



**Jason Michelson**  
Operations Lead - Central

**Chevron Environmental Management and Real Estate Company**  
1500 Louisiana Street, #38116  
Houston, Texas 77002  
Work: 832-854-5601  
Cell: 281-660-8564  
jrmichelson@chevron.com

Accepted for the record  
12/12/2022

March 11, 2021

W

Mr. Bradford Billings  
EMNRD/OCD  
5200 Oakland, NE, Suite 100  
Albuquerque, NM 87113

**Re: Former Eunice North Gas Plant  
2020 Annual Groundwater Monitoring Report  
Eunice, Lea County, New Mexico  
NMOCID ID: fGP00000000003  
TEXACO EXPLORATION & PROD INC - OGRID [22345]**

Dear Mr. Billings,

Please find enclosed the 2020 Annual Groundwater Monitoring Report, prepared for the Former Eunice North Gas Plant, in Eunice, New Mexico.

The Groundwater Monitoring Report was prepared by Arcadis U.S., Inc. (Arcadis) on behalf of Chevron Environmental Management Company (CEMC) for Chevron U.S.U. Inc.

Please do not hesitate to call Rebecca Andresen with Arcadis at 206-726-4717 or myself at 832-854-5601, should you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Jason Michelson".

Jason Michelson

cc Amy Barnhill, Chevron/MCBU



Chevron Environmental Management Company

# 2020 ANNUAL GROUNDWATER MONITORING REPORT

Former Eunice North Gas Plant  
Eunice, Lea County, New Mexico  
NMOCD ID: fGP000000000003

TEXACO EXPLORATION & PROD INC - OGRID [22345]

March 15, 2020

2020 ANNUAL GROUNDWATER MONITORING REPORT

**2020 ANNUAL  
GROUNDWATER  
MONITORING REPORT**

Former Eunice North Gas Plant  
Eunice, Lea County, New Mexico  
NMOCD ID: fGP000000000003  
TEXACO EXPLORATION & PROD INC  
OGRID [22345]

Prepared for:  
Chevron Environmental  
Management Company

Prepared by:  
Arcadis U.S., Inc.  
630 Plaza Drive  
Suite 200  
Highlands Ranch  
Colorado 80129  
Tel 720 344 3500  
Fax 720 344 3535

Our Ref.:  
30049577

Date:  
March 15, 2020

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



---

Steve Rice  
Client Program Manager



---

Rebecca Andresen  
Project Manager



---

Sonja Zabienski  
Assistant Project Manager

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*



## 2020 ANNUAL GROUNDWATER MONITORING REPORT

**CONTENTS**

1	Introduction .....	1-1
2	Groundwater Monitoring Activities .....	2-1
2.1	Groundwater Sampling Methodology .....	2-1
2.2	Groundwater Gauging .....	2-1
2.3	Groundwater Analytical Results .....	2-2
2.3.1	Benzene, Toluene, Ethylbenzene, and Xylenes .....	2-2
2.3.2	Chloride and Total Dissolved Solids .....	2-3
2.3.3	Dissolved Metals .....	2-3
2.4	Chromium and Chloride Trend Analysis .....	2-4
2.4.1	Mann-Kendall Methodology .....	2-4
2.4.2	Dissolved Chromium Trend Analysis Results .....	2-5
2.4.3	Chloride Trend Analysis Results .....	2-6
3	Summary .....	3-1
4	References .....	4-1

**TABLES**

Table 1	Summary of 2020 Groundwater Monitoring Activities
Table 2	Spring 2020 Field Parameters
Table 3	Fall 2020 Field Parameters
Table 4	2020 Groundwater Elevations
Table 5	Spring 2020 BTEX Analytical Data
Table 6	Fall 2020 BTEX Analytical Data
Table 7	Spring 2020 Metals, Chloride, and Total Dissolved Solids Analytical Data
Table 8	Fall 2020 Metals, Chloride, and Total Dissolved Solids Analytical Data

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

### FIGURES

Figure 1	Site Location Map
Figure 2	Well Location Map and Monitoring Plan
Figure 3	Potentiometric Surface Map – Spring 2020
Figure 4	Chloride Isoconcentration Map – Spring 2020
Figure 5	Chloride Isoconcentration Map – Fall 2020
Figure 6	Dissolved Chromium Isoconcentration Map – Spring 2020
Figure 7	Dissolved Chromium Isoconcentration Map – Fall 2020
Figure 8	Dissolved Hexavalent Chromium Isoconcentration Map – Spring 2020
Figure 9	Dissolved Hexavalent Chromium Isoconcentration Map – Fall 2020

### APPENDICES

Appendix A	Site Background Information
Appendix B	Geologic Cross Sections
Appendix C	Historical Groundwater Elevations
Appendix D	Laboratory Analytical Reports and Data Validation Review
Appendix E	Historical Analytical Data (through 2017)
Appendix F	Historical Analytical Data (2017 to current)
Appendix G	2020 Mann-Kendall Trend Analysis

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

**ACRONYMS AND ABBREVIATIONS**

amsl	above mean sea level
Arcadis	Arcadis U.S., Inc.
BTEX	benzene, toluene, ethylbenzene, and xylenes
CV	coefficient of variation
DRO	diesel-range organics
ft/ft	foot per foot
GRO	gasoline-range organics
HS	HydraSleeve™
LNAPL	light nonaqueous phase liquid
mg/L	milligram per liter
report	2020 Annual Groundwater Monitoring Report
S	sum of trend
Site	former Eunice North Gas Plant, located in Eunice, Lea County, New Mexico
TDS	total dissolved solids
USEPA	United States Environmental Protection Agency
WQCC	Water Quality Control Commission

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

## 1 INTRODUCTION

On behalf of Chevron Environmental Management Company, Arcadis U.S., Inc. (Arcadis) prepared this 2020 Annual Groundwater Monitoring Report (report) to summarize semiannual groundwater monitoring activities conducted in 2020 at the former Eunice North Gas Plant, located in Eunice, Lea County, New Mexico (Site). Data presented in this report were collected during two semiannual groundwater monitoring events conducted during March and September 2020.

