS	NS	NS	NS	NS	

Notes: Monitoring completed by HMI on behalf of El Paso Natural Gas Company

Gauging and groundwater sampling conducted March 14, 2017

HMI equipped the site with HMI-owned dedicated bladder sampling pumps, March 2017; Sample intakes match previously-installed Hydrasleeves (pre-2017)

NP = No product (LNAPL), NA = Not applicable, NS = Not sampled, NM = Not measured, AG = At-Grade Completion

* Uncorrected for the average density of the water column as a function of TDS

**** PTP-01 Hydrasleeve/rope assembly was found fallen and wedged tightly in well casing at approximately 80'; HMI to bring steel cable & winch to attempt clearing and dedicated pump installation in 2Q17, per El Paso request**

PTP-01 was not gauged during any of the 2016 quarterly events

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-13

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: *GRS*
Well Condition: *good*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-BGL)	Sample Intake	Screen (Ft-BGS)				Well Condition: J	Comments
3/14/17	1440	NA	99.34	0.0	0.0	175.62	3' off base	153-173					Weather: Sunny, 80's
						173.62	FT-TOC						

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

+ DUP-01
(all parameters)

Well: ACW-14

Houston, Texas

Well Condition: *Good*

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
3-14-17	1610	ACW-14	100.52	7.62	22.8	445	5.5	89.2	2.2	BTEX		Lab: Test America, Houston, TX
										TDS, CL, Conductivity		
										Sodium		
✓	1100	DUP-01	100.52	7.62	22.8	445	5.5	89.2	2.2	BTEX		
										TDS, CL, Cond		
										Sodium		

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-15

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: BRH
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-BGL)	Sample Intake	Screen (Ft-BGS)				Well Condition: (see well log)
												Comments
3-14-17	1500	NA	102.28	0.0	0.0	171.57	3' off base	150 - 170				Weather: Sunny, 70s
						TOC						

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

(Supply well)

Houston, Texas

Initials: SCU
Well Condition: MA

[illegible]

Monitoring Well Purging and Sampling Record

Initials: *SK*
Well Condition: *MA*

[illegible][illegible][illegible]

Instrument Calibration Log

Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring

[illegible]

TestAmerica Houston

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

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: <u>Scott Ude</u>		Lab PM: <u>Upton, Cathy L</u>		Carrier Tracking No(s):		COC No: <u>600-51545-15276.1</u>																																													
Client Contact: <u>Hank McConnell</u>		Phone: <u>(832-347-4521)</u>		E-Mail: <u>cathy.upton@testamericainc.com</u>				Page: Page 1 of 1																																													
Company: <u>ARCADIS U.S., Inc.</u>				Analysis Requested																																																	
Address: <u>1004 North Big Spring Suite 300</u>		Due Date Requested:		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Field Filtered Sample (Yes or No)</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Perform MS/MSD (Yes or No)</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">6010B - Sodium</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">8260B LL - BTEX Only</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">120.1 - Specific Conductance</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">2540C Calc'd - TDS</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">300_ORGFM 28D - Chloride</td> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Number of containers</td> <td colspan="2" style="vertical-align: top;">Preservation Codes:</td> </tr> <tr> <td colspan="2"> <table style="width:100%;"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> </table> </td> </tr> <tr><td colspan="2"></td></tr> <tr><td colspan="2"></td></tr> <tr><td colspan="2"></td></tr> <tr><td colspan="2"></td></tr> </table>						Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B - Sodium	8260B LL - BTEX Only	120.1 - Specific Conductance	2540C Calc'd - TDS	300_ORGFM 28D - Chloride	Total Number of containers	Preservation Codes:		<table style="width:100%;"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> </table>		A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Z - other (specify)								
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City: <u>Midland</u>		TAT Requested (days):																																																			
State, Zip: <u>TX, 79701</u>		PO #: <u>WD255945</u>																																																			
Phone: <u>432-687-5400(Tel)</u>		WO #:																																																			
Email: <u>hank.mcconnell@arcadis-us.com</u>		Project #: <u>60008415</u>																																																			
Project Name: <u>JAL#4 Gas Plant-Hank McConnell</u>		SSOW#:																																																			
Site: <u>Quarterly sampling</u>																																																					

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B - Sodium	8260B LL - BTEX Only	120.1 - Specific Conductance	2540C Calc'd - TDS	300_ORGFM 28D - Chloride	Total Number of containers	Special Instructions/Note:
<u>ACW-13</u>	<u>3-14-17</u>	<u>1510</u>	<u>G</u>	<u>Water</u>	<u>N</u>	<u>N</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>ACW-14</u>		<u>1610</u>	<u>G</u>	<u>Water</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>ACW-15</u>		<u>1525</u>	<u>G</u>	<u>Water</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>Doom Well</u>		<u>1620</u>	<u>G</u>	<u>Water</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>OXY Well</u>		<u>1540</u>	<u>G</u>	<u>Water</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>DUP-01</u>		<u>1600</u>	<u>G</u>	<u>Water</u>			<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		
<u>Trip Blank</u>		<u>-</u>	<u>G</u>	<u>Water</u>				<u>✓</u>					

Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:			Date:		Time:			Method of Shipment:	
Relinquished by: <u>Scott Ude</u>			Date/Time: <u>3/15/17 1500</u>		Company: <u>HMI</u>			Received by:	
Relinquished by:			Date/Time:		Company:			Received by:	
Relinquished by:			Date/Time:		Company:			Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:				

ARF FORM: SHEET 1

rev_6_08142014



Analytical Request Form (ARF) Project Information

Current Site		Company/Pipeline Name: <u>EPNG</u>		ARF #: <u>ARC-JAL-02-21-17-GWM</u> <u>xxx-xxx-mm-dd-yy-xxx-##</u>	Lab Cost Cluster: <u>Monitoring</u>
ENFOS AOC / Project Name (make sure to match ENFOS AOC):		Jal #4 Gas Plant RWIP			
Lab Work Directive (WD)/ENFOS WD/PO#		WD255945			
Project Billing : ☒ Lab enters invoice through ENFOS ☐ Paper invoice mailed to KM PM listed below ☒ Other/Describe :					
Site Description or contaminants of concern <u>BTEX, Chloride, Sodium, TDS, TOC, Sulfate</u>					
Site Address: <u>9 Miles North of Jal, NM on Hwy 18</u>					
City: <u>Jal</u>		State: <u>NM</u>		Country: <u>USA</u>	
Regulatory Agency:					
Project Type (RCRA, CERCLA, TRRP):					
Anticipated Start Date: <u>3/6/2017</u>		Anticipated Completion Date: <u>12/31/2017</u>			
Frequency of Sampling: <u>Quarterly</u>		Sampling Plan Attached: <u>No</u>			
Title(s)/Date(s) of attached sampling information:					

Project Management Contacts

KM Contact		
KM Office:	<u>Houston</u>	☒ Copy on ARF Distribution
Address:	<u>1001 Louisiana Street</u> <u>Houston, TX 77002</u>	
KM Project Manager:	<u>Joe Wiley</u>	
Phone : <u>713-420-3475</u>	Fax: <u>713-420-8244</u>	E-mail: <u>Joe.Wiley@KinderMorgan.com</u>
Designated Consultant Contact		
Designated Consultant Firm Name:	<u>Arcadis</u>	
Address:	<u>1004 N. Big Spring, St. Suite 300</u> <u>Midland, TX 79701</u>	
Designated Consultant Project Manager:	<u>Hank W. McConnell</u>	☒ Copy on ARF Distribution
Phone : <u>432-687-5400</u>	Fax: <u>432-687-5401</u>	E-mail: <u>Hank.McConnell@arcadis.com</u>
Laboratory Contact		
Laboratory Name:	<u>TestAmerica</u>	
Address:	<u>6310 Rothway Street</u> <u>Houston, TX 77040</u>	
Laboratory Project Manager:	<u>Cathy Upton</u>	☒ Copy on ARF Distribution
Phone : <u>713-690-4444</u>	Fax: <u>361-289-2471</u>	E-mail: <u>Cathy.Upton@testamericainc.com</u>
Environmental Standards Contact		
QA Consultant Firm Name:		
Address:		
Environmental Standards Project Manager:		☐ Copy on ARF Distribution
Phone :	Fax:	E-mail:
Additional Parties to Receive ARF:		
Name:	E-mail:	
Affiliation:		
Name:	E-mail:	
Affiliation:		
Name:	E-mail:	
Affiliation:		

ARF FORM: SHEET 1

Data Deliverables

Data Package Deliverables supplied to:

Required Data Deliverables Format(s):

PDF

Hardcopy

PDF and Hardcopy

CD

Required Format of Electronic Data Deliverables

Excel

Equis

Enfos

Size Limitation for e-mail of deliverable

10

MB or Unlimited

Forward the Electronic Data Deliverables to:

Name

E-Mail Address

Hank W. McConnell

Hank.McConnell@arcadis.com

Aaron Sides

Aaron.Sides@arcadis.com

Special Instructions for data package or electronic deliverable?:

Record of ARF Initiation and Revisions

Initiated ARF:

Name:

Hank W. McConnell

Date:

2/21/2017

Laboratory Acceptance:

Name:

Date:

Revision 1:

Name:

Date:

Types of Changes:

Revision 2:

Name:

Date:

Types of Changes:

Revision 3:

Name:

Date:

Types of Changes:

Revision 4:

Name:

Date:

Types of Changes:

ARF FORM: SHEET 2

Parameters and Analytical Methods Requested

rev. 6_08142014

Projected Analytical Plan & Number of Samples to be Collected											
Compound List or Parameter Analytical Method		Matrix Code	Number of Investigatory Samples	Number of Samples for Hold/Archival	Number of Quality Control Samples				DP/TAT Level Code	Number of Samples Received by Laboratory	Confirmation of Number of Samples Analyzed
					MS/MSD Pairs	Trip Blanks	Number of Rinse, Equipment, and Field Blanks	Field Duplicates			
BTEX	8260B	W	5	0	0	1	0	0	L2/28D		
Total Dissolved Solids	SM 2540C	W	5	0	0	0	0	0	L2/28D		
Chloride	EPA SW846 9056	W	5	0	0	0	0	0	L2/28D		
Sodium	EPA SW846 6010E	W	5	0	0	0	0	0	L2/28D		
Specific Conductance	EPA 120.1	W	5	0	0	0	0	0	L2/28D		

Matrix Codes: A=Air W=Water S=Soil
WP=wipe O=Oil OT=Other

Sampling Frequency: ☐ SINGLE EVENT ☐ WEEKLY ☐ MONTHLY ☒ QUARTERLY ☐ SEMI-ANNUAL ☐ ANNUAL ☐ OTHER/Describe: 1st, 2nd, and 3rd calendar quarters 5 GW samples each

Are special regulatory requirements, detection limits or action levels needed? _____

Are SW-846 Method 5035 volatile organic analyses requested? ☐ YES If yes, what container is required? ☐ Tared Vials ☐ Methanol Vials ☐ 4-oz. jars
☐ EnCore Kits ☐ Terra Core Kits

Does an approved QAPP exist? YES (FORWARD TO LABORATORY) Title: _____

Revision/Date: _____

Are reporting estimated values "J" required for results less than the reporting limit? ☒ YES ☐ NO

Are tentatively identified compounds (TICs) required? Volatiles Semivolatiles

Sample retention time (post reporting): 60 days (standard) Other (Hold for ____ days)

Ship Bottles to:
Name Scott Ude
Consultant HMI
Location Name _____
Street Address 1654 W Sam Houston Pkwy N
City, State, Zip Houston, TX 77043
Phone Number 832-347-4521
Date/Time Bottles Required See Additional Request and Instructions

Shipping Return:
☒ FedEx ☐ UPS ☐ Laboratory Courier
☐ Saturday Receipt

ARF FORM: SHEET 2

Laboratory Invoices for non-contracted laboratories must be submitted to:		LAB USE ONLY	
Company Name	Kinder Morgan	Internal Laboratory Work Order Number	
Name	Joe Wiley		
Street Address	1001 Louisiana Street, Room 956I		
City, State, Zip	Houston, TX 77002		
Phone Number	713-420-3475		
Invoice Approval			
Company Name	Kinder Morgan		
Final Invoice			

Additional Requests and Instructions

[illegible]

Phone Logs and Project Correspondence

[illegible]



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

MEMORANDUM

Low-Flow Groundwater Sampling Procedures
El Paso Natural Gas Company
Jal #4 Gas Plant, Lea County, New Mexico

HMI conducts low-flow groundwater sampling in accordance with TCEQ and EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling).

Groundwater Sampling Methodology

HMI conducts low-flow groundwater sampling using bladder pumps and polyethylene tubing dedicated in sampled wells at the site, during its first groundwater sampling event at the site in March 2017. Pumps were dedicated in the wells to increase sample quality and field efficiency, and remain property of HMI. HMI would appreciate the opportunity to retrieve the pumps at such time that HMI no longer conducts monitoring at the site.

Purging commences through a sealed flow-through cell at EPA-recommended purge rates (generally 0.1 to 0.2 liters/minute), selected to limit the monitored drawdown during the purging process. Each HMI flow-through cell has a volume of 0.5 liters. Field parameter readings are collected at 0.5-liter intervals (the equivalent of one cell volume "turnover"). Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential are monitored inside the cell. Turbidity is monitored outside of the cell. Purging continues until a requisite volume of groundwater is purged (a minimum of 3,000 ml or six flow-through cell volumes), and field parameters have stabilized in accordance with the EPA guidance below:

*Water Quality Parameters (Stabilization Parameters in Accordance with EPA (2002),
Groundwater Sampling Guidelines for Superfund and RCRA Project Managers, Yeskis & Zavala,
EPA/542:S-02/001)*

- | | |
|--------------------|----------------|
| • pH | +/- 0.1 units; |
| • Temperature | - |
| • Conductivity | +/- 3% |
| • Dissolved Oxygen | +/- 0.3 mg/L |
| • ORP | +/- 10% |
| • Turbidity | 10% |

Groundwater samples are collected directly into laboratory-supplied containers. Groundwater samples are placed in iced coolers, and remain in HMI custody until delivery to the laboratory.

Decontamination Procedures

Non-dedicated equipment, (i.e., only the electronic water level probe for this project) is properly decontaminated prior to use and between wells. The decontamination procedure for the water level probe consists of a spray of isopropanol (likely not warranted at this site), followed by a thorough wash in distilled water and Liquinox non-phosphate soap, with a final distilled water. The probe is allowed to air dry.

HMI Deliverables

HMI provides thorough field documentation of groundwater monitoring activities performed, including groundwater sampling forms, field equipment calibration logs, a brief field narrative, and an Excel table summarizing gauging data and groundwater field parameters.



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

June 26, 2017

Mr. Hank McConnell, P.G.
Arcadis
1004 N. Big Spring Street, Suite 300
Midland, Texas 79701

Subject: 2Q17 Groundwater Monitoring, June 21, 2017
Jal #4 Gas Plant, Jal, New Mexico

Dear Mr. McConnell:

This document summarizes groundwater monitoring field activities conducted by HMI on behalf of El Paso Natural Gas Company at the Jal #4 Gas Plant.

Contents

Field Activities Narrative
Table 1: Gauging Data and Groundwater Field Parameters, June 21, 2017
Groundwater Sampling Forms and Field Instrument Calibration Record
Chain-of-Custody Form
El Paso ARF
Groundwater Sampling SOP

Field Activities Narrative

1. Sitewide gauging was conducted on June 21, 2017.
2. HMI equipped the sampled-well network with its dedicated bladder pumps in 1Q17. Pump intake depths matched historical Hydrasleeve intake depths. Bladder pumps remain property of HMI, and HMI respectfully requests the opportunity to retrieve pumps once HMI's monitoring activities are done at the site.
3. Groundwater sampling was conducted at three (3) monitor wells, in accordance with EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling), and the attached Groundwater Sampling SOP, using dedicated bladder pumps. Low-flow purging was conducted at EPA-recommended purge rates of 0.1 - 0.2 liters/minute. Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential were monitored at ½-liter intervals in an air-tight flow-through cell. Turbidity was measured outside the cell. Well drawdown was monitored at the same intervals. Upon field parameter stabilization, the water input tube was disconnected from the flow-through cell, and groundwater samples were collected directly into lab-supplied bottles, and placed in iced coolers. The groundwater sampling process is documented on the attached groundwater sampling forms.
4. Additionally, two (2) water supply wells (OXY Well and Doom Well) were sampled.
5. Field QA/QC Sampling Replicated Historical Protocol:

Duplicate (Dup-01) collected at ACW-14 (all project analytes)
Trip Blank (BTEX)

6. Dual interface gauging probes were decontaminated prior to use, and between wells per the attached Groundwater Sampling SOP.
7. Samples were shipped FedEx overnight to Test America-Houston, per the attached COC. Proper chain-of-custody was maintained.
8. Purgewater is placed in the southernmost, lined brine pond, per site personnel.
9. Site notes:

Facility Manager (Ken Parker) to be notified of planned date for routine sampling events.
OXY Well is sampled through an outdoor spigot.
Doom Well is sampled through a spigot inside well shed, on Mr. Dylan Doom's ranch.

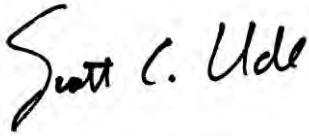
In 1Q17, Joe Wiley requested that ENSR-3 become a "gauge-only" well; and that HMI utilize a steel cable and winch to try to clear a blockage of a Hydrasleeve/rope assembly tightly wedged above the water column in PTP-01; if the blockage is cleared, a dedicated pump will be installed. The blockage was cleared and a dedicated pump was installed in PTP-01 in 2Q17 (see photo).



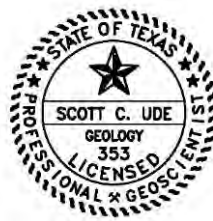
HMI appreciates the opportunity to assist El Paso Natural Gas Company and Arcadis with this project. If you have any questions or require additional information please feel free to call us at 713.464.5206.

Sincerely,

HYDROLOGIC MONITORING

Handwritten signature of Scott C. Ude in black ink.

Scott C. Ude, P.G.



The seal appearing on this document was authorized by Scott C. Ude, P.G. 353 on June 26, 2017.

Attachments

cc: Joe Wiley, P.G., El Paso Natural Gas Company

Table 1
Gauging Data and Groundwater Field Parameters

El Paso Natural Gas Company - Jal #4 Gas Plant
Lea County, New Mexico
June 21, 2017

Well I.D.	1,2,3Q # Wells Sampled	1,2,3Q Added # Wells Gauged	4Q # Wells Sampled	4Q Added # Wells Gauged	Ded. Blad Pump	Top of Casing Elev (ft-msl)	Depth to LNAPL (ft-toc)	Depth to Water (ft-toc)	LNAPL Thickness (ft)	DNAPL Thickness (ft)	GW Elev* (ft-msl)	Water Column (ft)	Total Depth (ft-toc)	Stickup (ft)	Screen Interval (ft-bgs)	Sample Intake (ft-toc)	Casing Diam	pH (S.U.)	Temp. (C)	S.C. (umhos)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	Water Clarity	Comments
ACW-01		1	1		Yes	3,302.15	NP	105.38	0.00	0.00	3,196.77	30.07	135.45	1.9	110-130	130.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-02A		2	2		Yes	3,302.16	NP	105.63	0.00	0.00	3,196.53	19.86	125.49	2.0	98-118	120.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-03		3		1	No	3,301.62	NP	105.22	0.00	0.00	3,196.40	29.90	135.12	1.6	112-132	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-04		4	3		Yes	3,302.05	NP	107.32	0.00	0.00	3,194.73	63.78	171.10	1.7	154-169	169.1	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-05		5	4		Yes	3,297.18	NP	103.22	0.00	0.00	3,193.96	14.15	117.37	1.5	105-115	114.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-06		6	5		Yes	3,302.84	NP	107.43	0.00	0.00	3,195.41	15.20	122.63	1.7	110-120	119.6	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-07		7	6		Yes	3,297.63	NP	102.42	0.00	0.00	3,195.21	14.97	117.39	1.5	105-115	114.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-08		8		2	No	3,299.54	NP	103.34	0.00	0.00	3,196.20	53.57	156.91	1.2	140-160	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-09		9	7		Yes	3,304.69	NP	110.33	0.00	0.00	3,194.36	52.15	162.48	2.4	140-160	159.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-10		10	8		Yes	3,299.82	NP	106.43	0.00	0.00	3,193.39	56.61	163.04	2.5	140-160	160.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-11		11	9		Yes	3,301.64	NP	105.73	0.00	0.00	3,195.91	55.95	161.68	2.1	140-161	159.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-12		12	10		Yes	3,301.80	NP	109.56	0.00	0.00	3,192.24	62.37	171.93	2.5	150-170	168.9	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-13	1		11		Yes	3,291.72	NP	99.37	0.00	0.00	3,192.35	76.25	175.62	2.0	153-173	172.6	4" PVC	6.64	24.5	1,121	2.8	104.9	17.6	Clear	
ACW-14	2		12		Yes	3,294.74	NP	100.37	0.00	0.00	3,194.37	75.85	176.22	2.0	157-177	173.2	4" PVC	7.43	24.5	517	4.1	107.9	2.8	Clear	Dup-01
ACW-15	3		13		Yes	3,292.75	NP	102.33	0.00	0.00	3,190.42	69.24	171.57	2.3	150-170	168.6	4" PVC	7.16	25.0	725	4.5	117.8	63.0	Sl. Cloudy	
ACW-16		13	14		Yes	3,307.89	NP	109.34	0.00	0.00	3,198.55	67.60	176.94	2.4	156-176	174.9	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-17		14	15		Yes	3,306.17	NP	108.46	0.00	0.00	3,197.71	63.32	171.78	2.6	151-171	169.8	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-18		15	16		Yes	3,303.15	NP	107.41	0.00	0.00	3,195.74	69.79	177.20	2.5	160-180	175.2	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-19		16	17		Yes	3,302.68	NP	106.31	0.00	0.00	3,196.37	14.85	121.16	2.2	98-118	119.2	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-20		17	18		Yes	3,303.50	NP	108.52	0.00	0.00	3,194.98	65.51	174.03	2.2	154-174	172.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-21		18	19		Yes	3,301.82	NP	105.81	0.00	0.00	3,196.01	14.71	120.52	2.1	98-118	118.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-22		19	20		Yes	3,306.24	NP	112.04	0.00	0.00	3,194.20	13.00	125.04	2.5	102-122	123.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-23		20	21		Yes	3,306.29	NP	112.17	0.00	0.00	3,194.12	57.54	169.71	2.3	147-167	167.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-24		21	22		Yes	3,305.56	NP	110.59	0.00	0.00	3,194.97	78.53	189.12	2.2	166-186	187.1	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-25		22	23		Yes	3,297.59	NP	103.43	0.00	0.00	3,194.16	71.25	174.68	2.1	151-171	172.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
Doom	4		24		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.84	21.9	597	4.5	113.5	0.5	Clear	
ENSR-01		23	25		Yes	3,306.71	NP	107.68	0.00	0.00	3,199.03	47.67	155.35	1.6	123-148	150.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ENSR-03		24		3	No	3,305.05	NP	107.15	0.00	0.00	3,197.90	47.95	155.10	1.5	123-148	NA	4" PVC	NS	NS	NS	NS	NS	NS	NS	Gauge-only, per El Paso, 1Q17
EPNG-01		25	26		Yes	3,310.03	NP	109.14	0.00	0.00	3,200.89	54.79	163.93	AG	120-160	160.9	6" Steel	NS	NS	NS	NS	NS	NS	NS	6" inner; 12.5" outer; steel; fmr supply
OXY	5		27		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.47	26.6	1,098	1.8	8.3	24.2	Clear	
PTP-01**		26	28		Yes	3,305.67	NM	107.73	0.00	0.00	3,197.94	NM	136.09	2.3	110-130	131.1	2" PVC	NS	NS	NS	NS	NS	NS	NS	
RW-01		27		4	No	3,302.16	NP	105.61	0.00	0.00	3,196.55	76.02	181.63	1.8	109-179	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-02		28		5	No	3,303.71	NP	109.38	0.00	0.00	3,194.33	64.27	173.65	1.4	105-175	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-03		29		6	No	3,302.65	NP	106.29	0.00	0.00	3,196.36	71.40	177.69	1.4	136.7-176.7	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-04		30		7	No	3,303.26	NP	108.72	0.00	0.00	3,194.54	67.44	176.16	1.6	154-174	NA	NA	NS	NS	NS	NS	NS	NS	NS	

Notes: Monitoring completed by HMI on behalf of El Paso Natural Gas Company
Gauging and groundwater sampling conducted June 21, 2017
HMI equipped the site with HMI-owned dedicated bladder sampling pumps, March 2017; Sample intakes match previously-installed Hydrasleeves (pre-2017)
NP = No product (LNAPL), NA = Not applicable, NS = Not sampled, NM = Not measured, AG = At-Grade Surface Completion
* Uncorrected for the average density of the water column as a function of TDS
** In 1Q17, a PTP-01 Hydrasleeve/rope assembly was found tightly wedged in well casing at 80"; in 1Q17, HMI used steel cable & winch to clear the blockage; dedicated bladder pump was installed in 2Q17, per El Paso request during 1Q17 event
Likely due to this issue, PTP-01 was not gauged during in 2016

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-13

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: TMC
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
6-21-17	1045	NA	99.37	0.0	0.0	175.62	172.6	153 - 173				Weather: Sunny, 80s

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
6-21-17	1050	99.59	0.5	6.40	25.8	1070	4.2	131.6	28.2	Low-flow purge-sample with	Clear
	1053	99.70	1.0	6.46	25.6	1077	3.8	130.2	30.1	HMI's dedicated bladder pump	
	1055	99.73	1.5	6.48	25.2	1095	3.3	126.4	26.7		
	1058	99.74	2.0	6.52	24.9	1106	3.0	120.1	23.5		
	1100	99.74	2.5	6.56	24.7	1110	2.9	111.6	21.2		
	1103	99.75	3.0	6.59	24.6	1114	2.9	109.4	18.7		
	1105	99.75	3.5	6.62	24.6	1117	2.9	107.1	18.1		
	1108	99.75	4.0	6.64	24.5	1121	2.8	104.9	17.6		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
6-21-17	1110	ACW-13	99.75	6.64	24.5	1121	2.8	104.9	17.6	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO3	

Monitoring Well Purging and Sampling Record

+ Dup - 01
(all parameters)

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-14

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: TMC
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
6-21-17	1140	NA	100.37	0.0	0.0	176.22	173.2	157-177				Weather: Sunny, 90 S

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
6-21-17	1145	100.59	0.5	7.61	26.1	529	5.0	128.9	6.5	Low-flow purge-sample with	Clear
	1148	100.61	1.0	7.53	25.2	523	4.8	126.3	5.7	HMI's dedicated bladder pump	
	1150	100.61	1.5	7.50	24.9	518	4.7	122.7	4.3		
	1153	100.61	2.0	7.48	24.7	513	4.6	118.4	4.5		
	1155	100.61	2.5	7.44	24.6	509	4.4	113.0	4.1		
	1158	100.61	3.0	7.44	24.6	511	4.3	110.6	3.6		
	1200	100.61	3.5	7.43	24.6	514	4.2	108.4	3.1		
	1203	100.61	4.0	7.43	24.5	517	4.1	107.9	2.8		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
6-21-17	1210	ACW-14	100.61	7.43	24.5	517	4.1	107.9	2.8	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO ₃	
	1200	D4P-01	100.61	7.43	24.5	517	4.1	107.9	2.8	BTEX	HCL	
										TDS, CL, Cond	Neat	
										Sodium	HNO ₃	

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-15

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: TmL
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
6-21-17	950	NA	102.33	0.0	0.0	171.57	168.6	150-170				
												Weather: <u>Sunny, 80s</u>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: Doom Well

(Sampled from water spigot inside shed
pump was active filling water tanks
for cattle)

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: SCD/BTB
Well Condition: NA

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
6/21/17	920	NA	NA	NA	NA	NA	NA	NA				Weather: Clear 90's

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (G)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
6/21/17	930	NA	1.0	6.64	21.7	584	5.2	121.6	1.4	Mr. Doom's water supply well;	Clear
	931	↓	2.0	6.78	21.8	592	4.8	116.2	0.9	sampled from spigot inside	↓
	932	↓	3.0	6.82	21.8	595	4.6	114.9	0.6	Mr. Doom's shed; purge	↓
	933	↓	4.0	6.84	21.9	597	4.5	113.5	0.5	approx. 4 gal prior to sampling	↓

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
6/21/17	940	Doom Well	NA	6.84	21.9	597	4.5	113.5	0.5	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO3	

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Well: OXY Well

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: SCO/BTB

Well Condition: *NA*[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Instrument Calibration Log

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Hydrologic Monitoring

[illegible]

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Hank McConnell Company: ARCADIS U.S., Inc. Address: 1004 North Big Spring Suite 300 City: Midland State, Zip: TX, 79701 Phone: 432-687-5400 (Tel) Email: hank.mcconnell@arcadis-us.com Project Name: JAL#4 Gas Plant-Hank McConnell Site: Quarterly sampling		Sampler: <u>Bryan Bayles / HMI team</u> Phone: <u>832-347-4513</u> Lab PM: Upton, Cathy L E-Mail: cathy.upton@testamericainc.com		Carrier Tracking No(s): <u>7332 7229617</u> COC No: 600-51545-15276.1 Page: Page 1 of 1	
Due Date Requested: TAT Requested (days): PO #: WD255945 WO #: Project #: 60008415 SSOW#:		Analysis Requested			
Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:		Total Number of containers:			
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)		6010B - Sodium 8260B_LL - BTEX Only 120.1 - Specific Conductance 2540C - Calcd - TDS 300_ORGFM_28D - Chloride	
Preservation Code		D A N N N		Special Instructions/Note:	
ACW-13 ACW-14 ACW-15 Doom Well OXY Well Dup-01 Trip Blank		6/21/17 1110 1210 1015 940 1040 1200 -		G Water Water Water Water Water Water G Water	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:		Time:	
Relinquished by: <u>[Signature]</u>		Date/Time: <u>6/21/17 1600</u>		Company: <u>HMI</u>	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

ARF FORM: SHEET 1

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev_7_04032017



Analytical Request Form (ARF) Project Information

Current Site Company/Pipeline
Name:

EPNG

ARF #: ERG-ARC-05-31-17-HWM-01

xxx-xxx-mm-dd-yy-xxx-##

ENFOS AOC / Project Name (make sure to match ENFOS AOC):

Jal #4 Gas Plant RWIP

FOR LAB USE ONLY

Lab Work Directive (WD)/ENFOS WD/PO#

Lab Cost Cluster:

Monitoring

Lab Subtask:

Lab I

Project Billing : ☒ Lab Enters Invoice Through Enfos

☐ Paper Invoice mailed to KM PM listed below

☐ Other/ Describe:

Site Description or contaminants of
concern

BTEX, Chloride, Sodium, TDS, TOC, Sulfate

Site Address:

9 Miles North of Jal, NM on Hwy 18

City:

Jal

State: NM

Country: USA

Regulatory Agency:

NMOC

Project Type (RCRA, CERCLA, TRRP):

Anticipated Start Date:

6/20/2017

Anticipated Completion Date:

6/20/2017

Frequency of Sampling:

Sampling Plan Attached:

Are there Additional Requests/ Special Instructions on Page 2?

No

Title(s)/Date(s) of attached sampling information:

Project Management Contacts

KM Contact

KM Office:

Houston

☒ Copy on ARF Distribution

Address:

1001 Louisiana Street

Houston, TX 770022

KM Project Manager:

Joe Wiley

Phone : 713-420-3475

Fax: 713-420-8244

E-mail: Joe.Wiley@KinderMorgan.com

Designated Consultant Contact

Designated Consultant Firm Name:

Arcadis

☒ Copy on ARF Distribution

Address:

1004 N. Big Spring, St. Suite 300

Midland, TX 79701

Designated Consultant Project Manager:

Hank W. McConnell

Phone : 432-687-5400

Fax: 432-687-5401

E-mail: Hank.McConnell@arcadis.com

Laboratory Contact

Laboratory Name:

TestAmerica

☒ Copy on ARF Distribution

Address:

6310 Rothway Street

Houston, TX 77040

Laboratory Project Manager:

Cathy Upton

Phone : 713-690-4444

Fax: 361-289-2471

E-mail: Cathy.Upton@testamericainc.com

Additional Parties to Receive ARF:

Name:

E-mail:

Affiliation:

Name:

E-mail:

Affiliation:

Name:

E-mail:

Affiliation:

ARF FORM: SHEET 1

Data Deliverables

Data Package Deliverables supplied to:

Required Data Deliverables Format(s):

Required Format of Electronic Data Deliverables

PDF
Excel

Hardcopy
Equis

PDF and Hardcopy
Enfos

CD

Size Limitation for e-mail of deliverable

10 MB or Unlimited

Forward the Electronic Data Deliverables to:

Name

Hank W. McConnell

Aaron Sides

E-Mail Address

hank.mcconnell@arcadis.com

aaron.sides@arcadis.com

Special Instructions for data package or electronic deliverable?:

Record of ARF Initiation and Revisions

Initiated ARF:

Name: Hank W. McConnell

Date: 5/31/2017

Laboratory Acceptance:

Name:

Date:

Revision 1:

Name:

Date:

Types of Changes:

Revision 2:

Name:

Date:

Types of Changes:

Revision 3:

Name:

Date:

Types of Changes:

Revision 4:

Name:

Date:

Types of Changes:

ARF FORM: SHEET 2

Parameters and Analytical Methods Requested

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev 7 04032017

[illegible]

ARF FORM: SHEET 2

Laboratory Invoices for non-contracted laboratories must be submitted to:		<u>LAB USE ONLY</u> Internal Laboratory Work Order Number
Company Name	Kinder Morgan	
Name	Joe Wiley	
Street Address	1001 Louisiana Street, Room 956I	
City, State, Zip	Houston, TX 77002	
Phone Number	713-420-3475	
Invoice Approval		
Company Name	Kinder Morgan	
Final Invoice		

Additional Requests and Instructions

[illegible]

Phone Logs and Project Correspondence

[illegible]



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

MEMORANDUM

Low-Flow Groundwater Sampling Procedures
El Paso Natural Gas Company
Jal #4 Gas Plant, Lea County, New Mexico

HMI conducts low-flow groundwater sampling in accordance with TCEQ and EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling).

Groundwater Sampling Methodology

HMI conducts low-flow groundwater sampling using bladder pumps and polyethylene tubing dedicated in sampled wells at the site, during its first groundwater sampling event at the site in March 2017. Pumps were dedicated in the wells to increase sample quality and field efficiency, and remain property of HMI. HMI would appreciate the opportunity to retrieve the pumps at such time that HMI no longer conducts monitoring at the site.

Purging commences through a sealed flow-through cell at EPA-recommended purge rates (generally 0.1 to 0.2 liters/minute), selected to limit the monitored drawdown during the purging process. Each HMI flow-through cell has a volume of 0.5 liters. Field parameter readings are collected at 0.5-liter intervals (the equivalent of one cell volume "turnover"). Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential are monitored inside the cell. Turbidity is monitored outside of the cell. Purging continues until a requisite volume of groundwater is purged (a minimum of 3,000 ml or six flow-through cell volumes), and field parameters have stabilized in accordance with the EPA guidance below:

*Water Quality Parameters (Stabilization Parameters in Accordance with EPA (2002),
Groundwater Sampling Guidelines for Superfund and RCRA Project Managers, Yeskis & Zavala,
EPA/542:S-02/001)*

- | | |
|--------------------|----------------|
| • pH | +/- 0.1 units; |
| • Temperature | - |
| • Conductivity | +/- 3% |
| • Dissolved Oxygen | +/- 0.3 mg/L |
| • ORP | +/- 10% |
| • Turbidity | 10% |

Groundwater samples are collected directly into laboratory-supplied containers. Groundwater samples are placed in iced coolers, and remain in HMI custody until delivery to the laboratory.

Decontamination Procedures

Non-dedicated equipment, (i.e., only the electronic water level probe for this project) is properly decontaminated prior to use and between wells. The decontamination procedure for the water level probe consists of a spray of isopropanol (likely not warranted at this site), followed by a thorough wash in distilled water and Liquinox non-phosphate soap, with a final distilled water. The probe is allowed to air dry.

HMI Deliverables

HMI provides thorough field documentation of groundwater monitoring activities performed, including groundwater sampling forms, field equipment calibration logs, a brief field narrative, and an Excel table summarizing gauging data and groundwater field parameters.

**Hydrologic Monitoring**

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

September 23, 2017

Mr. Hank McConnell, P.G.
Arcadis
1004 N. Big Spring Street, Suite 300
Midland, Texas 79701

Subject: 3Q17 Groundwater Monitoring, September 21, 2017
Jal #4 Gas Plant, Jal, New Mexico

Dear Mr. McConnell:

This document summarizes groundwater monitoring field activities conducted by HMI on behalf of El Paso Natural Gas Company at the Jal #4 Gas Plant.

Contents

Field Activities Narrative
Table 1: Gauging Data and Groundwater Field Parameters, September 21, 2017
Groundwater Sampling Forms and Field Instrument Calibration Record
Chain-of-Custody Form
El Paso ARF
Groundwater Sampling SOP

Field Activities Narrative

1. HMI equipped the sampled-well network with HMI-owned dedicated bladder pumps in 1Q17. Pump intake depths matched historical Hydrasleeve intake depths. HMI respectfully requests the opportunity to retrieve its pumps when HMI's monitoring activities are completed at the site.
2. Sitewide gauging was conducted September 21, 2017.
3. Groundwater sampling was conducted at three (3) monitor wells, in accordance with EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling), and the attached Groundwater Sampling SOP, using dedicated bladder pumps. Low-flow purging was conducted at EPA-recommended purge rates of 0.1 - 0.2 liters/minute. Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential were monitored at ½-liter intervals in an air-tight flow-through cell. Turbidity was measured outside the cell. Well drawdown was monitored at the same intervals. Upon field parameter stabilization, the water input tube was disconnected from the flow-through cell, and groundwater samples were collected directly into lab-supplied bottles, and placed in iced coolers. The groundwater sampling process is documented on the attached groundwater sampling forms.
4. Two (2) water supply wells (OXY Well and Doom Well) were also sampled.
5. Field QA/QC Sampling Replicated Historical Protocol:

Duplicate (Dup-01) @ ACW-14 (all project parameters)
Trip Blank (BTEX)
6. Samples were delivered to Test America-Houston, for analysis per the attached COC. Proper chain-of-custody was maintained.
7. Purgewater is disposed in the southernmost, lined brine pond, per site personnel.
8. Site notes:

Facility Manager (Ken Parker) is notified by Arcadis of planned date for routine sampling events. OXY Well is sampled using an outdoor spigot.

Doom Well is sampled using a spigot inside the well shed, on Mr. Dylan Doom's ranch (follow driveway into the ranch, then down to the left; shed on the righthand side).

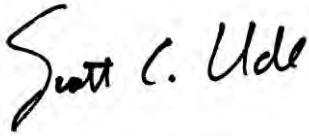
In 1Q17, Joe Wiley requested that ENSR-3 become a "gauge-only" well; and that HMI utilize a steel cable/winch to clear a blockage of a Hydrasleeve/rope assembly found wedged above the water column, in PTP-01. In 2Q17, HMI cleared the blockage and installed a dedicated bladder pump per El Paso request (photo below from 2Q17).



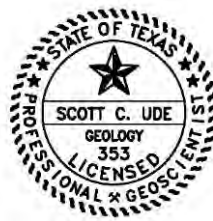
HMI appreciates the opportunity to assist El Paso Natural Gas Company and Arcadis with this project. If you have any questions or require additional information please feel free to call us at 713.464.5206.

Sincerely,

HYDROLOGIC MONITORING



Scott C. Ude, P.G.



The seal appearing on this document was authorized by Scott C. Ude, P.G. 353 on September 23, 2017.

Attachments

cc: Joe Wiley, P.G., El Paso Natural Gas Company
Aaron Sides, Arcadis-Midland

Table 1
Gauging Data and Groundwater Field Parameters

El Paso Natural Gas Company - Jal #4 Gas Plant
Lea County, New Mexico
September 21, 2017

Well I.D.	1,2,3Q # Wells Sampled	1,2,3Q # Wells Gauged	4Q # Wells Sampled	4Q # Wells Gauged	Ded. Blad Pump	Top of Casing Elev (ft-msl)	Depth to LNAPL (ft-toc)	Depth to Water (ft-toc)	LNAPL Thickness (ft)	DNAPL Thickness (ft)	GW Elev* (ft-msl)	Water Column (ft)	Total Depth (ft-toc)	Stickup (ft)	Screen Interval (ft-bgs)	Sample Intake (ft-toc)	Casing Diam	pH (S.U.)	Temp. (C)	S.C. (umhos)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	Water Clarity	Comments
ACW-01		1	1		Yes	3,302.15	NP	105.43	0.00	0.00	3,196.72	30.02	135.45	1.9	110-130	130.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-02A		2	2		Yes	3,302.16	NP	105.68	0.00	0.00	3,196.48	19.81	125.49	2.0	98-118	120.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-03		3		1	No	3,301.62	NP	105.30	0.00	0.00	3,196.32	29.82	135.12	1.6	112-132	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-04		4	3		Yes	3,302.05	NP	107.38	0.00	0.00	3,194.67	63.72	171.10	1.7	154-169	169.1	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-05		5	4		Yes	3,297.18	NP	103.16	0.00	0.00	3,194.02	14.21	117.37	1.5	105-115	114.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-06		6	5		Yes	3,302.84	NP	107.34	0.00	0.00	3,195.50	15.29	122.63	1.7	110-120	119.6	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-07		7	6		Yes	3,297.63	NP	102.34	0.00	0.00	3,195.29	15.05	117.39	1.5	105-115	114.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-08		8		2	No	3,299.54	NP	103.43	0.00	0.00	3,196.11	53.48	156.91	1.2	140-160	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well
ACW-09		9	7		Yes	3,304.69	NP	110.28	0.00	0.00	3,194.41	52.20	162.48	2.4	140-160	159.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-10		10	8		Yes	3,299.82	NP	106.40	0.00	0.00	3,193.42	56.64	163.04	2.5	140-160	160.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-11		11	9		Yes	3,301.64	NP	105.84	0.00	0.00	3,195.80	55.84	161.68	2.1	140-161	159.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-12		12	10		Yes	3,301.80	NP	109.47	0.00	0.00	3,192.33	62.46	171.93	2.5	150-170	168.9	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-13	1		11		Yes	3,291.72	NP	99.41	0.00	0.00	3,192.31	76.21	175.62	2.0	153-173	172.6	4" PVC	7.16	22.1	1,229	3.0	102.4	7.4	Clear	
ACW-14	2		12		Yes	3,294.74	NP	100.42	0.00	0.00	3,194.32	75.80	176.22	2.0	157-177	173.2	4" PVC	7.32	22.6	814	3.9	124.0	6.3	Clear	Dup-01
ACW-15	3		13		Yes	3,292.75	NP	102.36	0.00	0.00	3,190.39	69.21	171.57	2.3	150-170	168.6	4" PVC	7.10	21.5	821	3.8	94.0	6.9	Clear	
ACW-16		13	14		Yes	3,307.89	NP	109.33	0.00	0.00	3,198.56	67.61	176.94	2.4	156-176	174.9	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-17		14	15		Yes	3,306.17	NP	108.43	0.00	0.00	3,197.74	63.35	171.78	2.6	151-171	169.8	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-18		15	16		Yes	3,303.15	NP	107.43	0.00	0.00	3,195.72	69.77	177.20	2.5	160-180	175.2	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-19		16	17		Yes	3,302.68	NP	106.40	0.00	0.00	3,196.28	14.76	121.16	2.2	98-118	119.2	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-20		17	18		Yes	3,303.50	NP	108.60	0.00	0.00	3,194.90	65.43	174.03	2.2	154-174	172.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-21		18	19		Yes	3,301.82	NP	105.82	0.00	0.00	3,196.00	14.70	120.52	2.1	98-118	118.5	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-22		19	20		Yes	3,306.24	NP	112.03	0.00	0.00	3,194.21	13.01	125.04	2.5	102-122	123.0	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-23		20	21		Yes	3,306.29	NP	112.09	0.00	0.00	3,194.20	57.62	169.71	2.3	147-167	167.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-24		21	22		Yes	3,305.56	NP	110.49	0.00	0.00	3,195.07	78.63	189.12	2.2	166-186	187.1	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ACW-25		22	23		Yes	3,297.59	NP	103.37	0.00	0.00	3,194.22	71.31	174.68	2.1	151-171	172.7	4" PVC	NS	NS	NS	NS	NS	NS	NS	
Doom	4		24		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.02	20.3	558	2.9	-28.2	0.6	Clear	
ENSR-01		23	25		Yes	3,306.71	NP	107.78	0.00	0.00	3,198.93	47.57	155.35	1.6	123-148	150.4	4" PVC	NS	NS	NS	NS	NS	NS	NS	
ENSR-03		24		3	No	3,305.05	NP	107.25	0.00	0.00	3,197.80	47.85	155.10	1.5	123-148	NA	4" PVC	NS	NS	NS	NS	NS	NS	NS	Gauge-only, per El Paso, 1Q17
EPNG-01		25	26		Yes	3,310.03	NP	109.18	0.00	0.00	3,200.85	54.75	163.93	AG	120-160	160.9	6" Steel	NS	NS	NS	NS	NS	NS	NS	6" inner; 12.5" outer; steel; fmr supply
OXY	5		27		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.67	22.7	1,266	1.8	-86.8	2.6	Clear	
PTP-01**		26	28		Yes	3,305.67	NM	107.83	0.00	0.00	3,197.84	NM	136.09	2.3	110-130	131.1	2" PVC	NS	NS	NS	NS	NS	NS	NS	
RW-01		27		4	No	3,302.16	NP	105.69	0.00	0.00	3,196.47	75.94	181.63	1.8	109-179	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-02		28		5	No	3,303.71	NP	109.34	0.00	0.00	3,194.37	64.31	173.65	1.4	105-175	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-03		29		6	No	3,302.65	NP	106.40	0.00	0.00	3,196.25	71.29	177.69	1.4	136.7-176.7	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-04		30		7	No	3,303.26	NP	108.75	0.00	0.00	3,194.51	67.41	176.16	1.6	154-174	NA	NA	NS	NS	NS	NS	NS	NS	NS	