The Site is located approximately 0.5 mile north of Eunice, New Mexico, in the southern half of the southeast quarter of the northeast quarter of Section 28, Township 21 South, Range 27 East. The approximately 30-acre Site is bordered by North Main Street to the east and residential areas to the south. The surrounding area is mostly flat, undeveloped grazing land with oil and gas production infrastructure. The Site Location Map is shown on Figure 1. The Well Location Map and Monitoring Plan is shown on Figure 2 and provides additional site details. Additional site background information is provided in Appendix A.

The Site and surrounding area are underlain by the Ogallala Formation, which is bounded by claystones, sandstones, and siltstones from the Triassic Chinle Formation. The base of the aquifer contains 5 to 10 feet of gravel, sand, and clay overlain by red and yellow sandstones. Geological cross sections are provided in Appendix B.

Construction of a full-scale groundwater remediation system is underway at the Site to address chloride and other site-specific constituents of concern.

2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

## 2 GROUNDWATER MONITORING ACTIVITIES

Groundwater at the Site is monitored semiannually from a network of 83 wells (Arcadis 2020). A Groundwater Monitoring Reduction Workplan was submitted in July 2020 and implemented during the second semiannual event. The spring monitoring event included sampling and gauging 80 wells and the fall event included a reduced set of 32 wells. Well locations and sampling frequency are shown on Figure 2. Table 1 presents a summary of 2020 groundwater monitoring activities. Arcadis performed semiannual groundwater sampling events on March 9 through 13 and September 23 through 28, 2020.

### 2.1 Groundwater Sampling Methodology

Representative groundwater samples were collected within the screened interval of each well under undisturbed conditions using the no-purge HydraSleeve™ (HS) method. After samples were collected, new HS samplers were deployed and remained in the wells until the next monitoring event.

Field parameters including temperature, pH, dissolved oxygen, oxidation-reduction potential, specific conductivity, and turbidity were recorded prior to sample collection using a downhole probe. Samples collected for dissolved metals and dissolved hexavalent chromium were filtered in the field using a 0.45-micron filter. The March and September 2020 field parameter readings are presented in Tables 2 and 3, respectively.

### 2.2 Groundwater Gauging

During both semiannual monitoring events, depth to groundwater and depth to light nonaqueous phase liquid (LNAPL), if present, were gauged in accessible wells using a water level meter, or an oil-water interface probe if LNAPL was anticipated, and measurements were recorded from the top of casing. A potentiometric surface map of the spring 2020 elevations is shown on Figure 3. During the spring event, five wells (IW024, MW016A, MW044, MW053SA, and MW060) were not accessible for gauging (Table 1). During the fall event, three wells (MW016A, MW053SA, and MW078SA) were not accessible for gauging. Historical groundwater elevations are presented in Appendix C. Data collected during the 2020 semiannual monitoring events indicate the following:

- Groundwater elevations ranged from 3,354.05 feet above mean sea level (amsl; MW086SA) to 3394.08 feet amsl (MW010) during the March 2020 semiannual gauging event.
- Groundwater elevation ranged from 3,353.51 feet amsl (MW086SA) to 3,391.17 feet amsl (MW032) during the September 2020 semiannual gauging event.
- Groundwater elevations during the 2020 period appear to be consistent with historical levels, with groundwater flow to the northeast.
- Groundwater elevation data for the sampling events are presented in Table 4, with historical elevation data provided in Appendix C. The annual groundwater potentiometric surface map for March 2020 is shown on Figure 3.

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

- The calculated average gradient is approximately 0.005 foot per foot (ft/ft) to the northeast; however, the gradient steepens from less than 0.001 ft/ft at the upgradient end of the plume to approximately 0.01 ft/ft at the downgradient end of the plume.
- LNAPL was measured in MW006 during the spring monitoring event at a thickness of 0.25 foot and sheen was observed during the fall monitoring event in 2020. LNAPL has been intermittently measured in MW006 since 2012, with thicknesses ranging from sheen observations to 3.55 feet. MW006 is located within the site boundaries in the northeast, near the former location of a buried metal sump that was removed in 2003. Approximately 740 cubic yards of hydrocarbon-impacted soil were removed and the excavation was backfilled. According to the 2015 Annual Groundwater Monitoring Report (GHD 2016), LNAPL had been observed periodically in MW005 and MW006 since the excavation, and unspecified LNAPL remediation and recovery was performed from 2004 to 2011.

## 2.3 Groundwater Analytical Results

In 2020, groundwater samples were collected from 74 wells during the spring monitoring event and from 28 wells during the fall monitoring event. Additionally, seven duplicate samples were collected during the spring monitoring event and three duplicate samples were collected during the fall monitoring event for quality control purposes. During the events, six wells were not sampled that were included in the sampling plan (Table 1), for the following reasons:

- *MW006*. LNAPL was present in the monitoring well during spring and fall.
- *MW016A*, *MW053SA*, and *MW-78SA*. These monitoring wells were inaccessible due to a locked gate.
- *MW044*. The monitoring well was buried and inaccessible.
- *MW067SA*. This monitoring well had insufficient water in HS for sampling due to a potential obstruction.

Samples were sent to Xenco Laboratories in Midland, Texas for analysis of dissolved metals; total dissolved solids (TDS); chloride; benzene, toluene, ethylbenzene, and xylenes (BTEX); diesel-range organics (DRO); and gasoline-range organics (GRO). Analytical results from 2020 were compared to the New Mexico Water Quality Control Commission (WQCC) groundwater standards and are presented in Tables 5 through 8. Laboratory reports and data validation results are provided in Appendix D. Cumulative summary tables of groundwater analytical results from 1996 through 2017, and 2017 through present are provided in Appendices E and F, respectively.