Notes: Monitoring completed by HMI on behalf of El Paso Natural Gas Company
Gauging and groundwater sampling conducted September 21, 2017
HMI equipped the site with HMI-owned dedicated bladder sampling pumps, March 2017; Sample intakes match previously-installed Hydrasleeves (pre-2017)
NP = No product (LNAPL), NA = Not applicable, NS = Not sampled, NM = Not measured, AG = At-Grade Surface Completion
* Uncorrected for the average density of the water column as a function of TDS
** In 1Q17, a PTP-01 Hydrasleeve/rope assembly was found tightly wedged in well casing at 80"; in 1Q17, HMI used steel cable & winch to clear the blockage; dedicated bladder pump was installed in 2Q17, per El Paso request during 1Q17 event
Likely due to this issue, PTP-01 was not gauged during in 2016

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: CJH
Well Condition: good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>good</i>
												Comments
<i>9.21.17</i>	<i>940</i>	<i>NA</i>	<i>99.41</i>	<i>0.0</i>	<i>0.0</i>	<i>175.62</i>	<i>172.6</i>	<i>153 - 173</i>				
												Weather: <i>Clear, 70's</i>

* PH Confirmed

[illegible][illegible]

Monitoring Well Purging and Sampling Record

+ Dup - 01
(all parameters)

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-14

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: CJH
Well Condition: good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
9.21.17	1030	NA	100.42	0.0	0.0	176.22	173.2	157-177				Weather: clear, 80's

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
9.21.17	1035	100.65	0.5	7.64	24.7	896	4.2	147.8	9.4	Low-flow purge-sample with	clear
	1037	100.67	1.0	7.40	23.3	871	4.1	150.3	9.0	HMI's dedicated bladder pump	
	1040	100.67	1.5	7.36	22.8	856	4.2	143.5	8.2		
	1042	100.67	2.0	7.34	22.7	834	4.1	135.0	7.8		
	1045	100.67	2.5	7.33	22.6	827	4.0	131.1	7.3		
	1047	100.67	3.0	7.33	22.5	822	4.0	128.6	6.9		
	1050	100.67	3.5	7.32	22.5	817	3.9	126.2	6.7		
	1052	100.67	4.0	7.32	22.6	814	3.9	124.0	6.3		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
9.21.17	1055	ACW-14	100.67	7.32	22.6	814	3.9	124.0	6.3	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO3	
	1000	DUP-01	100.67	7.32	22.6	814	3.9	124.0	6.3	BTEX	HCL	
										TDS, CL, Cond	Neat	
										Sodium	HNO3	

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: CJH
Well Condition: good

Well Purging Record

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Well: Doom Well

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
9/21/17	915	NA	NA	NA	NA	NA	NA	NA				Weather: Sunny, 70's

Initials: *ADS*

Well Condition: *NA*

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (G)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
9/21/17	920	NA	1.0	8.20	20.0	601	3.5	-6.4	2.9	Mr. Doom's water supply well;	Clear
	921		2.0	8.14	20.1	590	3.0	-13.8	1.4	sampled from spigot inside	
	922		3.0	8.06	20.1	564	3.1	-22.4	0.9	Mr. Doom's shed; purge	
	923		4.0	8.02	20.3	558	2.9	-28.2	0.6	approx. 4 gal prior to sampling	

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
9/21/17	925	Doom Well	NA	8.02	20.3	558	2.9	-28.2	0.6	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neut	
										Sodium	HNO ₃	

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Well: OXY Well

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: *CDS / BJB*

Well Condition: *NA*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>NA</i>
												Comments
<i>9/21/17</i>	<i>850</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>				
												Weather: <i>SUNNY, 70'S</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Instrument Calibration Log

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Hydrologic Monitoring

[illegible]

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

ARF FORM: SHEET 1

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev_7_04032017



Analytical Request Form (ARF) Project Information

Current Site Company/Pipeline Name: <u>EPNG</u>		ARF #: <u>ERG-ARC-08-18-17-HWM-01</u> xxx-xxx-mm-dd-yy-xxx-##	
ENFOS AOC / Project Name (make sure to match ENFOS AOC):		<u>Jal #4 Gas Plant RWIP</u>	
FOR LAB USE ONLY			
Lab Work Directive (WD)/ENFOS WD/PO#			
Lab Cost Cluster:	Monitoring	Lab Subtask:	Lab I
Project Billing : ☒ Lab Enters Invoice Through Enfos ☐ Paper invoice mailed to KM PM listed below ☐ Other/ Describe:			
Site Description or contaminants of concern <u>BTEX, Chloride, Sodium, TDS, TOC, Sulfate</u>			
Site Address: <u>9 Miles North of Jal, NM on Hwy 18</u>			
City:	<u>Jal</u>	State: <u>NM</u>	Country: <u>USA</u>
Regulatory Agency: <u>NMOC</u>			
Project Type (RCRA, CERCLA, TRRP):			
Anticipated Start Date:	<u>9/21/2017</u>	Anticipated Completion Date:	<u>9/21/2017</u>
Frequency of Sampling:	Sampling Plan Attached:		
Are there Additional Requests/ Special Instructions on Page 2? <u>No</u>			
Title(s)/Date(s) of attached sampling information:			

Project Management Contacts

KM Contact			
KM Office:	<u>Houston</u>	☒ Copy on ARF Distribution	
Address:	<u>1001 Louisiana Street</u> <u>Houston, TX 770022</u>		
KM Project Manager:	<u>Joe Wiley</u>		
Phone :	<u>713-420-3475</u>	Fax:	<u>713-420-8244</u>
		E-mail:	<u>Joe.Wiley@KinderMorgan.com</u>
Designated Consultant Contact			
Designated Consultant Firm Name:	<u>Arcadis</u>		
Address:	<u>1004 N. Big Spring, St. Suite 300</u> <u>Midland, TX 79701</u>		
Designated Consultant Project Manager:	<u>Hank W. McConnell</u>		
Phone :	<u>432-687-5400</u>	Fax:	<u>432-687-5401</u>
		E-mail:	<u>Hank.McConnell@arcadis.com</u>
Laboratory Contact			
Laboratory Name:	<u>TestAmerica</u>		
Address:	<u>6310 Rothway Street</u> <u>Houston, TX 77040</u>		
Laboratory Project Manager:	<u>Cathy Upton</u>		
Phone :	<u>713-690-4444</u>	Fax:	<u>361-289-2471</u>
		E-mail:	<u>Cathy.Upton@testamericainc.com</u>
Additional Parties to Receive ARF:			
Name:		E-mail:	
Affiliation:			
Name:		E-mail:	
Affiliation:			
Name:		E-mail:	
Affiliation:			

ARF FORM: SHEET 1

Data Deliverables

Data Package Deliverables supplied to:

Required Data Deliverables Format(s):	PDF	Hardcopy	PDF and Hardcopy	CD
Required Format of Electronic Data Deliverables	Excel	Equis	Enfos	

Size Limitation for e-mail of deliverable 10 **MB** or Unlimited

Forward the Electronic Data Deliverables to:

	Name	E-Mail Address
	Hank W. McConnell	hank.mcconnell@arcadis.com
	Aaron Sides	aaron.sides@arcadis.com

Special Instructions for data package or electronic deliverable?:

Record of ARF Initiation and Revisions

Initiated ARF:	Name:	Hank W. McConnell	Date:	8/18/2017
Laboratory Acceptance:	Name:		Date:	
Revision 1:	Name:		Date:	
	Types of Changes:			
Revision 2:	Name:		Date:	
	Types of Changes:			
Revision 3:	Name:		Date:	
	Types of Changes:			
Revision 4:	Name:		Date:	
	Types of Changes:			

ARF FORM: SHEET 2

Parameters and Analytical Methods Requested

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev 7 04032017

[illegible]

ARF FORM: SHEET 2

Laboratory Invoices for non-contracted laboratories must be submitted to:		<u>LAB USE ONLY</u> Internal Laboratory Work Order Number
Company Name	Kinder Morgan	
Name	Joe Wiley	
Street Address	1001 Louisiana Street, Room 9561	
City, State, Zip	Houston, TX 77002	
Phone Number	713-420-3475	
Invoice Approval		
Company Name	Kinder Morgan	
Final Invoice		

Additional Requests and Instructions

[illegible]

Phone Logs and Project Correspondence

[illegible]



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

MEMORANDUM

Low-Flow Groundwater Sampling Procedures
El Paso Natural Gas Company
Jal #4 Gas Plant, Lea County, New Mexico

HMI conducts low-flow groundwater sampling in accordance with TCEQ and EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling).

Groundwater Sampling Methodology

HMI conducts low-flow groundwater sampling using bladder pumps and polyethylene tubing dedicated in sampled wells at the site, during its first groundwater sampling event at the site in March 2017. Pumps were dedicated in the wells to increase sample quality and field efficiency, and remain property of HMI. HMI would appreciate the opportunity to retrieve the pumps at such time that HMI no longer conducts monitoring at the site.

Purging commences through a sealed flow-through cell at EPA-recommended purge rates (generally 0.1 to 0.2 liters/minute), selected to limit the monitored drawdown during the purging process. Each HMI flow-through cell has a volume of 0.5 liters. Field parameter readings are collected at 0.5-liter intervals (the equivalent of one cell volume "turnover"). Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential are monitored inside the cell. Turbidity is monitored outside of the cell. Purging continues until a requisite volume of groundwater is purged (a minimum of 3,000 ml or six flow-through cell volumes), and field parameters have stabilized in accordance with the EPA guidance below:

*Water Quality Parameters (Stabilization Parameters in Accordance with EPA (2002),
Groundwater Sampling Guidelines for Superfund and RCRA Project Managers, Yeskis & Zavala,
EPA/542:S-02/001)*

- | | |
|--------------------|----------------|
| • pH | +/- 0.1 units; |
| • Temperature | - |
| • Conductivity | +/- 3% |
| • Dissolved Oxygen | +/- 0.3 mg/L |
| • ORP | +/- 10% |
| • Turbidity | 10% |

Groundwater samples are collected directly into laboratory-supplied containers. Groundwater samples are placed in iced coolers, and remain in HMI custody until delivery to the laboratory.

Decontamination Procedures

Non-dedicated equipment, (i.e., only the electronic water level probe for this project) is properly decontaminated prior to use and between wells. The decontamination procedure for the water level probe consists of a spray of isopropanol (likely not warranted at this site), followed by a thorough wash in distilled water and Liquinox non-phosphate soap, with a final distilled water. The probe is allowed to air dry.

HMI Deliverables

HMI provides thorough field documentation of groundwater monitoring activities performed, including groundwater sampling forms, field equipment calibration logs, a brief field narrative, and an Excel table summarizing gauging data and groundwater field parameters.



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

December 4, 2017

Mr. Hank McConnell, P.G.
Arcadis
1004 N. Big Spring Street, Suite 300
Midland, Texas 79701

Subject: 4Q17 Groundwater Monitoring, November 28, 2017
Jal #4 Gas Plant, Jal, New Mexico

Dear Mr. McConnell:

This document summarizes groundwater monitoring field activities conducted by HMI on behalf of El Paso Natural Gas Company at the Jal #4 Gas Plant.

Contents

Field Activities Narrative
Table 1: Gauging Data and Groundwater Field Parameters, November 28, 2017
Groundwater Sampling Forms and Field Instrument Calibration Record
Chain-of-Custody Form
El Paso ARF
Groundwater Sampling SOP

Field Activities Narrative

1. HMI equipped the sampled-well network with HMI-owned dedicated bladder pumps in 1Q17. Pump intake depths matched former Hydrasleeve intake depths. HMI respectfully requests the opportunity to retrieve the pumps when HMI's monitoring activities are completed at the site.
2. Sitewide gauging was conducted November 28, 2017.
3. Groundwater sampling was conducted at 26 monitor wells, in accordance with EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling), and the attached Groundwater Sampling SOP, using dedicated bladder pumps. Low-flow purging was conducted at EPA-recommended purge rates of 0.1 - 0.2 liters/minute. Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential were monitored at ½-liter intervals in an air-tight flow-through cell. Turbidity was measured outside the cell. Well drawdown was monitored at the same intervals. Upon field parameter stabilization, the water input tube was disconnected from the flow-through cell, and groundwater samples were collected directly into lab-supplied bottles, and placed in iced coolers. The groundwater sampling process is documented on the attached groundwater sampling forms.
4. Additionally, two (2) water supply wells (OXY Well and Doom Well) were sampled.
5. Field QA/QC Sampling, per Arcadis:
 - Dup-01 and FB-01 @ EPNG-1 (all project parameters)
 - Dup-02 and FB-02 @ ACW-20 (all project parameters)
 - Dup-03 and FB-03 @ ACW-02A (all project parameters)
 - Trip Blank (BTEX)
6. Samples were shipped FedEx to Test America-Houston, for analysis per the attached COC. Proper chain-of-custody was maintained.
7. Purgewater is disposed in the southernmost, lined brine pond, per site personnel.
8. Site notes:

Facility Manager (Ken Parker) is notified by Arcadis prior to routine sampling events.

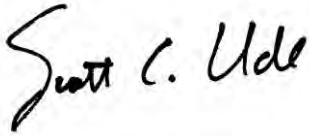
OXY Well is sampled using an outdoor spigot; Doom Well is sampled using a spigot inside the well shed, on Mr. Dylan Doom's ranch (follow driveway into the ranch, then down to the left; shed on the right side).

HMI added 4-in expandable well caps to uncapped 4-in casings at ACW-03 and ACW-08, during 4Q17.

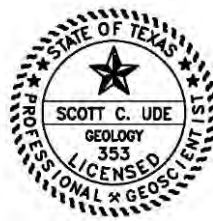
HMI appreciates the opportunity to assist El Paso Natural Gas Company and Arcadis with this project. If you have any questions or require additional information please feel free to call us at 713.464.5206.

Sincerely,

HYDROLOGIC MONITORING

Handwritten signature of Scott C. Ude in black ink.

Scott C. Ude, P.G.



The seal appearing on this document was authorized by Scott C. Ude, P.G. 353 on December 4, 2017.

Attachments

cc: Joe Wiley, P.G., El Paso Natural Gas Company
Aaron Sides, Arcadis-Midland

Table 1
Gauging Data and Groundwater Field Parameters

El Paso Natural Gas Company - Jal #4 Gas Plant
Lea County, New Mexico
November 28, 2017

Well I.D.	1,2,3Q # Wells Sampled	1,2,3Q # Wells Gauged	4Q # Wells Sampled	4Q # Wells Gauged	Ded. Blad Pump	Top of Casing Elev (ft-msl)	Depth to LNAPL (ft-toc)	Depth to Water (ft-toc)	LNAPL Thickness (ft)	DNAPL Thickness (ft)	GW Elev* (ft-msl)	Water Column (ft)	Total Depth (ft-toc)	Stickup (ft)	Screen Interval (ft-bgs)	Sample Intake (ft-toc)	Casing Diam	pH (S.U.)	Temp. (C)	S.C. (umhos)	D.O. (mg/L)	ORP (mV)	Turbidity (NTU)	Water Clarity	Comments
ACW-01		1	1		Yes	3,302.15	NP	105.43	0.00	0.00	3,196.72	30.02	135.45	1.9	110-130	130.5	4" PVC	7.98	22.1	18,700	1.9	-292.1	4.0	Clear	
ACW-02A		2	2		Yes	3,302.16	NP	105.65	0.00	0.00	3,196.51	19.84	125.49	2.0	98-118	120.5	4" PVC	10.02	21.6	11,900	1.8	-355.6	4.6	Clear	Dup-03; FB-03
ACW-03		3		1	No	3,301.62	NP	105.29	0.00	0.00	3,196.33	29.83	135.12	1.6	112-132	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well; HMI added 4-in cap 4Q17
ACW-04		4	3		Yes	3,302.05	NP	107.35	0.00	0.00	3,194.70	63.75	171.10	1.7	154-169	169.1	4" PVC	6.82	24.7	135,900	2.4	-116.8	9.2	Clear	
ACW-05		5	4		Yes	3,297.18	NP	103.28	0.00	0.00	3,193.90	14.09	117.37	1.5	105-115	114.4	4" PVC	6.23	20.9	7,810	0.6	-147.1	9.8	Clear	
ACW-06		6	5		Yes	3,302.84	NP	107.85	0.00	0.00	3,194.99	14.78	122.63	1.7	110-120	119.6	4" PVC	8.70	22.5	5,850	5.5	-155.4	6.1	Clear	
ACW-07		7	6		Yes	3,297.63	NP	102.43	0.00	0.00	3,195.20	14.96	117.39	1.5	105-115	114.4	4" PVC	7.13	21.3	9,322	1.3	-74.4	0.9	Clear	
ACW-08		8		2	No	3,299.54	NP	103.40	0.00	0.00	3,196.14	53.51	156.91	1.2	140-160	NA	NA	NS	NS	NS	NS	NS	NS	NS	4" PVC Recovery Well; HMI added 4-in cap 4Q17
ACW-09		9	7		Yes	3,304.69	NP	110.38	0.00	0.00	3,194.31	52.10	162.48	2.4	140-160	159.5	4" PVC	6.37	22.2	25,900	2.8	-24.1	4.0	Clear	
ACW-10		10	8		Yes	3,299.82	NP	106.44	0.00	0.00	3,193.38	56.60	163.04	2.5	140-160	160.0	4" PVC	6.64	21.2	5,390	0.5	-65.7	7.9	Clear	
ACW-11		11	9		Yes	3,301.64	NP	105.83	0.00	0.00	3,195.81	55.85	161.68	2.1	140-161	159.7	4" PVC	6.71	23.5	70,700	1.4	86.8	7.6	Clear	
ACW-12		12	10		Yes	3,301.80	NP	109.49	0.00	0.00	3,192.31	62.44	171.93	2.5	150-170	168.9	4" PVC	6.50	21.2	5,540	0.5	-189.0	8.1	Clear	
ACW-13	1		11		Yes	3,291.72	NP	99.39	0.00	0.00	3,192.33	76.23	175.62	2.0	153-173	172.6	4" PVC	6.90	21.8	1,588	3.0	76.0	7.2	Clear	
ACW-14	2		12		Yes	3,294.74	NP	100.44	0.00	0.00	3,194.30	75.78	176.22	2.0	157-177	173.2	4" PVC	7.08	19.5	904	4.1	143.6	5.1	Clear	
ACW-15	3		13		Yes	3,292.75	NP	102.36	0.00	0.00	3,190.39	69.21	171.57	2.3	150-170	168.6	4" PVC	6.80	21.4	971	3.6	83.6	4.9	Clear	
ACW-16		13	14		Yes	3,307.89	NP	109.40	0.00	0.00	3,198.49	67.54	176.94	2.4	156-176	174.9	4" PVC	7.30	22.0	27,600	1.6	-276.9	2.4	Clear	
ACW-17		14	15		Yes	3,306.17	NP	108.54	0.00	0.00	3,197.63	63.24	171.78	2.6	151-171	169.8	4" PVC	6.89	20.4	15,050	1.7	-188.6	7.6	Clear	
ACW-18		15	16		Yes	3,303.15	NP	107.49	0.00	0.00	3,195.66	69.71	177.20	2.5	160-180	175.2	4" PVC	6.80	21.0	106,500	1.8	-203.1	5.5	Clear	
ACW-19		16	17		Yes	3,302.68	NP	106.40	0.00	0.00	3,196.28	14.76	121.16	2.2	98-118	119.2	4" PVC	7.20	23.2	5,110	2.1	-119.3	13.0	Clear	
ACW-20		17	18		Yes	3,303.50	NP	108.59	0.00	0.00	3,194.91	65.44	174.03	2.2	154-174	172.0	4" PVC	6.68	22.6	150,900	2.0	-56.2	7.5	Clear	Dup-02; FB-02
ACW-21		18	19		Yes	3,301.82	NP	105.94	0.00	0.00	3,195.88	14.58	120.52	2.1	98-118	118.5	4" PVC	7.23	23.4	2,130	1.1	-111.1	9.3	Clear	
ACW-22		19	20		Yes	3,306.24	NP	112.04	0.00	0.00	3,194.20	13.00	125.04	2.5	102-122	123.0	4" PVC	6.22	21.1	2,243	3.0	-55.0	7.6	Clear	
ACW-23		20	21		Yes	3,306.29	NP	112.15	0.00	0.00	3,194.14	57.56	169.71	2.3	147-167	167.7	4" PVC	6.82	21.5	3,043	1.8	-58.0	1.4	Clear	
ACW-24		21	22		Yes	3,305.56	NP	110.65	0.00	0.00	3,194.91	78.47	189.12	2.2	166-186	187.1	4" PVC	6.26	23.0	120,700	1.5	86.5	5.8	Clear	
ACW-25		22	23		Yes	3,297.59	NP	103.46	0.00	0.00	3,194.13	71.22	174.68	2.1	151-171	172.7	4" PVC	6.33	20.1	41,300	0.6	52.2	9.2	Clear	
Doom	4		24		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.82	20.2	622	3.2	-17.6	1.1	Clear	
ENSR-01		23	25		Yes	3,306.71	NP	107.74	0.00	0.00	3,198.97	47.61	155.35	1.6	123-148	150.4	4" PVC	6.82	22.2	21,600	2.1	-192.8	1.1	Clear	
ENSR-03		24		3	No	3,305.05	NP	107.25	0.00	0.00	3,197.80	47.85	155.10	1.5	123-148	NA	4" PVC	NS	NS	NS	NS	NS	NS	NS	Gauge-only, per El Paso, 1Q17
EPNG-01		25	26		Yes	3,310.03	NP	109.22	0.00	0.00	3,200.81	54.71	163.93	AG	120-160	160.9	6" Steel	6.72	21.3	1,330	2.4	82.9	3.2	Clear	6" inner; 12.5" outer; steel; fmr supply; Dup-01; FB-01
OXY	5		27		No	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.30	17.3	1,338	2.1	30.1	2.2	Clear	
PTP-01**		26	28		Yes	3,305.67	NM	107.84	0.00	0.00	3,197.83	NM	136.09	2.3	110-130	131.1	2" PVC	6.90	21.0	2,280	1.7	-151.9	8.9	Clear	
RW-01		27		4	No	3,302.16	NP	105.63	0.00	0.00	3,196.53	76.00	181.63	1.8	109-179	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-02		28		5	No	3,303.71	NP	110.42	0.00	0.00	3,193.29	63.23	173.65	1.4	105-175	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-03		29		6	No	3,302.65	NP	106.39	0.00	0.00	3,196.26	71.30	177.69	1.4	136.7-176.7	NA	NA	NS	NS	NS	NS	NS	NS	NS	
RW-04		30		7	No	3,303.26	NP	108.80	0.00	0.00	3,194.46	67.36	176.16	1.6	154-174	NA	NA	NS	NS	NS	NS	NS	NS	NS	

Notes: Monitoring completed by HMI on behalf of El Paso Natural Gas Company
Gauging and groundwater sampling conducted November 28, 2017
HMI equipped the site with HMI-owned dedicated bladder sampling pumps, March 2017; Sample intakes match previously-installed Hydrasleeves (pre-2017)
NP = No product (LNAPL), NA = Not applicable, NS = Not sampled, NM = Not measured, AG = At-Grade Surface Completion
* Uncorrected for the average density of the water column as a function of TDS
** In 1Q17, a PTP-01 Hydrasleeve/rope assembly was found wedged in well casing at 80'; in 1Q17, HMI used steel cable & winch to clear the blockage; dedicated bladder pump installed 2Q17, per El Paso request, 1Q17

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: *RLK*
Well Condition: *good*

Well Purging Record

Well Sampling Record

[illegible]

+ Dup-03
+ FB-03 (All parameters)

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-02A

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: RLR
Well Condition:

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
11/28/17	1420	NA	105.65	0.0	0.0	125.49	120.5	98-118				Weather: Pt. Cloudy; 80's

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
11/28/17	1425	105.87	0.5	9.06	21.8	13,700	2.2	-316.8	8.1	Low-flow purge-sample with	Clear ↓
	1428	105.92	1.0	9.18	21.8	13,000	2.1	-326.2	7.3	HMI's dedicated bladder pump	
	1430	105.98	1.5	9.68	21.8	12,600	2.0	-349.8	6.8		
	1433	106.08	2.0	9.83	21.7	12,400	2.0	-354.8	6.2		
	1435	106.10	2.5	9.97	21.7	12,200	1.9	-354.6	5.8		
	1438	106.12	3.0	10.00	21.6	12,000	1.9	-355.2	5.2		
	1440	106.15	3.5	10.01	21.6	12,000	1.8	-355.4	4.8		
	1443	106.17	4.0	10.02	21.6	11,900	1.8	-355.6	4.6		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
11/28/17	1445	ACW-02A	106.17	10.02	21.6	11,900	1.8	-355.6	4.6	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neut	
										Sodium	HNO3	
11/28/17	1200	Dup-03	106.17	10.02	21.6	11,900	1.8	-355.6	4.6	Same	Same	
11/28/17	1525	FB-03	NA							Same	Same	

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring

Houston, Texas

Initials: SCY
Well Condition: Good

Well Purging Record

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

Jal #4 Gas Plant

Lea County, New Mexico

Well: ACW-05

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: BRH

Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
11/28/17	1020	NA	103.28	0.0	0.0	117.37	114.4	105-115				
												Weather: Pt. Cloudy, 60s

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring

Houston, Texas

Initials: *SCU*
Well Condition: *Good*

Well Purging Record

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-07

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: B3
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
11/28/17	1405	NA	102.43	0.0	0.0	117.39	114.4	105-115				
												Weather: <u>Sunny 70°</u>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-09

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

60

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>Good</i>
												Comments
11/28/17	1150	NA	110.38	0.0	0.0	162.48	159.5	140-160				
												Weather: <i>Sunny 70's</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-10

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: BRH

Well Condition: Good

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-11

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: SCY
Well Condition: Good

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: **BRH**
Well Condition: **Good**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
11/28/17	1320	NA	109.49	0.0	0.0	171.93	168.9	150-170				
												Weather: <u>Sunny, 70s</u>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-13

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: BRH
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
11/28/17	1105	NA	99.39	0.0	0.0	175.62	172.6	153 - 173				
												Weather: Pt. Cloudy, 70s

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring

Houston, Texas

Initials: BZH
Well Condition: Good

[illegible][illegible][illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-15

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: **BRH**
Well Condition: **Good**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>Good</u>
												Comments
11/28/17	1235	N/A	102.36	0.0	0.0	171.57	168.6	150-170				
												Weather: <u>Sunny, 70s</u>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: ILR
Well Condition: good

Well Purging Record

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-17

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: RLR
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <u>good</u>
												Comments
11/28/17	900	NA	108.54	0.0	0.0	171.78	169.8	151-171				
												Weather: Pt. Cloudy; 70's

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring
Houston, Texas

Initials: RLR
Well Condition: Good

Well Purging Record

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-19

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: *SCU*
Well Condition: *Good*

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-20

+ Dup-02
+ FB-02
(All parameters)

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
11/28/17	1400	NP	108.59	0.0	0.0	174.03	172.0	154-174				Weather: clear / 70.5

Initials: SCW
Well Condition: Good

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
11/28/17	1415	108.80	0.5	6.90	23.2	97,900	3.0	-112.1	8.7	Low-flow purge-sample with	clear
	1417	108.83	1.0	6.79	22.7	126,000	2.5	-100.2	8.2	HMI's dedicated bladder pump	
	1420	108.85	1.5	6.72	22.6	142,400	2.3	-81.9	8.1		
	1422	108.86	2.0	6.70	22.6	147,000	2.2	-73.7	8.0		
	1425	108.86	2.5	6.69	22.6	148,100	2.1	-69.3	7.7		
	1427	108.86	3.0	6.69	22.6	149,500	2.1	-63.4	7.5		
	1430	108.86	3.5	6.68	22.5	150,600	2.0	-57.8	7.5		
	1432	108.86	4.0	6.68	22.6	150,900	2.0	-56.2	7.5		

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
11/28/17	1435	ACW-20	108.86	6.68	22.6	150,900	2.0	-56.2	7.5	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO3	
	1200	Dup-02	108.86	6.68	22.6	150,900	2.0	-56.2	7.5	Same	Same	
	1440	FB-02	NA							Same	Same	

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-21

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: *SM*
Well Condition: *Good*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>Good</i>
												Comments
11/28/17	1100	NP	105.94	0.0	0.0	120.52	118.5	98-118				
												Weather: <i>mostly clear, 70s</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

RW-02 110.42

Well: ACW-22

Hydrologic Monitoring
Houston, Texas

Initials: B3
Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)					Initials: <i>MS</i> Well Condition: <i>Good</i>
												Comments	
11/28/17	1055	NA	12.04	0.0	0.0	125.04	123.00	102-122					
													Weather: <i>Ptly Cldy 70°</i>

Well Running: *OK*

[illegible][illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Acw-23

Hydrologic Monitoring

Houston, Texas

Initials: **B3**
Well Condition: **Good**

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>Good</i>
												Comments
<i>11/28/17</i>	<i>1245</i>	<i>NA</i>	<i>112.15</i>	<i>0.0</i>	<i>0.0</i>	<i>169.71</i>	<i>167.7</i>	<i>147-167</i>				
												Weather: <i>Sunny 70's</i>

[illegible][illegible]

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ACW-25

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: BRH

Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>Good</i>
												Comments
11/28/17	935	NA	103.46	0.0	2.0	174.68	172.7	151-171				
												Weather: Pt. Cloudy, 60s

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: Doom Well

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: *BB*
Well Condition: *MA*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>NA</i>
												Comments
<i>01/28/17</i>	<i>1330</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>				
												Weather: <i>Sunny 70's</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: ENSR-01

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: RL
Well Condition: good

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

+ Dup-01
+ FB-01
(All parameters)

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: EPNG-01

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: *BB*
Well Condition: *Good*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Comments
11/28/17	905	NA	109.22	0.0	0.0	163.93	160.9	120-160				Weather: Cloudy 60's

Well Purging Record

Date	Time	Depth to Water (Ft-TOC)	Cum. Vol. Purged (L)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Purging and Sampling Method	Water Color / Clarity
11/28/17	910	109.24	0.5	6.98	20.4	937	3.8	98.4	8.2	Low-flow purge-sample with	Clear
	913	109.24	1.0	6.84	20.6	1274	3.1	87.2	5.2	HMI's dedicated bladder pump	11
	915	109.24	1.5	6.79	20.8	1318	2.7	86.2	4.3		11
	918	109.24	2.0	6.76	21.0	1322	2.6	85.4	4.0		11
	920	109.24	2.5	6.74	21.1	1325	2.5	84.9	3.8		11
	923	109.24	3.0	6.73	21.1	1327	2.5	84.2	3.7		11
	925	109.24	3.5	6.73	21.2	1328	2.4	83.3	3.5		11
	928	109.24	4.0	6.72	21.3	1330	2.4	82.9	3.2		11

Well Sampling Record

Date	Time	Sample I.D.	Depth to Water (Ft-TOC)	pH (std units)	T (C)	SC (umho/cm)	Dissolved Oxygen (mg/L)	Oxidation-Reduction-Potential (mV)	Turbidity (NTU)	Parameter	Preserv	Comments
11/28/17	930	EPNG-01	109.24	6.72	21.3	1330	2.4	82.9	3.2	BTEX	HCL	Lab: Test America, Houston, TX
										TDS, CL, Conductivity	Neat	
										Sodium	HNO3	
11/28/17	830	Dup-01	109.24	6.72	21.3	1330	2.4	82.9	3.2	Same	Same	
11/28/17	945	FB-01	NA							Same	Same	

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: OXY Well

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: *BS*
Well Condition: *AA*

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: NA
												Comments
11/28/17	1020	NA	NA	NA	NA	NA	NA	NA				
												Weather: Puffy Cloudy 60's

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Hydrologic Monitoring

Houston, Texas

Initials: RLR
Well Condition: good

Well Purging Record

Well Sampling Record

[illegible]

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

ACW-03 (Gauge only)

Hydrologic Monitoring
Houston, Texas

4" PVC Recovery well

Well Condition: No lock, no cap

HMI added 4" expandable locking Comments cap

Weather: Clear, 70s

[illegible][illegible][illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well:

ACW-08

(Gauge only)

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

4" PVC Recovery Well

Initials:

Sci.

Well Condition: No logs; no cap

HMI added 4-in expandable
Comments today
cap

Weather:	clear, 70s
----------	------------

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well:

ENSR-03

(Gauge only)
per EP

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: PLA
Well Condition: good

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well:

Well: RW-01 (Gauge only)

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials: RLR
Well Condition: good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>good</i>
												Comments
11/23/17	1535	NA	105.63	0.0	0.0	181.63	No Pump	109-179				
												Weather: <i>Clear; 80's</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well:

RW-02

(Gauge only)

Hydrologic Monitoring
Houston, Texas

Well Inspection Information

Initials:

Well Condition:

Bv

620

[illegible]

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company
Jal #4 Gas Plant
Lea County, New Mexico

Well: RW-03 (Gauge only)

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: RLR
Well Condition: good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: good
												Comments
11/28/17	1540	NA	106.39	0.0	0.0	177.69	No Pump	136.7 -				
								176.7				Weather: Clear; 80's

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Monitoring Well Purging and Sampling Record

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Well:

RW-04

(Gauge only)

Hydrologic Monitoring

Houston, Texas

Well Inspection Information

Initials: RLR

Well Condition: Good

Date	Time	Depth to LNAPL (Ft-TOC)	Depth to Water (Ft-TOC)	LNAPL Thickness (Ft)	DNAPL Thickness (Ft)	Well Total Depth (Ft-TOC)	Sample Intake	Screen (Ft-BGS)				Well Condition: <i>good</i>
											Comments	
11/28/17	1550	NA	103.20	0.0	0.0	176.16	NO PUMP	154-174				
												Weather: <i>Clear; 80's</i>

Well Purging Record

[illegible]

Well Sampling Record

[illegible]

Instrument Calibration Log

El Paso Natural Gas Company

Jal #4 Gas Plant

Lea County, New Mexico

Hydrologic Monitoring

[illegible]

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record
TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: Brian Hilliard & HMC Team		Lab PM: Upton, Cathy L		Carrier Tracking No(s):		COC No: 600-51545-15276.1					
		Phone: 713-653-3127		E-Mail: cathy.upton@testamericainc.com				Page: Page 1 of 4 ^{SEP} 4					
Client Contact: Hank McConnell		Company: ARCADIS U.S., Inc.		Analysis Requested						Job #:			
Address: 1004 North Big Spring Suite 300		Due Date Requested:		Field Filtered Sample (Yes or No) Perfor. (MS/MSD) (Yes or No) Total Number of Containers						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)			
City: Midland		TAT Requested (days):											
State, Zip: TX, 79701		PO #: WD255945											
Phone: 432-687-5400(Tel)		WO #:											
Email: hank.mcconnell@arcadis-us.com		Project #: 60008415											
Project Name: JAL#4 Gas Plant-Hank McConnell		SSOW#:											
Site: Quarterly sampling													
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Preservation Code		Special Instructions/Note:	
ACW-01		11/28/17		1150		G		Water		N N X X X X X			
ACW-02A		1		1445		G		Water		N N X X X X X			
ACW-04		1		1315		G		Water		N N X X X X X			
ACW-05		1		1045		G		Water		N N X X X X X			
ACW-06		1		945		G		Water		N N X X X X X			
ACW-07		1		1430		G		Water		N N X X X X X			
TRIP-BLANK _{SCD} ACW-09		1		1215		G		Water		N N X X X X X			
ACW-10		1		1215		G		Water		N N X X X X X			
ACW-11		1		1140		G		Water		N N X X X X X			
ACW-12		1		1350		G		Water		N N X X X X X			
ACW-13		1		1130		G		Water		N N X X X X X			
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological										☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)										Special Instructions/QC Requirements:			
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:					
Relinquished by: <i>[Signature]</i>				Date/Time: 11/29/17 1600		Company: HMC		Received by:		Date/Time:		Company:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									

Phone (713) 690-4444 Fax (713) 690-5646

THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: Brian Hillin + HMI Team		Lab PM: Upton, Cathy L		Carrier Tracking No(s):		COC No: 600-51545-15276.1					
Client Contact: Hank McConnell		Phone: 713-653-3127		E-Mail: cathy.upton@testamericainc.com				Page: 1 of 1 Page 1 of 1 2013-8-4					
Company: ARCADIS U.S., Inc.				Analysis Requested						Job #:			
Address: 1004 North Big Spring Suite 300				Due Date Requested:		Field Filtered Sample (Yes or No) Perfor. MS/MSD (Yes or No) 6010B - Sodium 8260B_LL - BTEX Only 120.1 - Specific Conductance 2540C_Calcd - TDS 300_ORGFM_28D - Chloride Total Number of Containers						Preservation Codes:	
City: Midland		TAT Requested (days):		A - HCL M - Hexane									
State, Zip: TX, 79701				B - NaOH N - None									
Phone: 432-687-5400(Tel)		PO #: WD255945		C - Zn Acetate O - AsNaO2									
Email: hank.mcconnell@arcadis-us.com		WO #:		D - Nitric Acid P - Na2O4S									
Project Name: JAL#4 Gas Plant--Hank McConnell		Project #: 60008415						E - NaHSO4 Q - Na2SO3					
Site: Quarterly sampling		SSOW#:						F - MeOH R - Na2S2O3					
								G - Amchlor S - H2SO4					
								H - Ascorbic Acid T - TSP Dodecahydrate					
								I - Ice U - Acetone					
								J - DI Water V - MCAA					
								K - EDTA W - pH 4-5					
								L - EDA Z - other (specify)					
								Other:					
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Special Instructions/Note:			
ACW-14		11/29/17		915		G		Water					
ACW-15		11/29/17		1300		G		Water					
ACW-16		11/29/17		1250		G		Water					
ACW-17		11/29/17		925		G		Water					
ACW-18		11/29/17		1105		G		Water					
ACW-19		11/29/17		1535		G		Water					
TRIP BLANK ACW-20		11/29/17		1435		G		Water					
ACW-21		11/29/17		1210		G		Water					
ACW-22		11/29/17		1120		G		Water					
ACW-23		11/29/17		1310		G		Water					
ACW-24		11/29/17		1035		G		Water					
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological						☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:							
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:					
Relinquished by: [Signature]				Date/Time: 11/29/17 1600		Company: HMI		Received by:		Date/Time:			
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:			
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									
Δ Yes Δ No													

TestAmerica Houston

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

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sampler: <i>Brian Hillin + HMI Team</i>		Lab PM: Upton, Cathy L		Carrier Tracking No(s):		COC No: 600-51545-15276.1							
		Client Contact: Hank McConnell		Phone: <i>713-653-3127</i>				E-Mail: cathy.upton@testamericainc.com		Page: Page 1 of 3 of 3 rd 4					
Company: ARCADIS U.S., Inc.				Analysis Requested						Job #:					
Address: 1004 North Big Spring Suite 300										Due Date Requested:		Preservation Codes:			
City: Midland				TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Other:							
State, Zip: TX, 79701				PO #: WD255945				Special Instructions/Note:							
Phone: 432-687-5400(Tel)				WO #:											
Email: hank.mccconnell@arcadis-us.com				Project #: 60008415											
Project Name: JAL#4 Gas Plant-Hank McConnell				SSOW#:											
Site: Quarterly sampling															
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010B - Sodium	8260B_LL - BTEX Only	120.1 - Specific Conductance	2540C_Calcd - TDS	300_ORGFM_28D - Chloride	Total Number of Containers		
ACW-25		11/28/17	1005	G	Water	N	N	X	X	X	X	X			
Doom Well			1340	G	Water	N	N	X	X	X	X	X			
Oxy Well			1030	G	Water	N	N	X	X	X	X	X			
ENSR-01			1355	G	Water	N	N	X	X	X	X	X			
EPNG-01			930	G	Water	N	N	X	X	X	X	X			
PTP-01			1010	G	Water	N	N	X	X	X	X	X			
TRIP BLANK SCD Dup-01			830	G	Water	N	N	X	X	X	X	X			
Dup-02			1200	G	water	N	N	X	X	X	X	X			
Dup-03			1200	G	water	N	N	X	X	X	X	X			
FB-01			945	G	water	N	N	X	X	X	X	X			
FB-02			1440	G	water	N	N	X	X	X	X	X			
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological						☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months									
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:									
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:									
Relinquished by: <i>Brian Hillin</i>		Date/Time: 11/29/17 1600		Company: HMI		Received by:		Date/Time:		Company:					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:					
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:									

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

Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

ARF FORM: SHEET 1

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev_7_04032017


Analytical Request Form (ARF)
Project Information

 Current Site Company/Pipeline
 Name:

EPNG

ARF #: ERG-ARC-11-14-17-HWM-01

xxx-xxx-mm-dd-yy-xxx-##

ENFOS AOC / Project Name (make sure to match ENFOS AOC):

Jal #4 Gas Plant RWIP

FOR LAB USE ONLY

Lab Work Directive (WD)/ENFOS WD/PO#

Lab Cost Cluster:

Monitoring

Lab Subtask:

Lab I

Project Billing :



Lab Enters Invoice Through Enfos



Paper invoice mailed to KM PM listed below



Other/ Describe:

Site Description or contaminants of concern

BTEX, Chloride, Sodium, TDS, TOC, Sulfate

Site Address:

9 Miles North of Jal, NM on Hwy 18

City:

Jal

State: NM

Country: USA

Regulatory Agency:

NMOCD

Project Type (RCRA, CERCLA, TRRP):

Anticipated Start Date:

11/29/2017

Anticipated Completion Date:

11/29/2017

Frequency of Sampling:

Annual

Sampling Plan Attached:

No

Are there Additional Requests/ Special Instructions on Page 2?