### 2.3.1 Benzene, Toluene, Ethylbenzene, and Xylenes

Groundwater samples collected from six well locations during the spring 2020 monitoring event and two locations during the fall 2020 monitoring event were analyzed by United States Environmental Protection Agency (USEPA) Methods 8021B for BTEX and 8015B for DRO and GRO (Table 1). During the spring 2020 monitoring event, benzene was detected at a concentration greater than the WQCC groundwater



## 2020 ANNUAL GROUNDWATER MONITORING REPORT

standard of 0.005 milligram per liter (mg/L) in samples collected from one well (MW037 at 0.210 J mg/L).<sup>1</sup> Results for the samples collected for ethylbenzene, toluene, and xylenes analysis were less than the respective standards. Neither of the locations sampled during the fall 2020 monitoring event exceeded the WQCC for BTEX. There are no WQCC groundwater standards established for DRO or GRO. Results are presented in Tables 5 and 6.

### 2.3.2 Chloride and Total Dissolved Solids

Groundwater samples collected from 74 wells during the spring monitoring event and from 28 wells during the fall were analyzed by USEPA Methods 300/300.1 and 2540C for chloride and TDS, respectively (Table 1). Figures 4 and 5 present chloride isoconcentrations for the spring and fall 2020 monitoring events, respectively. Results are summarized as follows:

- *Chloride*. The WQCC standard of 250 mg/L was exceeded at 63 of 74 locations, with a maximum concentration of 10,500 mg/L (MW068 and MW069) in spring 2020. The WQCC standard was exceeded at 26 of 28 locations with a maximum concentration of 10,600 mg/L (MW068) in fall 2020.
- *TDS*. The WQCC standard of 1,000 mg/L was exceeded at 66 of 74 locations, with a maximum concentration of 17,200 mg/L (MW068) in spring 2020. The WQCC standard was exceeded at 27 of 28 locations with a maximum concentration of 16,600 mg/L (MW068) in fall 2020.

Results for the spring and fall 2020 sampling events are presented in Tables 7 and 8, respectively. Historical results are provided in Appendices E and F.

### 2.3.3 Dissolved Metals

Groundwater samples were collected from 74 well locations in spring 2020 and 28 well locations in fall 2020 and were analyzed by USEPA Method 6020A for dissolved arsenic, dissolved total chromium, dissolved iron, and dissolved manganese; and by USEPA Method 7196A for dissolved hexavalent chromium (Table 1). Figures 6 through 9 show dissolved chromium and dissolved hexavalent chromium isoconcentrations for the spring and fall monitoring events. Results are summarized as follows:

- *Dissolved arsenic*. The updated WQCC standard of 0.01 mg/L was exceeded in 50 of 74 locations in spring 2020, with a maximum concentration of 0.0754 mg/L (MW037). The WQCC standard was exceeded at 16 of 28 locations in fall 2020, with a maximum concentration of 0.0194 mg/L (MW067SA).
- *Dissolved total chromium*. The WQCC standard of 0.05 mg/L was exceeded in 33 of 74 locations, with a maximum concentration of 3.59 mg/L (MW058) in spring 2020. The WQCC standard was exceeded at 14 of 28 locations, with a maximum concentration of 3.40 [3.42] mg/L (MW095) in fall 2020.<sup>2</sup> Figures 6 and 7 show dissolved chromium isoconcentrations during the spring and fall 2020 events, respectively.

---

<sup>1</sup> J qualifier indicates an estimated concentration.

<sup>2</sup> Field duplicate results are presented in brackets.

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

- *Dissolved hexavalent chromium.* The WQCC standard of 0.05 mg/L was exceeded in 31 of 74 locations, with a maximum concentration of 4.08 mg/L (MW058) in spring 2020. It should be noted that this result exceeds historical dissolved hexavalent chromium concentrations at this location, and total dissolved chromium at the same location was flagged by the lab. The WQCC standard was exceeded at 12 of 28 locations, with a maximum concentration of 3.34 [3.39 J] mg/L (MW095) in fall 2020. Figures 7 and 8 show dissolved hexavalent chromium isoconcentrations during the spring and fall 2020 events, respectively.
- *Dissolved iron.* The WQCC standard of 1 mg/L was exceeded in 10 of 74 locations, with a maximum concentration of 43.9 mg/L (MW008M) in spring 2020. The WQCC standard was not exceeded during the fall 2020 monitoring event.
- *Dissolved manganese.* The WQCC standard of 0.2 mg/L was exceeded in 14 of 74 wells, with a maximum concentration of 12.5 D<sup>3</sup> mg/L (MW060) in spring 2020.<sup>3</sup> The WQCC standard was exceeded at three of 28 locations, with a maximum concentration of 2.62 mg/L (MW068) in fall 2020.

Analytical results for the spring and fall 2020 sampling events are presented in Tables 7 and 8, respectively. Historical results are provided in Appendices E and F.

## 2.4 Chromium and Chloride Trend Analysis

### 2.4.1 Mann-Kendall Methodology

Mann-Kendall analysis was used to evaluate concentration trends at representative site wells. Wells were selected for trend analysis based on recent data completeness (i.e., at least five data points since the start of HS sampling in spring 2016) and locations within the chromium and chloride plumes to represent conditions within the respective plume areas. Trends are evaluated annually.

The Mann-Kendall trend test is a nonparametric test that determines trends based on ranked data. As such, it is relatively insensitive to outlier values and nondetect concentrations and does not require the data to fit a specific model. The basic Mann-Kendall trend test is performed by listing the concentrations of the constituent of interest in temporal order and computing the differences between a given measurement and earlier measurements (Gilbert 1987; USEPA 2009). Based on USEPA guidance, nondetect values are set to one value less than that of any detections (USEPA 2009). The Mann-Kendall test statistic (sum of trend [S]) is the difference between the number of strictly positive differences and the number of strictly negative differences. If S is positive, an increasing trend is indicated; if S is negative, a decreasing trend is indicated; and if S is near zero, no trend is apparent. Trends with positive or negative S-statistics were accepted as statistically significant for p-values less than or equal to 0.1 (90 percent confidence level). The coefficient of variation (CV) is a quantitative measure that can be used to evaluate if concentrations are stable in cases where a statistically significant trend is not apparent. The CV is calculated as the standard deviation divided by the mean (average) concentration. CV values near or greater than 1 indicate variability in concentrations through time, while lower values indicate stability.

---

<sup>3</sup> D qualifier indicates that the sample was diluted for analysis.

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

Mann-Kendall analyses were performed on data collected after the sampling methodology change to HS that occurred site-wide in spring 2016.

## 2.4.2 Dissolved Chromium Trend Analysis Results

A table summarizing Mann-Kendall analyses and individual trend charts are provided in Appendix G. Results from the Mann-Kendall analyses indicate the following:

- Western and southern plumes (upgradient; offsite):
  - In MW094, located at the southwestern plume fringe, dissolved chromium concentrations have remained stable between 1.53 mg/L (April 2019) and 1.81 mg/L (May 2016). The concentration trends for MW094 are provided in Appendix G, Figure G-1. All concentrations since HS sampling began have exceeded the WQCC groundwater standard for dissolved chromium.
  - MW058 dissolved chromium concentrations have ranged between 2.46 mg/L (May 2016) and 3.59 mg/L (March 2020) and indicate a statistically significant increasing trend. The concentration trends for MW058 are provided in Appendix G, Figure G-2. All concentrations since HS sampling began in spring 2016 have exceeded the WQCC groundwater standard for dissolved chromium.
  - MW013 dissolved chromium concentrations have ranged between 0.943 mg/L (May 2016) and 2.54 mg/L (April 2019), and indicate a statistically significant increasing trend. The concentration trends for MW013 are provided in Appendix G, Figure G-3. All concentrations since HS sampling began have exceeded the WQCC groundwater standard for dissolved chromium.
- Eastern plume (downgradient; offsite):
  - MW041A concentrations have remained stable between 0.189 mg/L (May 2016) and 0.210 J mg/L (September 2017). The concentration trends for MW041A are provided in Appendix G, Figure G-4. All concentrations since HS sampling began have exceeded the WQCC groundwater standard for dissolved chromium.
  - MW051SA dissolved chromium concentrations have ranged between 0.0263 mg/L (May 2016) and 0.818 mg/L (May 2017). The timeframe for analysis was adjusted to include data 2017 to present, as the first data point (May 2016) is significantly lower. Mann-Kendall results for this adjusted time period indicate a statistically significant decreasing trend. The concentration trends for MW051SA are provided in Appendix G, Figure G-5. All concentrations since May 2017 have exceeded the WQCC groundwater standard for dissolved chromium.
  - In MW085SA, located just upgradient of the historical injection transect, dissolved chromium concentrations ranged between 0.0101 mg/L (May 2016) and 0.0696 mg/L (September 2020), and indicate a statistically significant increasing trend. The concentration trends for MW085SA are provided in Appendix G, Figure G-6. Dissolved chromium has exceeded the WQCC groundwater standard during the last two monitoring events at this location.
  - In MW086SA, located downgradient of the historical injection transect, dissolved chromium concentrations have ranged between 0.0277 mg/L (September 2020) and 0.0762 mg/L (October 2019). Trend direction has been variable since HS sampling began; however, concentrations have remained generally stable as indicated by a CV value of 0.31. The concentration trends for

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

MW086SA are provided in Appendix G, Figure G-7. Dissolved chromium was less than the WQCC groundwater standard during the most recent monitoring event (September 2020).

Assumed source area concentrations in the southwestern plume fringe are stable to decreasing near MW094 and may potentially be migrating downgradient within the existing plume to the areas represented by MW058 and MW013 given the direction of groundwater flow. Concentrations are remaining stable near MW041A and decreasing at local hotspots (MW051SA) within the plume core, downgradient of the Site. Increasing chromium concentrations at the leading edge (MW085SA), and variable trend direction downgradient of historical treatment areas (MW086SA), may indicate a natural plume progression and potential rebound especially because no active treatment is implemented at this time. A summary map of the dissolved chromium trend analyses is provided in Appendix G, Figure G-8.

### 2.4.3 Chloride Trend Analysis Results

A table summarizing Mann-Kendall analyses and individual trend charts are provided in Appendix G. Results from the Mann-Kendall analyses indicate the following:

- Western and southern plumes (offsite):
  - In MW069, located on the westernmost plume fringe, chloride concentrations ranged between 715 mg/L (September 2017) and 20,900 mg/L (May 2016). Trend direction has been variable, but concentrations appear to have stabilized since increasing in April 2019. The concentration trends for MW069 are provided in Appendix G, Figure G-9. All concentrations have exceeded the WQCC groundwater standard for chloride.
  - MW094 chloride concentrations have remained stable between 873 mg/L (May 2017) and 1,130 mg/L (May 2016). The concentration trends for MW094 are provided in Appendix G, Figure G-10. All results since HS sampling began have exceeded the WQCC groundwater standard for chloride.
  - MW032, located on the southern-most plume fringe, chloride concentrations ranged between 231 mg/L (May 2016) and 428 mg/L (October 2019). The concentration trends for MW032 are provided in Appendix G, Figure G-11. Chloride concentrations indicate a statistically significant increasing trend over the analysis period. However, concentrations appear to be decreasing since October 2019.
  - MW058 chloride concentrations have remained stable between 995 J mg/L (May 2017) and 1,230 mg/L (March 2018). The concentration trends for MW058 are provided in Appendix G, Figure G-12. All concentrations since HS sampling began have exceeded the WQCC groundwater standard chloride.
  - MW013 chloride concentrations have ranged between 255 mg/L (September 2017) and 936 mg/L (May 2016), and do not indicate a statistically significant trend. The concentration trends for MW013 are provided in Appendix G, Figure G-13. All results have exceeded the WQCC groundwater standard for chloride.
- Onsite plume:

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

- MW047 chloride concentrations were between 272 mg/L (April 2019) and 498 mg/L (May 2017) and indicate a statistically significant decreasing trend. The concentration trends for MW047 are provided in Appendix G, Figure G-14. All results since HS sampling began have exceeded the WQCC groundwater standard for chloride.
- Eastern plume (offsite):
  - MW041A chloride concentrations have remained stable between 377 mg/L (September 2017) and 488 mg/L (October 2019). The concentration trends for MW041A are provided in Appendix G, Figure G-15. All results have exceeded the WQCC groundwater standard for chloride.
  - MW051SA chloride concentrations have remained stable between 1,030 mg/L (March 2020) and 1,360 mg/L (April 2018). The concentration trends for MW051SA are provided in Appendix G, Figure G-16. All results since HS sampling began have exceeded the WQCC groundwater standard for chloride.
  - In MW085SA, located just upgradient of the historical injection well transect, chloride concentrations have ranged from 1,210 mg/L (October 2019) and 1,650 mg/L (September 2018). Mann-Kendall trend analysis does not indicate a statistically significant trend at 90 percent confidence. The concentration trends for MW085SA are provided in Appendix G, Figure G-17. All concentrations have exceeded the WQCC groundwater standard for chloride.
  - In MW073SA, located just downgradient of the historical injection transect, chloride concentrations have ranged between 189 mg/L (March 2018) and 2,100 mg/L (October 2019). Mann-Kendall trend analysis indicates a statistically significant increasing trend; however, concentrations have decreased since reaching a maximum in October 2019. The concentration trends for MW073SA are provided in Appendix G, Figure G-18. Chloride concentrations have exceeded the WQCC groundwater standard since September 2018.
  - MW086SA chloride concentrations have ranged between 916 mg/L (September 2020) and 1,470 mg/L (May 2017). Although chloride concentrations for the full analysis period do not show a statistically significant trend, Mann-Kendall analysis indicates a statistically significant decreasing trend from May 2017 (Appendix G, Figure G-19). All concentrations have exceeded the WQCC groundwater standard for chloride.
  - MW100, located on the northern-most downgradient plume fringe, chloride concentrations have ranged from 667 J mg/L (September 2017) and 1,070 J mg/L (March 2020). Mann-Kendall trend analysis indicates a statistically significant increasing trend (Appendix G, Figure G-20). All concentrations have exceeded the WQCC standard for chloride.

Variable trend directions indicated at the assumed upgradient source area represented by MW069, and an increasing trend at upgradient well MW032, potentially indicate that a chloride source is still contributing to the overall plume to a variable extent; however, stable to decreasing trends within the central plume area (including onsite at MW047) could suggest that the impact of the upgradient source is not impacting the stability of the center of the plume at this time. Stable to increasing concentrations downgradient of the Site could indicate natural fluctuations within the plume footprint and potential concentration migration within the plume, especially because no active treatment is implemented at this time. Decreasing trends near the leading edge of the plume at MW086SA but increasing trends at the

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

southeastern edge (MW073SA) and northern edge (MW100) indicate variable behavior within the plume at the leading edge, potentially attributed to naturally occurring fluctuations since no active treatment is implemented at this time. A summary map of the chloride trend analyses is provided in Appendix G, Figure G-21.

2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

### 3 SUMMARY

The 2020 monitoring and investigation activities indicated the following:

- Groundwater analytical results are consistent with historical concentrations observed.
- Mann-Kendall trend analyses indicate that trends for the dissolved total chromium plume vary across the plume area, with an increasing trend seen along the leading edge of the plume (MW086SA). Concentration trends for the chloride plume indicate that the core is stable; although chloride concentrations along the southern plume fringe and the northern and southern portions of the leading edge are increasing. At this time, trend results appear to be within expectations for the chloride and chromium plumes, especially because no active treatment is currently implemented.



2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*

## 2020 ANNUAL GROUNDWATER MONITORING REPORT

### 4 REFERENCES

- Arcadis. 2020. 2020 Sampling and Analysis Plan, Former Eunice North Gas Plant, Eunice, New Mexico. July.
- GHD. 2016. 2015 Annual Groundwater Monitoring Report, Former Eunice North Gas Plant, Eunice, Lea County, New Mexico. February.
- Gilbert, R.O. 1987. Statistical Methods for Environmental Pollution Monitoring. John Wiley and Sons, Inc. New York.
- USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. Office of Resource Conservation and Recovery. Unified Guidance. EPA 530-R-09-007.

2020 ANNUAL GROUNDWATER MONITORING REPORT

*This page intentionally left blank.*

# TABLES

**Table 1**  
**Summary of 2020 Groundwater Monitoring**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Monitoring Well ID	Groundwater Elevation	Field Water Quality Parameters	BTEX (8021B)	GRO (8015B)	DRO (8015B)	Dissolved Metals (6020A)	Hexavalent Chromium (7196A)	Chloride (300)	TDS (2540C)	Notes
IW003	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
IW008	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
IW010	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
IW019	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
IW023	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
IW024	(x)/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW001	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW002A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW004A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW006	x/x	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	LNAPL
MW007A	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW008M	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW010	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW011A	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW012M	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW013	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW015A	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW016A	(x)/(x)	(x)/(x)	--/--	--/--	--/--	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	No access -- gate locked.
MW018	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW019A	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW020A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW021A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW023	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW024A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW026	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW027	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW030	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW031	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW032	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW037	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW040A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW041A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW043	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW044	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	No access -- well buried under road.
MW045	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW046A	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW047	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW048SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW049SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW050SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW051SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW052SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW053SA	(x)/(x)	(x)/(x)	--/--	--/--	--/--	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	No access -- gate locked.
MW054SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW055SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW056SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW057SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW058	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW059	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW060	(x)/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	Not gauged due to no access -- gate locked.
MW061	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW062A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW063A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW065SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW066SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW067SA	x/x	(x)/x	--/--	--/--	--/--	(x)/x	(x)/x	(x)/x	(x)/x	Obstruction in well
MW068	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW069	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	