No

Title(s)/Date(s) of attached sampling information:

Project Management Contacts**KM Contact**

KM Office:

Houston



Copy on ARF Distribution

Address:

1001 Louisiana Street

Houston, TX 770022

KM Project Manager:

Joe Wiley

Phone : 713-420-3475

Fax: 713-420-8244

E-mail: Joe.Wiley@KinderMorgan.com

Designated Consultant Contact

Designated Consultant Firm Name:

Arcadis



Copy on ARF Distribution

Address:

1004 N. Big Spring, St. Suite 300

Midland, TX 79701

Designated Consultant Project Manager:

Hank W. McConnell

Phone : 432-687-5400

Fax: 432-687-5401

E-mail: Hank.McConnell@arcadis.com

Laboratory Contact

Laboratory Name:

TestAmerica



Copy on ARF Distribution

Address:

6310 Rothway Street

Houston, TX 77040

Laboratory Project Manager:

Cathy Upton

Phone : 713-690-4444

Fax: 361-289-2471

E-mail: Cathy.Upton@testamericainc.com

Additional Parties to Receive ARF:

Name: Scot Ude

E-mail: ude@hmi-groundwater.com

Affiliation: HMI

Name:

E-mail:

Affiliation:

Name:

E-mail:

Affiliation:

ARF FORM: SHEET 1

Data Deliverables

Data Package Deliverables supplied to:

Required Data Deliverables Format(s):	PDF	Hardcopy	PDF and Hardcopy	CD
Required Format of Electronic Data Deliverables	Excel	Equis	Enfos	

Size Limitation for e-mail of deliverable 10 **MB** or Unlimited

Forward the Electronic Data Deliverables to:

	Name	E-Mail Address
	Hank W. McConnell	hank.mcconnell@arcadis.com
	Aaron Sides	aaron.sides@arcadis.com

Special Instructions for data package or electronic deliverable?:

Record of ARF Initiation and Revisions

Initiated ARF:	Name:	Hank W. McConnell	Date:	11/14/2017
Laboratory Acceptance:	Name:		Date:	
Revision 1:	Name:		Date:	
	Types of Changes:			
Revision 2:	Name:		Date:	
	Types of Changes:			
Revision 3:	Name:		Date:	
	Types of Changes:			
Revision 4:	Name:		Date:	
	Types of Changes:			

ARF FORM: SHEET 2

Parameters and Analytical Methods Requested

Unless otherwise noted, all fields should be completed by ARF Initiator.

rev 7 04032017

[illegible]

ARF FORM: SHEET 2

Laboratory Invoices for non-contracted laboratories must be submitted to:		<u>LAB USE ONLY</u> Internal Laboratory Work Order Number
Company Name	Kinder Morgan	
Name	Joe Wiley	
Street Address	1001 Louisiana Street, Room 956I	
City, State, Zip	Houston, TX 77002	
Phone Number	713-420-3475	
Invoice Approval		
Company Name	Kinder Morgan	
Final Invoice		

Additional Requests and Instructions

[illegible]

Phone Logs and Project Correspondence

[illegible]



Hydrologic Monitoring

1654 W. Sam Houston Pkwy. N.
Houston, Texas 77043

Phone 713.464.5206

Fax 713.464.5207

MEMORANDUM

Low-Flow Groundwater Sampling Procedures
El Paso Natural Gas Company
Jal #4 Gas Plant, Lea County, New Mexico

HMI conducts low-flow groundwater sampling in accordance with TCEQ and EPA guidelines (Puls and Barcelona, 1996 EPA Guidance on Low-Flow Groundwater Sampling).

Groundwater Sampling Methodology

HMI conducts low-flow groundwater sampling using bladder pumps and polyethylene tubing dedicated in sampled wells at the site, during its first groundwater sampling event at the site in March 2017. Pumps were dedicated in the wells to increase sample quality and field efficiency, and remain property of HMI. HMI would appreciate the opportunity to retrieve the pumps at such time that HMI no longer conducts monitoring at the site.

Purging commences through a sealed flow-through cell at EPA-recommended purge rates (generally 0.1 to 0.2 liters/minute), selected to limit the monitored drawdown during the purging process. Each HMI flow-through cell has a volume of 0.5 liters. Field parameter readings are collected at 0.5-liter intervals (the equivalent of one cell volume "turnover"). Field parameters of pH, specific conductivity, temperature, dissolved oxygen, and oxidation-reduction potential are monitored inside the cell. Turbidity is monitored outside of the cell. Purging continues until a requisite volume of groundwater is purged (a minimum of 3,000 ml or six flow-through cell volumes), and field parameters have stabilized in accordance with the EPA guidance below:

*Water Quality Parameters (Stabilization Parameters in Accordance with EPA (2002),
Groundwater Sampling Guidelines for Superfund and RCRA Project Managers, Yeskis & Zavala,
EPA/542:S-02/001)*

- | | |
|--------------------|----------------|
| • pH | +/- 0.1 units; |
| • Temperature | - |
| • Conductivity | +/- 3% |
| • Dissolved Oxygen | +/- 0.3 mg/L |
| • ORP | +/- 10% |
| • Turbidity | 10% |

Groundwater samples are collected directly into laboratory-supplied containers. Groundwater samples are placed in iced coolers, and remain in HMI custody until delivery to the laboratory.

Decontamination Procedures

Non-dedicated equipment, (i.e., only the electronic water level probe for this project) is properly decontaminated prior to use and between wells. The decontamination procedure for the water level probe consists of a spray of isopropanol (likely not warranted at this site), followed by a thorough wash in distilled water and Liquinox non-phosphate soap, with a final distilled water. The probe is allowed to air dry.

HMI Deliverables

HMI provides thorough field documentation of groundwater monitoring activities performed, including groundwater sampling forms, field equipment calibration logs, a brief field narrative, and an Excel table summarizing gauging data and groundwater field parameters.

APPENDIX D

Historical Groundwater Analytical Data



Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-01		3/5/1993	---	---	---	---	14,350	8,505	4,045	---
		9/15/1993	---	---	---	---	10,360	6,016	2,915	---
		11/10/1993	---	---	---	---	11,780	7,340	3,683	---
		4/20/1994	---	---	---	---	16,520	8,430	5,400	---
		10/27/1994	---	---	---	---	14,630	8,440	3,700	---
		5/16/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	14,000	8,200	4,100	2,600
		6/27/1995	0.00460	0.00460	< 0.00250	0.14000	1,400	8,400	6,700	3,200
		8/29/1995	0.00600	< 0.01000	< 0.00500	< 0.01500	21,000	12,000	3,300	2,400
		2/6/1996	0.00610	0.00300	0.00190	0.00280	16,000	9,700	5,200	4,300
		2/6/1996	0.00560	0.00270	0.00300	< 0.00750	16,170	9,440	5,770	3,900
		5/8/1996	0.00630	0.00203	< 0.00100	< 0.00300	14,620	8,190	4,130	3,070
		8/13/1996	0.00350	0.00120	< 0.00100	< 0.00200	12,000	7,400	3,500	2,400
		11/5/1996	0.00560	0.00250	< 0.00100	0.00130	11,000	7,200	3,700	3,000
		5/6/1997	0.01400	0.01500	< 0.00500	0.00570	14,800	8,800	5,200	---
		11/21/1997	0.00610	0.00480	< 0.00050	0.00240	20,800	12,000	7,800	3,900
	D	11/21/1997	0.00670	0.00570	< 0.00050	0.00210	20,700	12,000	7,500	4,000
		5/12/1998	0.00680	0.01100	0.00440	0.00340	16,000	9,600	5,200	---
		10/20/1998	0.00700	0.00400	< 0.00200 Jm	< 0.00200 Jm	20,300	12,900	6,100	3,800
		5/11/1999	---	---	---	---	16,900	8,500	5,400	---
		10/19/1999	0.00750	0.00360	< 0.00200	< 0.00400	14,800	7,800	5,500	3,100
		5/9/2000	---	---	---	---	19,300	11,300	7,000	---
		10/26/2000	< 0.00200	< 0.00200	< 0.00200	0.00830	15,500	9,900	5,500	2,600
		5/1/2001	---	---	---	---	14,200	7,640	5,300	---
		10/22/2001	< 0.00200	< 0.00200	< 0.00200	0.01100	12,400	6,580	4,400	3,000
		4/29/2002	---	---	---	---	12,400	6,730	4,800	---
		11/3/2002	< 0.00500	< 0.00500	< 0.00500	< 0.01500	6,400	4,000	1,900	1,500
		11/4/2003	0.00220	< 0.00200	< 0.00200	< 0.00600	5,530	1,510	2,480	958
		11/9/2004	< 0.00100	0.00170	< 0.00100	< 0.00200	5,780	5,140	2,570	696
		12/12/2005	< 0.01000	< 0.01000	< 0.01000	< 0.03000	7,650	3,500	1,770	1,240

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-01 (cont'd)		3/5/2007	0.00110	< 0.00100	< 0.00100	< 0.00100	5,860	5,340	2,780	569
		11/12/2007	0.00120	< 0.00100	< 0.00100	< 0.00100	5,850	4,500	2,040	563
		11/17/2008	0.00420	0.00180	< 0.00100	< 0.00100	7,600	4,150	2,010	597
		2/24/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	8,540	3,980	1,480	577
		12/7/2010	0.00036 J	0.00026 J	< 0.00100	< 0.00100	4,900	4,620	1,770	676
		11/10/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	5,810	3,820	1,630	632
		11/8/2012	0.00350	0.00062 J	< 0.00100	< 0.00300	8,820	5,600	2,790	1,200
		1/13/2014	0.00300	0.00046 J	0.00028 J	0.00044 J	9,900	4,560	2,980	1,450
		1/6/2015	0.00911	0.00166	0.00053 J	0.00085 J	11,700	5,800	4,490	1,620
		12/3/2015	0.01370	0.00264 J	0.00121 J	0.00213 J	17,700	11,600 H	6,720	3,620
		12/28/2016	0.00753	0.00112	0.00056 J	0.00061 J	14,000	6,970	4,570	2,510 B
ACW-02A		11/28/2017	0.11500	0.00316	0.00079 J	0.00115 J	16,200	16,000	6,020	3,340 B
		5/6/1997	0.14000	0.10000	< 0.05000	< 0.10000	26,800	17,000	11,000	
		10/20/1997	0.08900	0.10000	0.01300	0.02600	24,400	16,000	8,600	6,000
		5/11/1998	0.12000	0.21000	0.02000	0.03300	26,000	16,000	8,200	---
		10/19/1998	0.18000	0.34000	0.03800	0.07200	25,200	20,200	7,800	6,400
		5/12/1999	---	---	---	---	24,400	12,000	7,400	---
		10/18/1999	0.01700 PM	0.04200 PM	0.00810 P	0.01400 PM	24,000	13,000	7,600	6,100
		5/8/2000	---	---	---	---	21,500	13,600	7,200	---
		10/26/2000	0.03500	0.07800	0.01600	0.03200	19,100	12,800	6,500	3,600
		5/2/2001	---	---	---	---	18,500	10,900	5,400	---
		10/22/2001	0.03900	0.03400	0.03000	0.05700	19,900	12,100	4,600	5,200
		4/30/2002	---	---	---	---	22,300	14,000	6,300	---
		11/3/2002	0.06100	0.03200	0.03500	0.04700	19,000	8,800	8,900	5,800
		11/4/2003	0.04560 P	0.01790 P	0.02480 P	0.04130 P	18,530	9,050	4,740	4,160
	D	11/4/2003	0.04460 P	0.01850 P	0.02340 P	0.03770 P	---	9,280	4,560	4,280
		11/9/2004	0.04790	0.01710	0.01500	0.02840	13,730	11,300	4,290	3,950
		12/12/2005	0.02290	0.01220 J	< 0.02000	< 0.06000	23,500	13,200	5,520	5,570
		3/5/2007	0.04400	0.01400	0.03000	0.04200	18,650	11,900	5,760	4,270

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-02A (cont'd)		11/12/2007	0.12000	0.00390	0.06600	0.06100	19,420	11,900	5,950	4,570
		11/17/2008	0.01600	0.00240	0.00610	0.00870	21,100	12,700	7,400	4,040
		2/24/2010	0.03500	0.01100	0.01800	0.01750	17,600	9,640	6,700	3,780
		12/7/2010	0.03000	0.01400	0.01800	0.02130	27,500	10,600	6,280	3,660
		11/9/2011	0.01680	0.00110	0.00320	0.00350	15,300	9,420	4,560	3,070
		11/8/2012	0.00580	0.00060 J	0.00230	0.00200 J	11,400	6,920	4,160	2,740
		1/10/2014	0.00376	0.00074 J	0.00114	0.00116 J	12,600	7,380	3,390	2,890
		1/7/2015	0.00318	0.00100 J	0.00128	0.00097 J	11,800	5,680	3,660	2,540
		12/3/2015	0.00537	0.00308	0.00259	0.00311	10,600	6,750 H	3,140	2,430
		12/1/2016	0.00614 J	< 0.00396	< 0.00424	< 0.00732	10,100	6,390	2,560	2,260 B
ACW-03		11/28/2017	0.00481	0.00191	0.00202	0.00212	11,100	7,030	3,210	2,590 B
		5/6/1997	0.35000	0.02200	0.11000	0.04300	18,500	11,000	6,900	---
		10/20/1997	0.16000	0.00820	0.06900	0.03200	23,000	13,000	7,800	---
		5/11/1998	0.13000	0.02100	0.04100	0.01900	24,000	15,000	8,500	---
		10/19/1998	---	---	---	---	20,800	12,400	7,700	---
		5/12/1999	---	---	---	---	19,600	10,100	6,600	---
		10/19/1999	---	---	---	---	18,900	9,120	6,900	---
		5/8/2000	---	---	---	---	19,400	11,900	7,600	---
		10/26/2000	---	---	---	---	17,500	11,900	7,400	---
		5/1/2001	---	---	---	---	19,200	9,900	9,500	---
		10/23/2001	---	---	---	---	18,800	10,600	7,100	---
		4/30/2002	---	---	---	---	18,500	10,600	6,000	---
		11/3/2002	0.03700	< 0.01000	0.02800	< 0.03000	13,000	13,000	4,700	4,200
		11/3/2003	0.00770	0.00400	0.00830	0.00290 J	11,080	8,310	4,070	2,830
		11/9/2004	0.01370	0.00540	0.00700	0.00660	12,290	8,580	4,980	2,800
		5/23/2005	0.00550	0.00110 J	0.00360	0.00290 J	16,570	11,567	5,600	4,331
		12/14/2005	0.10300	0.03420	0.02370	0.01930	21,100	12,600	6,500	4,720
		3/5/2007	0.06100	0.03400	0.01700	0.01560	18,800	11,600	6,970	3,840
		11/12/2007	0.03400	0.01700	0.00350	0.00640	18,620	11,200	6,210	3,970

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-03 (cont'd)		11/18/2008	0.04100	0.03200	0.01600	0.01680	16,980	10,500	6,150	3,400
		2/24/2010	0.04600	0.02500	0.02100	0.02630	1,000	10,600	5,940	4,140
		12/7/2010	0.10000	0.13000	0.02000	0.03230	2,750	13,000	7,950	4,250
		5/6/1997	0.02900	0.01200	< 0.00500	< 0.01000	48,500	25,000	21,000	---
ACW-04		10/20/1997	0.17000	0.15000	< 0.00500	0.11000	172,000	94,000	58,000	33,000
		5/12/1998	0.19000	0.17000	0.06000	0.10000	160,000	99,000	74,000	---
		10/19/1998	0.19000	0.14000	0.04900	0.09000	121,000	83,100	56,000	37,000
		5/12/1999	---	---	---	---	131,000	84,800	45,000	---
		10/19/1999	0.24000	0.16000	0.04400	0.08100	95,000	46,300	44,000	42,000
		5/8/2000	---	---	---	---	106,000	72,300	47,000	---
		10/26/2000	0.06300	0.01700	0.04100	0.19000	25,600	16,300	10,000	3,600
		5/2/2001	---	---	---	---	29,600	17,400	12,000	---
		10/22/2001	0.01200	0.00300	0.03200	0.10000	35,300	21,400	13,000	7,300
		4/30/2002	---	---	---	---	35,600	24,500	15,000	---
		11/3/2002	0.08400	0.01700	0.02700	0.04500	33,000	24,000	11,000	8,400
		11/4/2003	0.04480	0.00550	0.01500	0.02650	22,400	20,900	14,200	7,300
		11/9/2004	0.18900 R	0.04290	0.06980	0.10100	54,400	19,700	10,800	22,000
		12/12/2005	0.09660	0.05570	0.07610	0.13600	25,100	13,900	5,520	5,490
		3/5/2007	0.11000	0.00640	0.06100	0.09700	21,100	14,200	8,600	5,030
	D	3/5/2007	0.08800	0.00640	0.04700	0.07400		13,200	7,730	4,750
		11/12/2007	0.07100	0.01200	0.03400	0.06000	30,700	15,000	8,670	5,420
		11/17/2008	0.01900	0.00250	0.01200	0.02110	25,200	12,200	8,120	3,870
		2/24/2010	0.01800	0.00240	0.00670	0.01130	69,700	16,500	9,730	6,160
		12/7/2010	0.08600	0.00790	0.02400	0.04000	27,000	36,400	28,000	12,500
		11/10/2011	0.01410	0.00170	0.00770	0.01310	35,000	21,300	14,200	7,710
		11/8/2012	0.19100	0.01670	0.06150	0.09780	98,500	84,800	66,400	29,800
		1/10/2014	0.09910	0.00276	0.03480	0.05400	123,000	88,600	58,000	31,400
		1/7/2015	0.02900	0.00155	0.01660	0.01040	136,000	83,300	63,000	36,200
		12/3/2015	0.03240	0.00114	0.00550	0.00878	115,000	111,000	56,200	39,700

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-04 (cont'd)		12/1/2016	0.02570	0.00096 J	0.00495	0.00810	131,000	124,000	64,800	36,900 B
		11/28/2017	0.02680	0.00090 J	0.00395	0.00600	32,800	138,000	67,000	36,400 B
ACW-05		3/10/1993	---	---	---	---	10,400	6,110	2,544	---
		6/17/1993	---	---	---	---	4,480	323	1,228	---
		9/16/1993	---	---	---	---	4,140	3,064	650	---
		11/9/1993	---	---	---	---	4,390	3,202	720	---
		4/21/1994	---	---	---	---	4,131	3,300	800	---
		10/28/1994	---	---	---	---	4,500	3,112	550	---
		1/31/1995	---	---	---	---	4,050	2,848	499	---
		5/16/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	3,900	2,800	530	540
		6/27/1995	< 0.00250	< 0.00250	< 0.00250	< 0.00500	3,800	2,800	460	530
		8/30/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	3,900	2,700	510	550
		2/6/1996	< 0.00100	< 0.00100	< 0.00100	< 0.00200	3,800	2,200	510	580
		2/6/1996	< 0.00250	< 0.00250	< 0.00250	< 0.00750	3,090	2,745	506	580
		5/8/1996	< 0.00100	< 0.00100	< 0.00100	< 0.00300	3,650	2,460	519	506
		8/13/1996	< 0.00100	0.00120	< 0.00100	< 0.00200	3,400	2,500	500	520
		11/6/1996	0.00110	0.00140	0.00120	< 0.00200	3,300	2,300	500	520
		5/7/1997	0.00084	0.00120	0.00093	< 0.00100	3,020	2,000	430	---
		10/22/1997	0.00090	0.00160	0.00080	0.00190	3,160	2,000	470	480
		5/13/1998	0.00079	0.00150	* 0.00077	* 0.01200	3,100	2,800	570	---
		10/21/1998	---	---	---	---	2,930	1,910	440	---
		5/13/1999	---	---	---	---	3,190	1,960	450	---
		10/21/1999	< 0.00200	0.00270	< 0.00200	< 0.00400	3,250	1,890	1,000	540
		5/10/2000	---	---	---	---	3,180	1,960	750	---
		11/2/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	2,650	1,920	860	450
		5/6/2001	---	---	---	---	3,030	1,920	540	---
		10/24/2001	---	---	---	---	3,120	1,860	590	---
		4/30/2002	---	---	---	---	3,110	1,900	570	---
		11/6/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	3,000	2,200	560	490

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-05 (cont'd)		11/5/2003	0.00120 J	0.00110 J	0.00130 J	< 0.00600	3,000	1,040	613	421
		11/12/2004	0.00042 J	< 0.00100	0.00051 J	< 0.00200	3,450	2,540	708	411
		12/13/2005	< 0.00200	< 0.00200	0.00110 J	< 0.00600	3,820	2,640	771	394
	D	12/13/2005	< 0.00200	< 0.00200	0.00120 J	< 0.00600	---	2,510	675	388
		3/7/2007	< 0.00100	< 0.00100	< 0.00100	0.00120	4,170	3,440	978	376
		11/14/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	4,260	3,240	1,070	422
		11/18/2008	< 0.00100	< 0.00100	0.00100	< 0.00100	4,930	3,530	1,340	432
		2/18/2010	0.00000	---	---	---	5,430	3,120	1,070	381
		12/7/2010	0.00014 J	< 0.00100	< 0.00100	< 0.00100	5,632	6,200	1,400	542
		11/9/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	4,860	3,400	1,070	399
		11/7/2012	0.00100	< 0.00100	< 0.00100	< 0.00300	6,360	4,400	1,710	741
		1/8/2014	0.00180	< 0.00030	< 0.00020	0.00029 J	7,320	4,730	2,080	894
		12/30/2014	0.00076 J	< 0.00030	< 0.00020	< 0.00023	6,190	4,470	1,930	741
		12/1/2015	0.00287	0.00171	0.00021 J	< 0.00037	7,340	4,890	2,270	1,130
		12/2/2016	0.00133	< 0.00020	< 0.00021	< 0.00037	6,250	4,220	2,240	760 B
		11/28/2017	0.00470	0.00030 J	0.00028 J	< 0.00037 U	1,810	5,360	2,660	1,260 B
ACW-06		6/18/1993	---	---	---	---	8,220	5,027	2,108	---
		9/16/1993	---	---	---	---	11,130	6,656	2,737	---
		11/8/1993	---	---	---	---	8,540	5,646	2,154	---
		4/21/1994	---	---	---	---	11,080	6,930	3,600	---
		10/28/1994	---	---	---	---	11,988	6,910	2,100	---
		1/31/1995	---	---	---	---	11,530	6,755	2,873	---
		5/16/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	10,000	6,400	2,800	2,200
		6/27/1995	0.01400	< 0.00250	< 0.00250	< 0.00500	10,000	8,600	3,500	3,000
		8/29/1995	0.00700	< 0.01000	< 0.00500	< 0.01500	12,000	7,100	3,000	2,500
		2/6/1996	0.00660	0.00320	< 0.00100	< 0.00200	11,000	6,600	2,600	2,700
		2/6/1996	< 0.00250	< 0.00250	< 0.00250	< 0.00750	10,320	5,630	3,180	2,400
		5/8/1996	0.00408	0.00158	< 0.00100	< 0.00300	10,620	6,460	2,880	2,380
		8/14/1996	0.00420	0.00260	< 0.00200	< 0.00200	11,000	7,100	2,900	2,900