**Table 1**  
**Summary of 2020 Groundwater Monitoring**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Monitoring Well ID	Groundwater Elevation	Field Water Quality Parameters	BTEX (8021B)	GRO (8015B)	DRO (8015B)	Dissolved Metals (6020A)	Hexavalent Chromium (7196A)	Chloride (300)	TDS (2540C)	Notes
MW070	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW071SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW072SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW073SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW074SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW075SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW076SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW078SA	x/(x)	(x)/(x)	--/--	--/--	--/--	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	No access -- gate locked.
MW079SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW084SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW085SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW086SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW087A	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW088M	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW089SA	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW090SA	x/x	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW093SA	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW094	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW095	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	
MW097P	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW099	x/--	x/--	--/--	--/--	--/--	x/--	x/--	x/--	x/--	
MW100	x/x	x/x	--/--	--/--	--/--	x/x	x/x	x/x	x/x	

**Acronyms and Abbreviations:**

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = diesel-range organics

GRO = gasoline-range organics

ID = identification

LNAPL = light nonaqueous phase liquid

TDS = total dissolved solids

x/x = spring sampling event/fall sampling event

x = sample planned and collected

(x) = sample planned and not collected

-- = no sample planned during event

**Table 2**  
**Spring 2020 Field Parameters**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	µS/cm	°C	NTU
IW003	3/11/2020	0.00	-180	6.72	3,170	22.01	0.3
IW008	3/10/2020	1.14	-85	6.82	4,220	21.41	5.9
IW010	3/10/2020	0.00	-70	6.55	5,270	20.9	6.3
IW019	3/13/2020	0.00	45	7.6	3,920	16.95	0.8
IW023	3/12/2020	4.43	139	7.53	4,080	19.75	0.8
IW024	3/12/2020	0.00	161	7.22	5,300	23.2	9.4
MW001	3/13/2020	0.00	-91	7.3	4,110	17.85	2.8
MW002A	3/12/2020	0.00	18	7.25	5,110	23.39	8.1
MW004A	3/12/2020	0.00	-70	7.53	3,400	23.65	0.00
MW007A	3/12/2020	21.42	-42	8.18	4,310	21.88	0.00
MW008M	3/12/2020	0.00	-95	7.23	6,460	22.6	99
MW010	3/12/2020	0.00	87	7.46	8,240	19.72	3.8
MW011A	3/12/2020	0.00	20	8.19	7,630	21.37	0.00
MW012M	3/12/2020	0.00	-121	7.68	5,010	20.73	2.7
MW013	3/12/2020	0.05	125	7.8	3,800	19.97	2
MW015A	3/12/2020	0.00	-11	6.58	12,900	19.97	0.00
MW018	3/12/2020	4.11	120	7.66	1,330	19.59	1.3
MW019A	3/12/2020	3.73	145	7.93	1,510	18.66	1.4
MW020A	3/12/2020	2.66	83	7.58	4,140	19.36	0.1
MW021A	3/11/2020	0.00	82	6.87	8,310	20.25	0.6
MW023	3/10/2020	3.28	241	6.64	4,560	21.74	7.5
MW024A	3/11/2020	0.00	211	5.79	3,850	17.34	65.6
MW026	3/12/2020	0.00	141	7.79	1,060	19.28	2
MW027	3/12/2020	2.18	145	7.61	7,350	19.29	2.2
MW030	3/11/2020	8.46	115	6.23	1,060	20.77	0.00
MW031	3/11/2020	0.00	-8	5.68	1,360	21.38	0.00
MW032	3/12/2020	4.81	173	7.01	2,190	18.51	0.9
MW037	3/13/2020	0.00	-132	7.4	1,540	17.96	10.3
MW040A	3/12/2020	0.49	73	8.43	1,170	19.59	0.00
MW041A	3/12/2020	0.00	179	7.39	2,480	18.44	0.00
MW043	3/13/2020	0.00	-36	7.46	3,390	17.58	2.7
MW045	3/13/2020	0.00	48	7.55	2,060	18.21	1.8
MW046A	3/13/2020	7.49	-1	7.45	4,140	18.96	13.7
MW047	3/12/2020	1.34	83	7.44	2,710	23.51	3
MW048SA	3/12/2020	1.09	196	7.23	2,960	18.39	4.9
MW049SA	3/12/2020	0.00	205	6.71	4,680	17.75	14.8
MW050SA	3/11/2020	0.00	78	6.97	4,840	21.41	0.00
MW051SA	3/11/2020	0.00	90	6.85	4,950	21.68	2.2
MW052SA	3/11/2020	0.00	49	6.73	4,730	25.03	7.1
MW054SA	3/11/2020	0.71	38	7.09	3,210	24.73	5.9
MW055SA	3/11/2020	5.52	70	7.24	2,860	18.07	0.5
MW056SA	3/11/2020	4.52	69	7.42	4,950	18.22	4.5
MW057SA	3/11/2020	6.52	73	7.27	2,080	19.31	1.5

**Table 2**  
**Spring 2020 Field Parameters**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	µS/cm	°C	NTU
MW058	3/11/2020	1.76	122	5.76	5,340	20.38	0.00
MW059	3/10/2020	2	230	6.92	4,490	22.35	17.8
MW060	3/12/2020	2.27	-126	7.89	5,570	22.97	0.8
MW061	3/11/2020	0.00	95	6.16	4,950	23.76	147.6
MW062A	3/10/2020	5.34	148	674	894	17.05	36.9
MW063A	3/10/2020	3.72	212	7.17	743	25.74	5.6
MW065SA	3/10/2020	0.00	93	6.89	4,140	18.18	5.9
MW066SA	3/10/2020	4.48	96	7.15	2,480	27.32	8
MW068	3/13/2020	0.00	104	6.98	18,000	16.5	1.4
MW069	3/11/2020	1.38	115	5.41	16,100	22.92	0.00
MW070	3/11/2020	5.89	106	5.64	2,020	19.64	0.00
MW071SA	3/10/2020	0.00	83	7.22	2,710	17.59	22
MW072SA	3/11/2020	4.75	55	7.04	1,730	16.61	22.1
MW073SA	3/11/2020	4.92	109	6.04	5,870	16.49	3.3
MW074SA	3/11/2020	5.59	23	7.26	2,710	18.2	6.8
MW075SA	3/10/2020	1.09	126	7.07	2,860	19.59	4.9
MW076SA	3/10/2020	3.26	112	7.07	2,980	19.17	7.7
MW079SA	3/11/2020	0.00	72	7.05	1,820	23.57	0.00
MW084SA	3/10/2020	10.8	127	6.96	4,520	19.27	5.93
MW085SA	3/10/2020	5.6	53	7.05	6,120	19.98	2.64
MW086SA	3/10/2020	0.00	70	6.85	3,870	16.99	10.7
MW087A	3/12/2020	0.12	-44	2.63	4,670	22.8	0.00
MW088M	3/12/2020	1.18	-117	7.5	5,230	20.18	4.4
MW089SA	3/12/2020	4.56	138	7.86	5,200	21.02	10.9
MW090SA	3/12/2020	0.00	147	7.3	3,370	23.05	0.5
MW093SA	3/12/2020	2.98	141	7.61	4,680	20.93	1
MW094	3/11/2020	0.00	128	6.13	4,160	26.44	0.00
MW095	3/11/2020	0.00	156	5.69	5,760	23.48	0.00
MW097P	3/12/2020	8.1	-99	8.01	4,640	22.55	0.00
MW099	3/11/2020	0.00	-128	6.26	765	18.36	0.3
MW100	3/10/2020	0.00	-54	6.92	3,870	16.98	10.7

#### Acronyms and Abbreviations:

ID = identification

mg/L = milligrams per liter

mS/cm = milliSiemens per centimeter

mV = millivolts

NTU = nephelometric turbidity unit

SU = standard unit

°C = degrees Celsius



Table 3  
Fall 2020 Field Parameters  
2020 Annual Groundwater Monitoring Report  
Former Eunice North Gas Plant  
Eunice, Lea County, New Mexico



Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	µS/cm	°C	NTU
MW007A	9/28/2020	8.08	141	6.42	4,610	18.67	39.5
MW011A	9/28/2020	10.07	151	7.00	2,510	19.40	0.0
MW013	9/25/2020	4.25	67	7.47	3,900	29.59	13.3
MW015A	9/25/2020	1.41	-67	6.15	5,160	28.49	0.0
MW018	9/25/2020	2.87	115	7.51	1,400	27.61	0.0
MW023	9/25/2020	7.41	163	7.19	4,430	25.43	0.0
MW032	9/25/2020	3.94	147	7.26	2,100	27.96	0.0
MW043	9/28/2020	7.80	127	6.97	3,650	21.22	0.0
MW046A	9/28/2020	6.05	151	7.44	3,640	22.04	0.0
MW047	9/28/2020	8.50	148	7.27	2,570	21.58	0.0
MW049SA	9/25/2020	7.78	205	6.71	4,390	22.32	0.0
MW050SA	9/24/2020	0.27	50	7.40	4,090	28.83	0.0
MW054SA	9/25/2020	3.45	133	7.12	3,260	25.94	3.5
MW056SA	9/24/2020	4.43	47	7.30	4,760	29.69	4.1
MW057SA	9/24/2020	5.34	117	7.48	2,350	28.42	1.6
MW061	9/28/2020	7.62	232	6.65	5,830	19.31	0.0
MW067SA	9/24/2020	3.45	120	7.56	1,750	28.17	1.6
MW068	9/25/2020	7.41	193	7.34	4,430	25.24	0.0
MW069	9/25/2020	0.30	89	6.99	1,250	26.32	5.4
MW070	9/25/2020	6.32	132	7.53	1,920	26.47	2.5
MW073SA	9/24/2020	7.00	118	7.12	6,030	28.76	0.8
MW075SA	9/24/2020	10.46	174	6.94	2,960	28.08	2.8
MW084SA	9/24/2020	2.63	22	7.01	4,140	28.32	12.0
MW085SA	9/24/2020	7.00	118	7.13	6,030	28.79	0.8
MW086SA	9/24/2020	4.48	30	7.18	4,010	21.78	50.1
MW093SA	9/25/2020	1.70	138	6.96	4,380	27.89	0.0
MW095	9/28/2020	6.56	217	6.98	5,060	21.22	0.0
MW100	9/24/2020	0.41	-142	7.13	1,530	31.49	2.1

Acronyms and Abbreviations:

- ID = identification
- mg/L = milligrams per liter
- mS/cm = milliSiemens per centimeter
- mV = millivolts
- NTU = nephelometric turbidity unit
- SU = standard unit
- °C = degrees Celsius