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-06 (cont'd)		11/6/1996	0.00450	0.00150	< 0.00100	< 0.00200	12,000	7,700	3,400	2,800
		11/6/1996	0.00460	0.00150	< 0.00100	< 0.00200	12,000	7,700	3,600	2,400
		5/8/1997	0.00820	0.00280	0.00260	0.00270	8,450	5,500	2,300	---
		10/22/1997	0.01000	0.00380	0.00140	0.00120	10,200	6,500	2,900	2,200
	D	10/22/1997	0.00950	0.00310	0.00120	0.00120	10,700	6,200	2,900	2,200
		5/13/1998	0.01500	0.01200	< 0.00050	0.00380	12,000	10,000	3,300	---
		10/21/1998	0.01100	0.00600	0.00300	0.00300	11,600	6,530	3,000	2,640
		5/13/1999	---	---	---	---	11,200	6,620	2,900	---
		10/21/1999	< 0.02000	< 0.02000	< 0.02000	< 0.04000	11,500	6,170	2,800	2,900
		5/10/2000	---	---	---	---	10,300	6,290	3,600	---
		11/2/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	8,520	4,350	3,100	710
		5/6/2001	---	---	---	---	9,020	5,240	2,600	---
		10/24/2001	0.00560	< 0.00200	< 0.00200	0.01800	8,350	4,730	2,400	1,900
		4/29/2002	---	---	---	---	8,910	4,800	2,400	---
		11/5/2002	0.01800	< 0.01000	< 0.01000	< 0.03000	7,300	4,400	1,800	2,100
		11/5/2003	0.00890	0.00290	0.00220	0.00300 J	6,960	2,180	1,490	1,440
		11/12/2004	< 0.01000	< 0.01000	< 0.01000	< 0.02000	5,970	3,430	1,060	1,190
	D	11/12/2004	< 0.01000	< 0.01000	< 0.01000	< 0.02000	---	3,490	1,230	1,260
		12/13/2005	< 0.02000	< 0.02000	< 0.02000	< 0.06000	5,910	3,340	1,160	1,420
		3/7/2007	0.00700	< 0.00100	0.00150	0.00200	4,860	3,160	1,120	1,140
		11/13/2007	0.00760	< 0.00100	0.00210	0.00220	4,530	3,060	1,080	1,130
		11/18/2008	0.00450	< 0.00100	0.00140	0.00140	5,300	2,950	1,380	1,070
		2/18/2010	0.00410	< 0.00100	< 0.00100	< 0.00100	4,880	2,560	1,090	933
		12/6/2010	0.00370	0.00059 J	0.00033 J	< 0.00100	4,863	2,780	1,500	1,100
		11/9/2011	0.00220	0.00040 J	0.00032 J	< 0.00300	4,190	2,490	864	801
		11/7/2012	0.00076 J	< 0.00100	< 0.00100	< 0.00300	4,920	2,860	1,100	1,080
		1/9/2014	0.00059 J	< 0.00030	< 0.00020	< 0.00023	5,060	2,820	1,130	1,090
		12/30/2014	< 0.00030	< 0.00030	< 0.00020	< 0.00023	3,730	563	1,130	837
		12/1/2015	0.00019 J	< 0.00020	< 0.00021	< 0.00037	4,930	2,960 H	1,370	1,020

Appendix D
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El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-06 (cont'd)		12/2/2016	0.00019 J	< 0.00020	< 0.00021	< 0.00037	4,270	2,470	1,000	923 B
		11/28/2017	0.00032 J	< 0.00020	< 0.00021	< 0.00037	5,760	3,460	2,140	1,230
		5/7/1997	0.00730	0.00250	0.00310	0.00170	13,200	8,100	3,600	---
		10/22/1997	0.00640	0.00340	0.00300	0.00300	13,800	7,500	4,400	2,500
		5/13/1998	0.00700	0.00320	0.00210	* 0.00170	14,000	11,000	4,300	---
		10/21/1998	0.00800	0.00300	* 0.00200	< 0.00200	14,000	8,290	4,400	3,100
		5/12/1999	---	---	---	---	14,300	7,420	4,900	---
		10/21/1999	0.00720	0.00530	0.00240	< 0.00400	14,700	8,010	4,800	3,300
		5/10/2000	---	---	---	---	14,900	8,900	7,100	---
		11/2/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	12,500	8,400	5,100	710
ACW-07	D	5/6/2001	---	---	---	---	16,400	8,980	6,800	---
		5/6/2001	---	---	---	---	16,300	9,640	6,500	---
		10/24/2001	0.00740	< 0.00200	< 0.00200	0.00240	17,400	9,180	8,500	3,600
		4/30/2002	---	---	---	---	17,400	9,120	6,400	---
		11/5/2002	0.01200	0.00110	0.00240	< 0.00300	14,000	8,900	5,200	3,600
		11/5/2003	0.01930	0.00130 J	0.00470	0.00240 J	13,750	2,050	5,650	3,180
		11/12/2004	0.01400	0.00054 J	0.00320	0.00130	14,290	10,400	5,610	3,140
		5/24/2005	0.01780	< 0.00200	0.00370	0.00310 J	16,460	11,667	5,515	3,707
		12/13/2005	0.01640	< 0.01000	0.00510 J	< 0.03000	16,690	9,900	4,940	3,600
		5/9/2006	0.01810	< 0.00200	0.00470	< 0.00600	16,220	5,300	6,030	2,720
		8/23/2006	0.01460	< 0.00200	0.00430	< 0.00600	16,020	< 9,940 R H	5,890	3,170
		3/7/2007	0.01700	< 0.00100	0.00610	0.00150	15,580	9,980	5,810	3,450
		11/13/2007	0.02100	< 0.00100	0.00700	0.00130	15,080	9,620	5,660	3,410
		11/18/2008	0.01600	< 0.00100	0.00790	0.00100	15,390	9,380	5,820	3,180
		2/19/2010	0.00470	< 0.00100	0.00760	0.00110	1,570	7,720	5,090	2,350
		12/6/2010	0.01500	0.01100	0.00028 J	< 0.00100	1,632	9,610	6,470	3,230
		12/6/2010	0.01500	0.01100	0.00029 J	< 0.00100	---	10,300	7,190	3,210
		11/7/2012	0.03630	< 0.00100	0.01420	< 0.00300	13,900	8,580	4,990	2,070
		11/7/2012	0.03630	< 0.00100	0.01420	< 0.00300	13,900	8,580	4,990	2,070

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-07 (cont'd)		1/9/2014	0.03130	< 0.00030	0.00574	0.00030 J	14,800	8,490	4,470	3,220
		1/9/2015	< 0.00030	< 0.00030	0.00728	0.00053 J	10,000	4,940	3,420	2,380
		12/1/2015	0.00549	0.00081 J	0.01560	0.00129 J	10,700	6,430 H	3,490	2,390
		12/2/2016	< 0.00018	< 0.00020	0.01240	< 0.00037	10,500	6,140	3,290	2,160
		11/28/2017	< 0.00018	< 0.00020	0.00036 J	< 0.00037	8,940	5,940	2,810	1,840
ACW-08		5/6/1997	0.09900	0.01000	0.00410	0.00390	89,200	50,000	29,000	---
		11/21/1997	0.03600	0.00390	0.00200	0.01400	49,200	29,000	17,000	9,300
		5/12/1998	0.03700	0.00450	0.00290	0.00160	48,000	28,000	34,000	---
		10/20/1998	0.14000	0.01300	0.00600	0.00600	44,200	28,700	24,000	11,000
		5/11/1999	---	---	---	---	52,500	29,800	21,000	---
		10/19/1999	0.03200	0.00620	0.00370	< 0.00400	36,400	17,700	15,000	12,000
		5/9/2000	---	---	---	---	62,900	41,800	32,000	---
		10/26/2000	0.01500	< 0.00200	0.00210	0.01000	36,300	26,000	17,000	3,600
		5/1/2001	---	---	---	---	51,300	28,200	25,000	---
		10/23/2001	0.04100	0.00500	0.00310	< 0.00200	33,400	20,000	11,000	11,000
		4/29/2002	---	---	---	---	69,400	53,400	30,000	---
		11/4/2002	0.01000	0.00150	0.00120	< 0.00300	11,000	6,200	3,900	3,000
		11/3/2003	0.00700	< 0.00200	< 0.00200	< 0.00600	12,330	8,670	5,350	2,850
		11/9/2004	0.02530	0.00210	0.00160	0.00120 J	16,200	10,100	6,280	2,420
		5/23/2005	0.08000	0.01300	< 0.00500	< 0.00500	61,480	---	---	---
		5/23/2005	0.08190	0.01300	0.00400	0.00600	61,480	41,700	22,100	14,600
		12/14/2005	0.09840	0.01110	0.01940	0.00820	50,100	29,000	14,200	12,400
		3/6/2007	0.10000	0.11000	0.87000	0.10200	32,800	19,400	11,300	7,080
		11/12/2007	0.08600	0.03600	0.20000	0.06500	34,500	21,700	12,700	7,610
	D	11/12/2007	0.08500	0.03600	0.20000	0.06300	---	22,000	12,700	7,580
		11/18/2008	0.06700	0.02800	0.29000	0.06500	32,700	21,100	16,300	6,510
		2/24/2010	0.06600	0.02600	0.18000	0.05470	24,700	28,600	17,400	9,890
		12/7/2010	0.08200	0.03700	0.53000	0.11700	28,000	20,500	14,400	7,850
		11/10/2011	0.05520	0.01540	0.23900	0.04320	47,300	30,700	17,100	9,300

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-09		6/17/1993	---	---	---	---	5,900	4,435	2,288	---
		9/14/1993	---	---	---	---	3,100	2,119	915	---
		11/9/1993	---	---	---	---	3,670	2,300	1,184	---
		4/22/1994	---	---	---	---	3,900	2,508	1,150	---
		12/1/1994	---	---	---	---	5,450	3,510	1,650	---
		1/31/1995	---	---	---	---	7,110	4,240	2,083	---
		5/17/1995	< 0.00500	0.02200	< 0.00500	< 0.01500	11,000	6,800	5,600	910
		6/28/1995	< 0.00250	< 0.00250	< 0.00250	< 0.00500	9,100	6,200	3,500	1,000
		8/30/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	7,150	4,500	2,500	880
		2/7/1996	0.00180	< 0.00100	< 0.00100	< 0.00200	7,500	5,400	2,400	810
		2/7/1996	< 0.00250	< 0.00250	< 0.00250	< 0.00750	7,450	4,620	2,300	810
		5/8/1996	< 0.00100	< 0.00100	< 0.00100	< 0.00300	7,530	4,210	2,210	687
		8/14/1996	0.00140	0.00160	< 0.00100	< 0.00200	4,400	3,600	1,200	730
		11/7/1996	0.00230	0.00220	< 0.00100	< 0.00200	4,200	3,100	1,200	510
		2/19/1997	0.00130	0.00400	0.01000	0.00420	4,110	2,500	1,260	---
		5/8/1997	0.00260	0.00260	0.00140	0.00170	2,800	2,100	830	---
		10/23/1997	< 0.00050	< 0.00050	< 0.00050	< 0.00100	3,380	1,600	880	320
		5/13/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	5,100	4,500	1,600	---
		10/21/1998	0.00600	< 0.00200	< 0.00200	< 0.00200	13,200	8,980	4,100	1,400
		5/13/1999	---	---	---	---	11,100	6,400	3,400	---
		10/22/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	8,580	5,950	2,900	990
		5/12/2000	---	---	---	---	7,830	4,810	2,500	---
	D	5/12/2000	---	---	---	---	7,960	4,930	3,100	---
		11/3/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	7,630	5,860	3,000	670
	D	11/3/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	7,620	11,200	2,900	630
		5/6/2001	---	---	---	---	8,300	4,640	2,800	---
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	0.00200	7,820	4,390	4,000	1,200
	D	10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	7,700	4,400	3,700	1,300
		5/1/2002	---	---	---	---	8,160	3,800	2,900	---

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-09 (cont'd)	D	5/1/2002	---	---	---	---	7,070	3,760	2,500	---
		11/6/2002	0.00110	< 0.00100	< 0.00100	< 0.00300	7,800	3,700	1,800	1,400
		11/6/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	5,280	3,830	1,820	1,430
		11/10/2004	0.00082 J	< 0.00100	< 0.00100	< 0.00200	8,540	4,680	2,150	1,220
		12/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	5,970	3,100	1,350	941
		3/7/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	6,060	4,420	2,210	935
		11/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	5,900	2,870	1,290	796
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	5,540	2,990	1,480	751
		2/24/2010	0.00100	< 0.00100	< 0.00100	< 0.00100	14,300	8,340	4,190	2,800
		12/9/2010	0.00017 J	0.00029 J	< 0.00100	< 0.00100	15,730	48,000	3,050	1,710
		11/9/2011	0.00032 J	< 0.00100	< 0.00100	< 0.00300	14,600	8,880	4,110	2,660
		11/7/2012	0.00750	< 0.00100	< 0.00100	< 0.00300	16,100	11,200	5,480	3,120
		1/13/2014	0.00386	< 0.00030	< 0.00020	< 0.00023	18,600	8,480	5,960	3,300
		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	18,500	10,300	6,310	3,040
		12/1/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	21,400	15,900 H	9,130 F1	4,130
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	20,200	13,000	7,270	3,820 B
ACW-10		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	26,000	20,000	10,600	3,090 B
		6/18/1993	---	---	---	---	1,061	701	1,027	---
		9/14/1993	---	---	---	---	1,349	1,190	421	---
		11/9/1993	---	---	---	---	1,800	1,238	420	---
		4/22/1994	---	---	---	---	2,440	1,638	700	---
		10/28/1994	---	---	---	---	2,592	1,694	600	---
		2/1/1995	---	---	---	---	2,660	1,426	619	---
		5/17/1995	---	---	---	---	3,900	2,300	1,600	170
		6/28/1995	< 0.00250	< 0.00250	< 0.00250	< 0.00500	3,100	2,300	1,900	160
		8/30/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	3,100	2,200	790	150
		2/7/1996	0.00390	< 0.00100	< 0.00100	< 0.00200	3,200	2,300	850	190
		2/7/1996	0.00430	< 0.00250	< 0.00250	< 0.00750	3,100	2,100	829	190
		5/8/1996	0.00122	< 0.00100	< 0.00100	< 0.00300	2,322	1,290	603	127

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-10 (cont'd)		8/14/1996	< 0.00100	< 0.00100	< 0.00100	< 0.00200	2,400	1,900	560	140
		11/7/1996	0.00120	0.00150	< 0.00100	< 0.00200	250	1,800	610	150
		5/8/1997	0.00130	0.00100	< 0.00050	< 0.00100	1,880	1,500	480	---
		10/23/1997	0.00114	0.00117	< 0.00050	0.00058	2,870	1,500	670	140
		5/14/1998	---	---	---	---	2,400	1,200	540	---
		10/22/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	2,900	1,960	800	180
		5/13/1999	---	---	---	---	2,810	1,660	730	---
		10/22/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	2,470	1,720	660	170
		5/11/2000	---	---	---	---	3,620	2,430	1,400	---
		11/6/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	3,100	2,840	980	330
		5/6/2001	---	---	---	---	3,660	2,360	1,000	---
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	3,350	2,270	930	180
		5/1/2002	---	---	---	---	3,440	1,970	1,000	---
		11/8/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	2,600	2,000	740	270
		11/6/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	2,580	2,160	795	182
		11/11/2004	0.00051 J	< 0.00100	< 0.00100	< 0.00200	2,670	1,990	720	176
		12/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	3,000	1,640	638	162
		3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	2,860	2,240	793	202
		11/14/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	2,810	2,070	802	187
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	2,890	2,090	767	175
		2/19/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	5,780	2,360	1,020	180
	D	2/19/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	2,380	1,030	176
		12/8/2010	0.00089 J	< 0.00100	< 0.00100	< 0.00100	6,517	5,400	1,200	264
		11/9/2011	0.00039 J	< 0.00100	< 0.00100	< 0.00300	4,700	3,250	1,270	215
		11/6/2012	0.00180	< 0.00100	< 0.00100	< 0.00300	4,760	3,370	1,490	331
		1/10/2014	0.00298	< 0.00030	< 0.00020	< 0.00023	6,800	4,290	2,020	490
		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	4,020	2,770	1,610	268
		12/1/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,050	4,200 H	1,730	294
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,350	4,260	1,760	293

Appendix D
Historical Groundwater Analytical Results
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmohs/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-10 (cont'd)		11/28/2017	0.00025	J < 0.00020	< 0.00021	< 0.00020	4,640	2,320	2,350	303 B
ACW-11		6/19/1993	---	---	---	---	25,000	18,670	9,737	---
		9/15/1993	---	---	---	---	10,570	6,820	3,437	---
		11/9/1993	---	---	---	---	10,160	6,592	3,620	---
		4/21/1994	---	---	---	---	16,290	9,520	6,400	---
		10/27/1994	---	---	---	---	20,060	13,280	6,200	---
		10/27/1994	---	---	---	---	20,550	12,900	6,600	---
		2/1/1995	---	---	---	---	32,200	19,880	11,582	---
		5/17/1995	< 0.00500	< 0.01000	< 0.00500	< 0.01500	12,000	7,200	4,400	1,200
		6/27/1995	0.00510	< 0.00250	< 0.00250	< 0.00500	11,000	7,000	6,500	980
		8/29/1995	0.00800	< 0.01000	< 0.00500	< 0.01500	10,000	6,000	3,400	880
		2/7/1996	0.00690	< 0.00100	< 0.00100	< 0.00200	11,000	7,400	3,400	1,500
		2/7/1996	0.00760	< 0.00250	< 0.00250	< 0.00750	11,030	6,740	3,770	1,400
		5/8/1996	0.00676	< 0.00100	< 0.00100	< 0.00300	9,840	5,080	3,120	1,160
		8/13/1996	0.00790	0.00220	< 0.00100	< 0.00200	12,000	10,000	4,200	1,700
		11/5/1996	0.03200	0.00170	< 0.00100	0.00120	29	25,000	13,000	5,100
		5/6/1997	0.02100	0.00530	0.00310	0.00350	10,200	6,700	3,600	---
		11/21/1997	0.02800	0.00310	< 0.00050	0.00280	27,900	16,000	9,800	2,700
		5/12/1998	0.07000	0.00820	0.00130	0.00430	36,000	22,000	13,000	---
		10/20/1998	0.05100	< 0.00200	< 0.00200	< 0.00200	42,500	29,600	17,000	5,100
		5/12/1999	---	---	---	---	19,800	11,100	7,200	---
		10/20/1999	0.01400	0.00450	< 0.00200	< 0.00400	19,300	13,600	7,800	2,300
	5/9/2000	---	---	---	---	31,500	21,000	18,000	---	
	11/1/2000	0.01600	< 0.00200	< 0.00200	< 0.00400	25,700	21,900	10,000	4,440	
	5/1/2001	---	---	---	---	32,800	20,000	15,000	---	
	10/23/2001	0.05900	< 0.00200	< 0.00200	< 0.00200	47,800	32,900	17,000	9,500	
	4/29/2002	---	---	---	---	34,200	25,500	15,000	---	
	11/6/2002	0.01300	< 0.00100	< 0.00100	< 0.00300	11,000	9,700	4,600	3,000	
	11/4/2003	0.00270	< 0.00200	< 0.00200	< 0.00600	7,950	3,470	4,520	1,740	

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-11 (cont'd)		11/10/2004	0.01930	< 0.00100	0.00053 J	< 0.00200	21,200	18,300	7,950	2,270
		5/23/2005	0.02220	< 0.00200	< 0.00200	< 0.00600	22,200	17,700	8,339	4,022
		12/13/2005	0.01870	< 0.00200	< 0.00200	< 0.00600	27,000	10,400	4,580	2,240
		3/6/2007	0.01100	< 0.00100	< 0.00100	< 0.00100	18,500	14,500	8,880	1,930
		11/13/2007	0.00320	< 0.00100	< 0.00100	< 0.00100	13,260	11,300	6,540	1,860
		11/18/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	12,540	10,100	5,570	1,950
		2/25/2010	0.00150	< 0.00100	< 0.00100	< 0.00100	50,300	11,700	6,450	2,120
		12/9/2010	< 0.00100	0.00290	< 0.00100	< 0.00100	22,500	48,300	21,000	8,430
		11/10/2011	0.00089 J	< 0.00100	< 0.00100	< 0.00300	13,000	10,100	4,070	1,290
		11/7/2012	0.00550	< 0.00100	< 0.00100	< 0.00300	45,600	39,600	21,200	9,160
		1/13/2014	0.00446	< 0.00030	< 0.00020	< 0.00023	52,200	29,700	22,500	9,880
		1/5/2015	0.01490	< 0.00030	< 0.00020	< 0.00023	36,900	23,800	17,700	6,160
		12/4/2015	0.02760	< 0.00020	< 0.00021	< 0.00037	56,200	70,900 H	23,000	7,240 B
		12/1/2016	0.00228	< 0.00020	< 0.00021	< 0.00037	45,800	40,400	20,000	5,810 B
		11/28/2017	0.01260	< 0.00020	< 0.00021	< 0.00037	65,600	39,900 H	30,500	10,700 B
ACW-12		2/19/1997	< 0.00050	< 0.00050	0.00150	< 0.00100	1,610	950	380	---
	D	2/19/1997	0.00290	< 0.00050	< 0.00050	< 0.00100	1,630	960	390	---
		5/8/1997	0.00300	0.00089	< 0.00050	< 0.00100	1,240	900	290	---
		8/20/1997	0.00120	< 0.00050	< 0.00050	< 0.00100	1,120	740	260	100
	D	8/20/1997	0.00140	< 0.00050	< 0.00050	< 0.00100	1,150	740	280	100
		10/23/1997	0.00140	0.00058	< 0.00050	< 0.00100	1,810	850	380	120
		2/24/1998	0.00730	< 0.00050	< 0.00050	< 0.00100	2,050	1,200	470	120
	D	2/24/1998	0.00670	< 0.00050	< 0.00050	< 0.00100	2,090	1,220	490	120
		6/1/1998	< 0.00050	0.00120	< 0.00050	< 0.00100	2,000	1,500	---	130
	D	6/1/1998	0.00440	0.00250	0.00610	0.00250	2,300	1,700	540	130
		8/11/1998	0.00200	< 0.00200	< 0.00200	< 0.00600	1,790	1,240	440	130
	D	8/11/1998	0.00200	< 0.00200	< 0.00200	< 0.00600	2,020	1,300	520	130
		10/22/1998	0.00600	< 0.00200	< 0.00200	< 0.00600	2,280	1,520	610	140
	D	10/22/1998	0.00600	< 0.00200	< 0.00200	< 0.00600	2,310	1,690	600	130

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-12 (cont'd)		2/23/1999	0.00600	< 0.00200	< 0.00200	< 0.00600	2,020	1,240	500	160
	D	2/23/1999	0.00500	< 0.00200	< 0.00200	< 0.00600	2,050	1,280	480	160
		5/14/1999	0.00400	< 0.00200	< 0.00200	< 0.00600	2,390	1,440	500	150
	D	5/14/1999	0.00400	< 0.00200	< 0.00200	< 0.00600	2,350	1,410	590	140
		8/11/1999	0.00530	< 0.00200	< 0.00200	< 0.00600	2,650	1,750	750	160
	D	8/11/1999	0.00240	< 0.00200	< 0.00200	< 0.00600	2,630	1,880	810	160
		10/22/1999	0.00470	< 0.00200	< 0.00200	< 0.00600	2,180	1,620	650	140
	D	10/22/1999	0.00440	< 0.00200	< 0.00200	< 0.00600	2,170	1,390	560	140
		2/22/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00200	1,950	1,260	680	130
		5/11/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	1,590	989	470	120
		8/7/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	1,800	1,270	460	110
		11/3/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	2,520	1,780	890	280
		2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	2,230	1,210	670	170
		5/3/2001	0.00240	< 0.00200	< 0.00200	< 0.00200	2,100	1,060	570	150
	D	5/3/2001	0.00210	< 0.00200	< 0.00200	< 0.00200	2,120	1,150	510	150
		8/1/2001	< 0.00200	< 0.00200	< 0.00200 Jc	< 0.00200	2,080	1,290	490	140
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,890	1,220	1,400	120
		2/20/2002	----	----	----	----	2,200	1,370	720	140
	R	2/20/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
		5/1/2002	0.00260	< 0.00200	< 0.00200	< 0.00200	2,030	1,180	490	130
	D	5/1/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00200	1,900	1,100	440	110
		11/7/2002	0.00370	< 0.00100	< 0.00100	< 0.00300	1,800	1,300	450	150
		11/6/2003	0.00100 J	< 0.00200	< 0.00200	< 0.00600	1,605	1,220	410	126
		11/11/2004	0.00180	< 0.00100	< 0.00100	< 0.00200	2,270	1,300	449	137
		12/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	2,090	1,130	393	131
		3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,980	1,650	529	134
		11/14/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,920	1,460	451	134
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	2,300	1,570	460	126
		2/24/2010	0.00260	< 0.00100	< 0.00100	< 0.00100	4,760	3,680	1,130	244

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-12 (cont'd)		12/8/2010	0.00160	< 0.00100	< 0.00100	< 0.00100	4,953	5,420	1,270	263
		11/9/2011	0.00250	< 0.00100	< 0.00100	< 0.00300	4,500	3,300	1,210	236
		11/6/2012	0.00440	< 0.00100	< 0.00100	< 0.00300	4,650	3,340	1,380	198
		1/10/2014	0.00363	< 0.00030	< 0.00020	< 0.00023	5,170	3,430	1,290	266
		1/5/2015	0.00062	< 0.00030	< 0.00020	< 0.00023	4,610	3,350	1,610	277
		12/1/2015	0.00023 J	0.00041	< 0.00021	< 0.00037	5,000	3,190 H	1,610	274 B
		12/1/2016	< 0.00018	< 0.00021	< 0.00021	< 0.00037	5,070	4,000	1,560	258 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	5,820	2,430	1,840	348 B
ACW-13		2/20/1997	< 0.00050	< 0.00050	0.00150	< 0.00100	681	440	53	---
		5/8/1997	0.00061	0.00058	< 0.00050	< 0.00100	643	460	57	---
	D	5/8/1997	0.00065	0.00062	< 0.00050	< 0.00100	630	460	52	---
		8/20/1997	< 0.00050	< 0.00050	< 0.00050	< 0.00100	654	440	55	79
		10/23/1997	0.00059	0.00076	< 0.00050	< 0.00100	728	400	50	84
		2/24/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	727	450	59	87
		6/1/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	700	450	---	85
		8/11/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	679	467	48	85
		10/22/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	686	439	47	87
		2/23/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	792	493	74	110
		5/14/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	693	403	45	86
		8/11/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	676	359	41	86
		10/22/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	674	436	48	89
		2/23/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00200	697	479	53	82
		5/11/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	697	459	47	88
		8/8/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	676	363	41	82
	D	8/8/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	662	381	44	84
		11/6/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	1,330	947	360	210
		2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	893	518	110	130
		5/7/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	685	444	57	88
		8/1/2001	< 0.00200	< 0.00200	< 0.00200 Jc	< 0.00200	694	402	42	86

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El Paso Natural Gas Company, LLC
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Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-13 (cont'd)	D	8/1/2001	< 0.00200	< 0.00200	< 0.00200 Jc	< 0.00200	690	439	45	80
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	690	422	42	78
		2/20/2002	< 0.00200	0.00210	< 0.00200	< 0.00200	680	389	44	78
	R	2/20/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
		5/1/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00200	760	407	54	78
		9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	807	643	50	80
	D	9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	789	603	130	83
		11/7/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	740	450	45	96
		3/28/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	772	502	47	57
		5/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	747	502	47	70
		8/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	661	460	42	79
		11/6/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	759	490	44	77
		2/26/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	724	476	43	81
		5/12/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	759	492	42	77
		8/24/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	660	496	45	78
		11/11/2004	0.00050 J	< 0.00100	< 0.00100	< 0.00200	987	558	50	79
		2/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,036	520	61	78
		5/24/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	811	447	32	70
		8/22/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	884	513	71	85
		12/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	917	551	172	83
	D	12/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	548	88	79
		2/13/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	906	551	93	81
		5/8/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	922	508	98	63
	D	5/8/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	505	94	70
		8/22/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	967	568	100	80
		3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	971	586	119	92
		5/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,025	651	127	84
		8/22/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,085	690	121	81
		11/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,012	855	130	87

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-13 (cont'd)		2/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,070	691	123	84
		6/9/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,100	639	122	89
	D	6/9/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	631	122	87
		8/13/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,110	688	131	75
		11/20/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,155	1,290	135	89
		3/3/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,109	666	98	90
	D	3/3/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	631	98	89
		5/19/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,088	668	134	88
		8/27/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,115	706	126	87
		2/19/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,000	662	169	89
		6/28/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	949	1,050	148	98
	D	6/28/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	1,060	145	92
		9/20/2010	< 0.00100	0.00041	< 0.00100	< 0.00100	1,062	783	158	95
	D	9/21/2010	< 0.00200	0.00027	< 0.00100	< 0.00100	---	732	166	94
		12/7/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,019	880	161	99
		2/16/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,020	888	194	100
		5/10/2011	< 0.00100	< 0.00200	< 0.00200	< 0.00600	1,019	682	192	99
	D	5/10/2011	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	714	198	101
		8/17/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,020	707	200	99
		11/9/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,140	709	200	90
		2/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,170	663	189	96
		5/8/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,150	663	186	98
		8/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,250	714	234	102
		11/6/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,230	760	228	111
		3/1/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,100	713	191	116
		6/28/2013	< 0.00014	< 0.00030	< 0.00020	< 0.00030	796	767	216	108
		10/2/2013	< 0.00014	< 0.00030	< 0.00014	< 0.00030	739	789	202	105
		1/9/2014	< 0.00014	< 0.00030	< 0.00014	< 0.00030	1,230	715	215	104
		3/31/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	1,530	904	302	103

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El Paso Natural Gas Company, LLC
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-13 (cont'd)		5/29/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	1,200	805	237	104
		9/10/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	1,270	904	271	111
		1/5/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	1,340	449	272	105
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	1,250	804	276	102
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,340	1,020	313	110
		9/30/2015	< 0.00018	< 0.00021	< 0.00020	< 0.00037	1,310	930	268	102
		12/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,320	966 H	301	109 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00013	< 0.00020	1,310	1,140	249 F1	105
		5/18/2016	< 0.00056	< 0.00055	< 0.00013	< 0.00020	1,340	1,260	284	103
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,300	1,090	293	107
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,330	944	299	112
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,350	1,010	246 B	116
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,350	1,190	327	116
ACW-14		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,430	1,100	329	121
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,550	1,160	363	137 B
		2/20/1997	< 0.00050	< 0.00050	< 0.00050	< 0.00100	830	570	86	---
		5/7/1997	0.00088	0.00110	0.00052	< 0.00100	746	480	72	---
		8/20/1997	< 0.00050	< 0.00050	< 0.00050	< 0.00100	691	460	80	81
		10/22/1997	< 0.00050	0.00120	< 0.00050	0.00150	747	440	71	81
		2/24/1998	< 0.00050	< 0.00050	< 0.00050	0.00058 J	755	470	40	87
		5/13/1998	0.00075	< 0.00050	< 0.00050	< 0.00100	880	530	58	97
		8/11/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	730	496	160	90
		10/21/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	771	466	71	97
		2/23/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	859	524	88	110
		5/13/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	764	500	62	95
		8/9/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	791	471	58	91
		10/21/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	753	469	68	98
		2/22/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00200	738	499	53	97
		5/10/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	761	485	61	110

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Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-14 (cont'd)		8/7/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	750	439	65	95
		11/1/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	1,630	1,090	420	300
		2/21/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	883	517	100	110
		5/3/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	809	499	89	100
		8/2/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	771	476	70	89
		10/24/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	761	449	71	82
		2/19/2002	< 0.00200	0.00310	< 0.00200	0.00710	759	427	65	82
	R	2/19/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
		4/30/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	844	505	74	90
		9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	749	482	58	81
		11/4/2002	0.00200	< 0.00100	< 0.00100	< 0.00300	840	670	76	97
	D	11/4/2002	0.00180	< 0.00100	< 0.00100	< 0.00300	830	550	73	99
		3/26/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	768	508	55	62
		5/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	822	570	67	78
	D	5/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	822	534	71	76
		8/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	746	494	59	88
	D	8/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	494	62	89
		11/5/2003	0.00180 J	< 0.00200	< 0.00200	< 0.00600	825	550	67	88
		2/26/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	752	512	52	90
	D	2/26/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	500	51	89
		5/12/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	786	490	57	87
		8/24/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	747	520	54	86
		11/12/2004	< 0.00100	< 0.00100	< 0.00100	< 0.00200	926	572	55	89
		2/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,081	520	54	88
	D	2/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	528	60	83
		5/24/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	820	508	64	82
		8/22/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	846	526	58	87
		12/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	869	539	53	92
		2/13/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	854	512	59	81

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-14 (cont'd)	D	2/13/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	512	60	81
		5/9/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	826	474	64	75
		8/22/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	846	988 R H	50	80
	D	8/22/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	492	52	83
		3/7/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	807	531	56	86
	D	3/7/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	513	54	89
		5/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	868	558	62	87
		8/22/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	886	549	62	80
	D	8/22/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	598	64	77
		11/14/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	865	547	60	88
	D	11/14/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	526	61	86
		2/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	866	543	57	77
	D	2/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	574	56	84
		6/9/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	890	590	63	86
		8/13/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	900	611	69	76
	D	8/13/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	505	69	70
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	910	546	71	83
	D	11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	537	69	81
		3/3/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	922	519	52	87
		5/19/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,100	561	64	98
		8/27/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	988	603	62	86
		2/18/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,030	524	82	92
		6/29/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	794	< 10	63	93
		9/21/2010	< 0.00100	0.00026 J	< 0.00100	< 0.00100	1,000	705	98	95
		12/7/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,070	600	83	99
		2/16/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00100	987	853	162	105
		5/11/2011	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,033	605	145	105
		8/17/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	925	663	154	101
		11/9/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	840	544	74	90

Appendix D
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El Paso Natural Gas Company, LLC
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-14 (cont'd)		2/14/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,000	589	119	98
	D	2/14/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	994	601	120	97
		5/8/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,140	646	168	112
	D	5/8/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,140	665	166	108
		8/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,100	674	161	110
	D	8/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,060	615	143	111
		11/7/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,190	723	185	117
	D	11/7/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,220	748	198	115
		3/1/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,070	623	159	102
		6/28/2013	< 0.00014	< 0.00030	< 0.00020	< 0.00300	426	416	31	72
		10/5/2013	< 0.00014	< 0.00030	< 0.00020	< 0.00300	804	815	221	117
		1/9/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00020	1,110	660	154	116
		3/31/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00020	908	539	89	96
		5/29/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00020	984	615	139	103
		9/10/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	803	595	82	110
		12/30/2014	< 0.00030	< 0.00030	< 0.00020	< 0.00023	817	480	62	70
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	772	494	7	103
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	840	490	76	101
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	817	543	83	97
		12/2/2015	< 0.00018 H	< 0.00020 H	< 0.00021 H	< 0.00037 H	836	838 H	94	101 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00129	834	569	86	100
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00129	861	742	262	98
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	842	558	121	102
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	871	577	98	107
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	875	583	96 B	108
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	867	748	128	101
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	877	598	121	107
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	905	613	120	104 B
ACW-15		10/23/1999	0.00320	0.00530	< 0.00200	< 0.00400	1,010	587	180	130

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Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-15 (cont'd)		2/23/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00200	665	402	42	81
	D	2/23/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00200	660	394	42	82
		5/11/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	654	431	49	76
		8/8/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	605	340	35	77
		11/2/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	1,380	876	360	250
		2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	725	423	64	100
	D	2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	727	413	65	96
		5/7/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	629	416	52	80
	D	5/7/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	628	396	46	81
		8/2/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	627	397	82	76
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	627	393	56	72
		2/19/2002	< 0.00200	0.00340	0.00200	0.01100	629	369	27	74
	R	2/19/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
	D	2/19/2002	< 0.00200	< 0.00200	< 0.00200	0.00700	628	355	31	49
	R	2/19/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
		5/2/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00200	670	404	30	77
		9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	777	552	130	72
		11/8/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	640	380	30	85
	D	11/8/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	620	410	29	81
		3/28/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	700	472	31	55
		5/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	651	442	30	66
		8/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	650	438	29	77
		11/7/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	644	436	26	71
		2/26/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	600	410	27	75
		5/12/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	655	436	27	71
		8/24/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	587	382	26	74
		11/11/2004	< 0.00100	< 0.00100	< 0.00100	< 0.00200	760	468	29	74
		2/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	937	444	30	71
		5/24/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	655	513	61	79

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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-15 (cont'd)	D	5/24/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	458	34	72
		8/22/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	743	456	31	75
		12/14/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	754	452	32	74
		2/13/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	730	444	39	71
		5/8/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	721	377	33	68
		8/22/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	708	414	41	72
		3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	716	457	44	77
		5/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	794	514	43	77
		8/22/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	799	47	1	< 1
		11/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	752	520	50	78
		2/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	844	542	62	70
		6/9/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	840	538	56	76
		8/13/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	848	588	62	65
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	828	481	47	72
		3/3/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	857	491	50	82
		5/19/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	825	493	56	82
	D	5/19/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	482	65	80
		8/27/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	840	515	60	78
	D	8/27/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	502	46	79
		2/17/2010	---	---	---	---	839	337	31	47
		6/28/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	837	671	49	85
		9/20/2010	< 0.00100	0.00033 J	< 0.00100	< 0.00100	878	476	30	81
		12/9/2010	< 0.00100	0.00060 J	< 0.00100	< 0.00100	9,300	5,500	72	79
		2/16/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00100	857	710	135	87
	D	2/16/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00100	849	679	134	87
		5/10/2011	< 0.00200	< 0.00200	< 0.00200	< 0.00600	897	571	124	86
		8/17/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	589	440	37	81
	D	8/17/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	595	428	40	81
		11/9/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	711	462	49	76

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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-15 (cont'd)		2/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	939	539	124	87
		5/8/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	718	386	47	88
		8/14/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	999	531	146	96
		11/5/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,010	615	154	103
		3/1/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	992	649	160	90
		6/28/2013	< 0.00014	< 0.00030	< 0.00020	< 0.00023	675	613	160	94
		10/3/2013	< 0.00014	< 0.00030	< 0.00020	< 0.00023	691	720	189	93
		1/10/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	1,080	613	170	100
		3/31/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	792	487	67	82
		5/29/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	573	477	89	87
		9/10/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	755	469	75	88
		1/9/2015	< 0.00014	< 0.00030	< 0.00020	< 0.00023	782	449	56	86
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	724	454	67	101
		6/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	785	500	72	91
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	763	475	74	85
		12/2/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	599	407 H	68	67
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	774	565	86	89
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	865	770	116	86
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	815	588	123	90
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	876	582	122	92
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	864	575	84 B	95
ACW-16		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	880	771	126	90
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	898	635	133	92
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	940	640	168	94 B
		1/6/2015	0.00220	< 0.00030	< 0.00020	< 0.00023	24,400	15,100	10,700	4,010
ACW-16		12/3/2015	0.00185	0.00033 J	< 0.00021	0.00055 J	26,700	20,600 H	13,400	4,460
		12/1/2016	0.00224	0.00030 J	< 0.00021	< 0.00037	27,400	21,200	11,200	4,480 B
		11/28/2017	0.00243	0.00023 J	< 0.00021	< 0.00037	27,700	21,700	11,700	4,260 B
ACW-17		1/6/2015	< 0.00033	< 0.00030	< 0.00020	< 0.00023	609	7,960	5,500	1,680

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-17 (cont'd)		12/3/2015	0.00026 J	< 0.00020	< 0.00021	< 0.00037	14,000	10,800 H	5,950	1,760
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	14,400	11,100	5,520	1,670
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	15,100	11,600	6,420	1,700 B
ACW-18		1/6/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	104,000	64,400	49,700	26,200
		12/3/2015	0.00026 J	< 0.00020	< 0.00021	< 0.00037	102,000	105,000 H	42,900	27,300 B
		12/28/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	105,000	60,300	47,000	28,100 B
		11/28/2017	0.00062 J	< 0.00020	< 0.00021	< 0.00037	106,000	91,400	60,200	27,200 B
ACW-19		1/6/2015	0.07550	0.00064	0.00095	0.00345	3,470	2,180	972	539
		12/3/2015	0.08410	0.00156	0.00924	0.01480	3,970	2,560	1,080	641 B
		12/1/2016	0.06390	0.00052	0.00201	0.00217	4,110	2,520	1,050	587 B
		11/28/2017	0.04760	0.00057 J	0.00137	0.00224	4,600	2,960	1,320	645 B
ACW-20		1/12/2015	0.06820	0.00988	0.00986	0.00755	137,000	86,600	73,200	---
		12/3/2015	0.07080	0.00876	0.01290	0.00995	140,000	116,000 H	70,400	43,500
		12/1/2016	0.09420	0.01050	0.01740	0.01240	130,000	117,000	58,200	40,200
		11/28/2017	0.05530	0.00874	0.00503	0.00410	150,000	136,000	80,600	46,700 B
ACW-21		1/12/2015	0.07290	< 0.00150	0.01660	0.01040	2,010	1,010	410	144
		12/3/2015	0.77500	< 0.00396	0.04450	0.15400	1,990	1,280 H	414	146
		12/1/2016	0.06400	< 0.00396	0.06170	0.04380	2,050	1,270	380	150
		11/28/2017	0.05620	0.00037 J	0.00921	0.00220	1,890	1,280	572	144 B
ACW-22		12/2/2015	< 0.00018	0.00024 J	< 0.00021	< 0.00037	2,080	1,270 H	397	238 B
		12/2/2016	< 0.00018	0.00024 J	< 0.00021	< 0.00037	2,220	1,230	3,150	284 B
		11/28/2017	0.00027 J	0.00024 J	< 0.00021	< 0.00037	2,190	1,350	418	260 B
ACW-23		12/2/2015	< 0.00018	0.00302	< 0.00021	< 0.00037	2,820	1,940 H	646	291 B
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	3,030	1,930	682	343 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	3,150	2,100	761	326 B
ACW-24		12/2/2015	0.00152	0.00105	< 0.00021	< 0.00037	113,000	84,700 H	56,800	30,800
		12/2/2016	0.00129	< 0.00020	< 0.00021	< 0.00037	112,000	105,000	52,500	29,100 B
ACW-25		11/28/2017	0.00187	0.00033 J	< 0.00021	< 0.00037	115,000	110,000	64,000	29,600
		12/2/2015	0.10600	0.00105	0.00038 J	0.00227	34,300	22,600 H	15,700	4,490

Appendix D
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El Paso Natural Gas Company, LLC
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ACW-25 (cont'd)		12/2/2016	0.01660	0.00031	< 0.00021	< 0.00037	40,400	31,200	16,000	5,390
		11/28/2017	0.01890	< 0.00020	< 0.00021	< 0.00037	41,500	33,400 H	22,400	5,660
RW-01		11/3/2000	0.13000	0.04000	0.07300	0.12000	62,000	43,900	32,000	22,000
		11/9/2004	0.11400 R	0.02410	0.07030	0.06210	67,670	39,900	23,700	12,400
		12/15/2005	0.13600	0.02070	0.09050	0.09180	48,800	32,600	13,600	11,500
		3/5/2007	0.09300	0.02500	0.05900	0.07100	47,800	30,400	22,500	10,800
		11/12/2007	0.11000	0.04700	0.06900	0.08100	44,900	29,700	16,800	10,600
		11/17/2008	0.05700	0.03900	0.03700	0.05200	38,400	26,600	17,700	8,530
		2/19/2010	0.12000	0.10000	0.05600	0.08400	34,600	35,000	22,600	11,600
		12/7/2010	0.08600	0.06900	0.04600	0.07100	27,500	28,600	20,800	9,880
	D	12/7/2010	0.09400	0.07000	0.05000	0.07600	---	34,000	21,900	10,500
		11/9/2011	0.07360	0.05350	0.03340	0.05300	4,100	26,100	16,200	8,750
	D	11/9/2011	0.07680	0.05620	0.03500	0.05560	40,100	26,400	17,300	8,860
RW-02		11/3/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	7,340	5,660	2,800	680
		10/25/2001	---	---	---	---	8,380	5,050	2,400	---
		11/6/2002	0.00150	< 0.00100	< 0.00100	< 0.00300	8,700	5,800	3,500	1,400
		11/10/2004	0.00210	0.00048 J	< 0.00100	< 0.00200	5,870	7,000	2,850	1,220
		12/14/2005	0.00190 J	< 0.00200	< 0.00200	< 0.00600	8,450	5,060	2,280	1,100
		3/6/2007	0.00420	< 0.00100	< 0.00100	< 0.00100	10,320	7,200	3,950	1,510
		11/19/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	13,830	10,800	5,850	1,910
		2/24/2010	0.00400	< 0.00100	< 0.00100	< 0.00100	21,700	5,780	2,510	1,170
		12/9/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	11,340	8,620	3,840	1,590
		11/9/2011	0.00540	< 0.00100	< 0.00100	< 0.00300	10,100	6,140	2,990	1,450
RW-03		11/9/2011	0.00620	< 0.00100	< 0.00100	< 0.00300	10,100	6,640	3,030	1,360
		11/8/2012	0.09140	0.06060	0.02280	0.03980	88,400	74,000	58,200	27,200
ENSR-01		5/7/1997	0.00730	0.00370	0.00240	0.00200	8,620	5,200	3,200	---
		10/21/1997	0.01300	0.00630	0.00420	0.00560	13,800	7,600	4,400	---
		5/12/1998	0.01300	0.00460	0.00400	0.00440	12,000	6,700	3,600	---
		10/20/1998	---	---	---	---	12,400	7,590	4,200	---

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ENSR-01 (cont'd)		5/11/1999	---	---	---	---	14,700	8,450	5,500	---
		10/20/1999	---	---	---	---	12,400	6,290	4,100	---
		5/9/2000	---	---	---	---	12,800	7,420	6,200	---
		10/27/2000	---	---	---	---	10,200	6,690	3,800	---
	D	10/27/2000	---	---	---	---	10,600	7,140	4,000	---
		5/2/2001	---	---	---	---	19,200	10,200	7,600	---
		10/23/2001	---	---	---	---	15,300	8,050	5,100	---
	D	10/23/2001	---	---	---	---	11,400	6,070	3,600	---
		4/29/2002	---	---	---	---	9,480	4,770	3,800	---
		11/4/2002	0.01800	< 0.01000	< 0.01000	< 0.03000	12,000	7,600	4,500	1,900
		11/4/2003	0.01310	0.00120 J	0.00310	0.00310 J	6,510	2,260	2,600	2,710
		11/10/2004	0.01080	0.00110	0.00280	0.00200	5,800	3,900	1,920	881
	D	11/10/2004	0.01140 R	0.00130	0.00240	0.00170 J	---	3,150	1,420	823
		12/13/2005	0.00990	< 0.00200	0.00220	< 0.00600	5,530	2,740	1,120	969
		3/6/2007	0.00740	< 0.00100	0.00250	0.00240	4,860	4,010	2,230	882
		11/13/2007	0.01100	< 0.00100	0.00370	0.00190	7,430	2,830	1,230	1,040
		11/18/2008	0.00620	< 0.00100	0.00220	0.00130	7,690	3,270	1,680	1,140
		2/25/2010	0.00410	< 0.00100	0.00110	< 0.00100	13,890	3,760	1,640	1,330
	D	2/25/2010	0.00420	< 0.00100	0.00120	< 0.00100	---	3,760	1,630	1,240
		12/9/2010	0.01200	0.00140	0.00090 J	0.00120 J	22,500	9,210	4,620	2,310
	D	12/9/2010	0.01200	0.00025 J	< 0.00100	< 0.00100	---	7,670	4,690	2,370
		11/10/2011	0.00690	0.00063 J	0.00210	0.00200 J	10,600	5,680	3,120	1,840
	D	11/10/2011	0.00690	0.00066 J	0.00190	0.00190 J	11,800	6,520	3,500	2,010
		11/7/2012	0.00820	< 0.00100	0.00170	0.00100 J	11,800	7,480	3,940	2,300
		1/13/2014	0.00786	< 0.00030	0.00156	0.00106 J	13,600	6,240	4,410	2,420
		1/6/2015	0.00598	0.00039 J	0.00260	0.00111 J	6,610	2,850	2,260	982
		12/1/2016	0.01480	0.00047 J	0.00160	0.00137 J	21,800	15,100	8,620	4,410 B
		11/28/2017	0.01360	0.00055 J	0.00205	0.00124 J	20,700	16,400	8,280	3,740 B
ENSR-02		5/6/1997	0.25000	0.23000	0.11000	0.19000	50,000	27,000	17,000	---

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ENSR-02 (cont'd)		10/20/1997	0.13000	0.16000	0.07700	0.12000	57,900	30,000	17,000	---
		5/12/1998	---	---	---	---	38,000	21,000	13,000	---
		10/19/1998	---	---	---	---	44,800	30,000	18,000	---
		5/11/1999	---	---	---	---	49,100	31,200	18,000	---
		10/19/1999	---	---	---	---	28,900	16,600	9,400	---
		5/9/2000	---	---	---	---	42,900	26,700	18,000	---
		10/29/2001	---	---	---	---	42,000	25,100	13,000	---
		11/9/2004	0.07210 R	0.02840	0.01810	0.09380	35,500	22,500	12,900	7,840
		12/14/2005	0.04940	0.05340	0.02150	0.03290	34,400	20,600	10,400	7,810
		3/5/2007	0.01000	0.01200	0.00450	0.00730	33,300	22,100	12,400	7,840
		11/17/2008	0.07200	0.09600	0.03800	0.07000	39,200	24,200	18,200	8,190
	D	11/17/2008	0.07300	0.09900	0.03900	0.07200	---	24,000	15,500	7,260
		2/19/2010	0.03000	0.03000	0.01300	0.02280	33,600	15,400	9,560	5,260
ENSR-03		12/8/2010	0.02800	0.03800	0.00910	0.01650	11,000	15,300	8,500	5,780
		11/10/2011	0.00510	0.00810	0.00160	0.00300	16,300	9,620	7,100	3,340
		5/7/1997	0.00760	0.00330	0.00290	0.00300	2,050	1,500	650	---
	D	5/7/1997	0.00680	0.00310	0.00280	0.00290	1,990	1,400	480	---
		10/21/1997	0.00500	0.00250	0.00300	0.00410	2,230	1,300	580	---
		5/12/1998	0.00950	0.00340	0.00190	0.00270	2,400	1,400	610	---
	D	5/12/1998	0.01400	0.00440	0.00230	0.00440	2,200	1,300	550	---
		10/20/1998	---	---	---	---	2,260	1,580	590	---
	D	10/20/1998	---	---	---	---	2,240	1,290	540	---
		5/11/1999	---	---	---	---	2,490	1,370	500	---
	D	5/11/1999	---	---	---	---	2,480	1,380	610	---
		10/20/1999	---	---	---	---	2,390	1,630	600	---
	D	10/20/1999	---	---	---	---	2,390	1,560	590	---
		5/9/2000	---	---	---	---	2,360	1,580	710	---
	D	5/9/2000	---	---	---	---	2,410	1,580	710	---
		10/27/2000	---	---	---	---	2,410	1,870	640	---

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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
ENSR-03 (cont'd)		5/2/2001	---	---	---	---	2,480	1,240	610	---
	D	5/2/2001	---	---	---	---	2,490	1,270	680	---
		10/23/2001	---	---	---	---	2,480	1,300	620	---
		4/29/2002	---	---	---	---	2,500	1,350	580	---
	D	4/29/2002	---	---	---	---	2,370	1,390	490	---
		11/4/2002	0.00710	< 0.00500	0.02200	0.02500	2,100	1,400	520	190
		11/3/2003	0.00930	< 0.00200	0.01120	0.01140	2,020	1,460	471	174
		11/10/2004	0.01200	0.00042 J	0.00380	0.00340	2,310	1,810	561	168
		5/23/2005	0.01300	< 0.00200	0.00240	< 0.00600	2,330	1,510	523	180
		12/12/2005	0.01160	< 0.00200	0.00320	0.00270 J	2,450	1,240	564	191
	D	12/12/2005	0.01190	< 0.00200	0.00330	0.00270 J	---	1,240	558	176
		3/6/2007	0.00670	< 0.00100	0.01700	0.01800	2,150	1,460	536	158
		11/12/2007	0.01100	< 0.00100	0.02200	0.02200	2,360	1,630	477	150
		11/17/2008	0.00550	< 0.00100	0.01200	0.01300	2,100	1,390	422	126
		2/25/2010	0.00290	< 0.00100	0.00820	0.00560	2,390	1,550	364	150
		12/8/2010	0.01900	0.00073 J	0.01400	0.01949	8,000	2,060	552	177
		11/10/2011	0.00420	< 0.00100	0.00410	0.00290 J	1,990	1,150	393	1,630
		11/7/2012	0.04320	< 0.00100	0.00380	0.00620	2,280	1,320	476	173
		1/10/2014	0.03020	< 0.00030	0.00190	0.00714	2,370	1,430	495	173
		1/10/2015	0.01250	0.00087	0.00091	< 0.00023	2,790	1,760	750	173
		12/3/2015	0.00830	0.00113	0.00079 J	< 0.00037	2,740	1,850 H	811	191
		12/1/2016	0.01060	< 0.00020	0.00080 J	< 0.00037	2,800	1,840	741	185 B
Oxy Supply		5/13/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	800	480	120	65
		8/11/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	762	604	120	67
		10/20/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	734	488	100	---
		2/23/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	810	407	120	82
		5/13/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	808	468	120	71
		8/11/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	831	466	140	72
		10/22/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00400	788	490	130	73

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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
Oxy Supply (cont'd)		2/23/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00600	630	392	38	71
		5/11/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	835	504	120	72
		8/7/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	802	433	120	68
		11/2/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	662	475	120	71
		2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	805	442	130	68
		5/7/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	781	481	140	65
		8/1/2001	< 0.00200	< 0.00200	< 0.00200 Jc	< 0.00200	807	532	120	66
		10/25/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	822	500	120	64
		9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	827	552	34	60
		11/6/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	820	580	140	73
		3/26/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	870	556	162	53
		5/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	863	544	190	61
		8/19/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	786	500	126	64
		11/3/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	822	572	154	62
		2/25/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	830	548	136	70
		5/13/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	851	922	157	70
	D	5/13/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	568	162	67
		8/25/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	849	654	193	72
	D	8/25/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	650	200	73
		11/11/2004	< 0.00100	< 0.00100	< 0.00100	< 0.00200	984	588	135	66
		2/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,226	397	29	64
		5/25/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	935	611	147	63
		8/23/2005	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00600 H	1,190	650	217	84
		12/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,238	696	228	85
		2/14/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,198	635	213	76
		5/8/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,098	513	171	71
		8/23/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	980	556 R H	168	66
		3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,036	730	199	74
	D	3/8/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	702	199	75

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
Oxy Supply (cont'd)		5/16/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,094	699	202	73
	D	5/16/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	730	201	75
		8/23/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,159	701	186	68
		11/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,059	796	188	71
		4/1/2014	< 0.00014	< 0.00030	< 0.00022	< 0.00023	1,480	827	287	102
		5/29/2014	< 0.00014	< 0.00030	< 0.00022	< 0.00023	1,370	976	281	103
		9/10/2014	< 0.00014	< 0.00030	< 0.00022	< 0.00023	1,130	736	222	93
		1/12/2015	< 0.00014	< 0.00030	< 0.00022	< 0.00023	1,450	760	297	105
		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	1,340	845	286	89
		6/3/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,450	1,000	298	103
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,330	872	440	101
		12/8/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,230	970	230	99 B
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	1,400	1,050	234	100
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	1,410	1,200	262	99
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,200	800	221	92
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,160	702	201	92
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,180	730	201 B	100
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,370	1,050	290	107
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,410	980	264	104
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	1,390	924	289	111 B
EPNG-01		5/8/1997	0.00056	0.00055	< 0.00050	< 0.00100	718	---	---	---
		10/23/1997	< 0.00050	< 0.00050	< 0.00050	< 0.00100	890	470	91	---
		5/14/1998	---	---	---	---	850	500	67	---
	D	5/14/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	860	520	67	---
		10/22/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	994	659	56	---
		5/14/1999	---	---	---	---	846	469	70	---
		10/23/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00600	891	540	3	---
		10/27/2000	---	---	---	---	850	603	94	---
		10/29/2001	---	---	---	---	890	523	65	---

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
EPNG-01 (cont'd)		11/8/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	940	600	60	91
		11/7/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	733	600	62	81
		11/12/2004	< 0.00100	< 0.00100	< 0.00100	< 0.00200	963	516	68	88
		12/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,103	674	52	62
		3/9/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	747	485	58	80
		11/16/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	738	851	52	70
	D	11/16/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	670	52	71
		11/20/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,118	674	71	76
	D	11/20/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	670	71	76
		2/24/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	1,060	420	63	89
		12/9/2010	0.00030 J	0.00160	0.00320	0.00293	2,300	980	74	87
		11/10/2011	0.00060 J	< 0.00100	< 0.00100	< 0.00300	962	573	61	80
		11/7/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	982	607	65	97
	D	11/7/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	1,010	617	68	96
		1/12/2015	< 0.00030	< 0.00030	< 0.00020	< 0.00023	2,790	414	64	92
		12/4/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,140	806 H	201	164 B
		12/1/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	820	522	77	103 B
		11/28/2017	< 0.00018	< 0.00020	< 0.00021	< 0.00037	1,350	894	274	113 B
Doom Supply		2/24/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	634	410	38	64
		5/13/1998	< 0.00050	< 0.00050	< 0.00050	< 0.00100	640	410	30	
		8/10/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	629	450	34	71
		10/20/1998	< 0.00200	< 0.00200	< 0.00200	< 0.00600	636	464	35	69
		2/23/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	627	364	31	72
		5/13/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	630	381	34	72
		8/11/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00200	629	372	30	73
		10/21/1999	< 0.00200	< 0.00200	< 0.00200	< 0.00400	617	400	32	77
		2/23/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00600	814	506	130	69
		5/10/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	619	417	31	72
		8/14/2000	< 0.00500	< 0.00500	< 0.00500	< 0.01000	597	400	28	4

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
Doom Supply (cont'd)		11/2/2000	< 0.00200	< 0.00200	< 0.00200	< 0.00400	530	375	32	79
		2/20/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00400	619	372	33	67
		5/3/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00200	615	419	30	73
		8/1/2001	< 0.00200	< 0.00200	< 0.00200 Jc	< 0.00200	618	374	28	66
		10/29/2001	< 0.00200	< 0.00200	< 0.00200	< 0.00600	622	396	28	64
		2/20/2002	< 0.00200	0.01900	0.00390	0.02400	620	373	31	65
	R	2/20/2002	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00200 H	---	---	---	---
		3/27/2002	---	---	---	---	---	---	---	---
		5/2/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00200	624	351	30	65
		9/25/2002	< 0.00200	< 0.00200	< 0.00200	< 0.00400	626	411	68	63
		11/5/2002	< 0.00100	< 0.00100	< 0.00100	< 0.00300	620	470	29	70
		3/26/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	585	386	30	51
		5/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	602	410	36	63
		8/20/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	561	366	31	66
		11/6/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	6	406	28	65
	D	11/6/2003	< 0.00200	< 0.00200	< 0.00200	< 0.00600	---	398	29	63
		2/25/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	583	388	28	67
		5/13/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	609	396	3	63
		8/25/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	567	390	43	64
		11/15/2004	< 0.00200	< 0.00200	< 0.00200	< 0.00600	602	404	28	62
		2/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	784	659	84	74
		5/25/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	619	403	29	58
		8/23/2005	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00600 H	652	384	29	66
	D	8/23/2005	< 0.00200 H	< 0.00200 H	< 0.00200 H	< 0.00600 H	---	384	29	66
		12/15/2005	< 0.00200	< 0.00200	< 0.00200	< 0.00600	641	408	29	69
		2/14/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	645	384	28	60
		5/9/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	635	316	30	57
		8/23/2006	< 0.00200	< 0.00200	< 0.00200	< 0.00600	641	374	31	62
		3/6/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	631	415	32	66

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
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Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
Doom Supply (cont'd)		5/16/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	699	446	34	63
		8/23/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	723	426	31	59
		11/15/2007	< 0.00100	< 0.00100	< 0.00100	< 0.00100	619	447	31	63
		2/20/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	700	417	31	66
		6/10/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	669	451	35	67
		8/12/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	760	461	34	57
		11/18/2008	< 0.00100	< 0.00100	< 0.00100	< 0.00100	735	390	35	61
		3/4/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	641	485	29	65
		8/26/2009	0.00230	< 0.00100	< 0.00100	< 0.00100	721	426	32	65
		9/17/2009	< 0.00100	< 0.00100	< 0.00100	< 0.00100	---	---	---	---
		2/19/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	765	409	36	57
		6/28/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	642	215		66
		9/21/2010	< 0.00100	0.00028 J	< 0.00100	< 0.00100	661	449	30	64
		12/8/2010	< 0.00100	< 0.00100	< 0.00100	< 0.00100	8,490	930	33	68
		2/16/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00100	614	457	33	66
		5/11/2011	< 0.00200	< 0.00200	< 0.00200	< 0.00600	1,159	395	30	62
		8/17/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	569	569	30	65
		11/10/2011	< 0.00100	< 0.00100	< 0.00100	< 0.00300	635	250	29	60
		2/14/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	637	373	30	64
		5/8/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	646	347	33	67
		8/13/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	650	374	31	66
		11/5/2012	< 0.00100	< 0.00100	< 0.00100	< 0.00300	636	409	36	60
		3/5/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	627	408	31	69
		6/28/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	426	416	31	72
		10/5/2013	< 0.00100	< 0.00100	< 0.00100	< 0.00300	387	443	29	68
		4/1/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	659	403	31	67
		5/29/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	592	416	29	68
		9/10/2014	< 0.00014	< 0.00030	< 0.00020	< 0.00023	617	351	34	68
		1/12/2015	< 0.00014	< 0.00030	< 0.00020	< 0.00023	609	423	28	62

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
Doom Supply (cont'd)		3/4/2015	< 0.00033	< 0.00033	< 0.00020	< 0.00023	587	404	29	65
		6/3/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	646	374	30	0
		9/30/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	616	411	30	66
		12/16/2015	< 0.00018	< 0.00020	< 0.00021	< 0.00037	643	378	30	66
		3/16/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	617	388	25	66
		5/18/2016	< 0.00056	< 0.00055	< 0.00129	< 0.00198	639	667	36	60
		8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	625	412	57	64
	D	8/17/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	634	424	57	65
		12/2/2016	< 0.00018	< 0.00020	< 0.00021	< 0.00037	635	399	43	66
		3/14/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	628	429	30 B	70
		6/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	627	577	44	65
		9/21/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	636	438	43	64
		11/28/2017	< 0.00018 U	< 0.00020 U	< 0.00021 U	< 0.00037 U	665	541	20	67
PTP-01		5/7/1997	0.03800	0.00051	0.02200	0.00840	2,420	1,500	490	---
		10/21/1997	0.00790	< 0.00050	0.01800	0.00310	2,250	1,400	470	---
		5/12/1998	0.06200	0.00160	0.02100	0.01300	2,300	1,400	480	---
		10/20/1998	0.00000	---	---	---	2,090	1,410	380	---
		5/11/1999	0.00000	---	---	---	2,250	1,240	330	---
		10/20/1999	0.00000	---	---	---	2,300	1,630	460	---
		5/9/2000	0.00000	---	---	---	2,210	1,400	510	---
		10/27/2000	0.00000	---	---	---	2,050	1,570	530	---
		5/2/2001	0.00000	---	---	---	2,370	1,240	520	---
		10/23/2001	0.00000	---	---	---	2,370	1,280	550	---
		4/29/2002	0.00000	---	---	---	2,390	1,400	500	---
		11/4/2002	0.05000	< 0.01000	0.01500	0.02400	2,000	690	480	170
		11/3/2003	0.02180	< 0.00200	0.01350	0.00880	2,130	1,380	469	190
		11/10/2004	0.01360	< 0.00100	0.01870	0.00960	2,300	1,560	496	167
		12/12/2005	0.01370	0.00160 J	0.02250	0.02640	2,360	1,140	442	192
		3/6/2007	0.01900	< 0.00100	0.01500	0.03450	2,150	1,280	397	222

Appendix D
Historical Groundwater Analytical Results
El Paso Natural Gas Company, LLC
Jal No. 4 Gas Plant
Lea County, New Mexico

Well ID	QA/QC	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Total Xylenes mg/L	Specific Conductance µmhos/cm	Total Dissolved Solids mg/L	Chloride mg/L	Sodium mg/L
Regulatory Limit			0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	--	1,000 mg/L	250 mg/L	--
PTP-01 (cont'd)		11/12/2007	0.01900	< 0.00100	0.02000	0.03130	2,200	1,380	348	197
		11/17/2008	0.01100	< 0.00100	0.02400	0.02620	2,110	1,250	351	145
		2/25/2010	0.00430	< 0.00100	0.01900	0.01400	2,050	1,120	265	183
		12/8/2010	0.00260	0.00096 J	0.01900	0.00910	7,000	15,200	336	176
		11/10/2011	0.00310	< 0.00100	0.01350	0.01570	2,050	992	349	165
		11/8/2012	< 0.00100	< 0.00100	0.00460	< 0.00300	1,820	1,110	331	140
		1/10/2014	0.00120	< 0.00030	0.00140	0.00809	1,890	1,050	278	174
		1/6/2015	< 0.00030	0.00180	0.00631	0.00053	2,230	1,260	519	162
Injection Well		11/28/2017	0.00061 J	< 0.00030	0.00182	0.00100 J	2,140	1,480	528	178 B
		11/9/2004	0.08070	0.01400	0.02560	0.02510	---	20,300	11,300	6,010
		12/15/2005	0.08440	0.02040	0.04050	0.04040	36,800	23,800	7,850	8,620
		3/6/2007	0.05300	0.03200	0.13000	0.03610	29,400	19,200	13,900	6,690
		11/16/2007	0.08000	0.03600	0.06800	0.06200	37,900	26,900	15,600	9,260
		11/20/2008	0.05200	0.03800	0.08200	0.03970	23,600	17,300	10,500	5,250
		2/19/2010	0.02200	0.01300	0.02300	0.01560	19,600	11,000	7,440	3,700
		12/8/2010	0.07200	0.05300	0.09000	0.05900	19,000	22,900	14,300	7,240

Notes:

< : Denotes a sample value of less than the MDL

--- : No analysis performed

Bold Font: Indicates a detection above the laboratory detection limit

Bold Font: Indicates regulatory limit exceedance

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 not detected at or above the MDL

D: Indicates a duplicate sample

H: Sample was prepped or analyzed beyond the specified holding time

F1: Indicates the MS and/or MSD recovery is outside of acceptance limits