**Table 4**  
**2020 Groundwater Elevations**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Top of Casing (feet amsl)	Depth To Groundwater (feet)	Depth to LNAPL (feet btoc)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)
IW003	3/9/2020	3406.68	42.12	NM	NA	3364.56
IW008	3/9/2020	3405.37	45.54	NM	NA	3359.83
IW010	3/9/2020	3405.82	50.71	NM	NA	3355.11
IW019	3/9/2020	3423.78	44.64	NM	NA	3379.14
IW023	3/9/2020	3426.05	46.52	NM	NA	3379.53
IW024	3/9/2020	3426.63	NM	NM	NA	NM
MW001	3/9/2020	3428.57	47.67	NM	NA	3380.90
MW002A	3/9/2020	3432.3	51.27	NM	NA	3381.03
MW004A	3/9/2020	3423.57	44.05	NM	NA	3379.52
MW006	3/9/2020	3425.26	45.25	45	0.25	3380.20
MW006	9/24/2020	3425.26	45.17	45.17	0	3380.09
MW007A	3/9/2020	3428.13	46.95	NM	NA	3381.18
MW007A	9/24/2020	3428.13	46.74	NM	NA	3381.39
MW008M	3/9/2020	3430.27	48.80	NM	NA	3381.47
MW010	3/9/2020	3419.42	28.34	NM	NA	3391.08
MW011A	3/9/2020	3431.77	50.15	NM	NA	3381.62
MW011A	9/23/2020	3431.77	49.98	NM	NA	3381.79
MW012M	3/9/2020	3430.06	49.15	NM	NA	3380.91
MW013	3/9/2020	3423.11	42.36	NM	NA	3380.75
MW013	9/23/2020	3423.11	42.11	NM	NA	3381.00
MW015A	3/9/2020	3420.55	38.40	NM	NA	3382.15
MW015A	9/23/2020	3420.55	38.17	NM	NA	3382.38
MW018	3/9/2020	3417.15	35.89	NM	NA	3381.26
MW018	9/23/2020	3417.15	35.84	NM	NA	3381.31
MW019A	3/9/2020	3414.74	36.17	NM	NA	3378.57
MW020A	3/9/2020	3421.14	42.19	NM	NA	3378.95
MW021A	3/9/2020	3422.94	45.54	NM	NA	3377.40
MW023	3/9/2020	3436.44	54.84	NM	NA	3381.60
MW023	9/23/2020	3436.44	54.63	NM	NA	3381.81
MW024A	3/9/2020	3430.77	50.59	NM	NA	3380.18
MW026	3/9/2020	3432.04	49.68	NM	NA	3382.36
MW027	3/9/2020	3443.33	61.85	NM	NA	3381.48
MW030	3/9/2020	3439.84	58.92	NM	NA	3380.92
MW031	3/9/2020	3442.13	59.36	NM	NA	3382.77
MW032	3/9/2020	3442.22	60.33	NM	NA	3381.89
MW032	9/23/2020	3442.22	51.05	NM	NA	3391.17
MW037	3/9/2020	3423.71	45.55	NM	NA	3378.16
MW040A	3/9/2020	3422.92	41.23	NM	NA	3381.69
MW041A	3/9/2020	3418.42	41.09	NM	NA	3377.33
MW043	3/9/2020	3423.57	45.20	NM	NA	3378.37
MW043	9/23/2020	3423.57	45.13	NM	NA	3378.44
MW045	3/9/2020	3425.53	45.62	NM	NA	3379.91
MW046A	3/9/2020	3426.45	46.27	NM	NA	3380.18
MW046A	9/24/2020	3426.45	46.21	NM	NA	3380.24
MW047	3/9/2020	3427.65	46.65	NM	NA	3381.00
MW047	9/23/2020	3427.65	46.43	NM	NA	3381.22
MW048SA	3/9/2020	3421.1	44.42	NM	NA	3376.68
MW049SA	3/9/2020	3422.46	47.40	NM	NA	3375.06
MW049SA	9/23/2020	3422.46	47.53	NM	NA	3374.93

**Table 4**  
**2020 Groundwater Elevations**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Top of Casing (feet amsl)	Depth To Groundwater (feet)	Depth to LNAPL (feet btoc)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)
MW050SA	3/9/2020	3419.31	44.06	NM	NA	3375.25
MW050SA	9/24/2020	3419.31	44.34	NM	NA	3374.97
MW051SA	3/9/2020	3415.42	42.82	NM	NA	3372.60
MW052SA	3/9/2020	3415.23	44.12	NM	NA	3371.11
MW054SA	3/9/2020	3411.38	44.26	NM	NA	3367.12
MW054SA	9/23/2020	3411.38	44.64	NM	NA	3366.74
MW055SA	3/9/2020	3407.43	40.57	NM	NA	3366.86
MW056SA	3/9/2020	3410.71	41.95	NM	NA	3368.76
MW056SA	9/23/2020	3410.71	42.02	NM	NA	3368.69
MW057SA	3/9/2020	3417.74	44.95	NM	NA	3372.79
MW057SA	9/23/2020	3417.74	45.06	NM	NA	3372.68
MW058	3/9/2020	3437.13	59.73	NM	NA	3377.40
MW059	3/9/2020	3442.24	60.65	NM	NA	3381.59
MW061	3/9/2020	3439.86	55.42	NM	NA	3384.44
MW061	9/23/2020	3439.86	55.10	NM	NA	3384.76
MW062A	3/9/2020	3434.19	54.84	NM	NA	3379.35
MW063A	3/9/2020	3435.22	55.43	NM	NA	3379.79
MW065SA	3/9/2020	3402.96	48.32	NM	NA	3354.64
MW066SA	3/9/2020	3404.03	44.57	NM	NA	3359.46
MW067SA	3/9/2020	3409.16	43.22	NM	NA	3365.94
MW067SA	9/23/2020	3409.16	44.86	NM	NA	3364.30
MW068	3/9/2020	3449.21	66.49	NM	NA	3382.72
MW068	9/23/2020	3449.21	66.23	NM	NA	3382.98
MW069	3/9/2020	3445.21	62.59	NM	NA	3382.62
MW069	9/23/2020	3444.07	62.35	NM	NA	3381.72
MW070	3/9/2020	3439.68	58.47	NM	NA	3381.21
MW070	9/23/2020	3439.68	58.28	NM	NA	3381.40
MW071SA	3/9/2020	3401.01	46.74	NM	NA	3354.27
MW072SA	3/9/2020	3401.34	44.45	NM	NA	3356.89
MW073SA	3/9/2020	3403.26	43.24	NM	NA	3360.02
MW073SA	9/23/2020	3403.26	45.74	NM	NA	3357.52
MW074SA	3/9/2020	3409.97	46.76	NM	NA	3363.21
MW075SA	3/9/2020	3404.21	48.21	NM	NA	3356.00
MW075SA	9/23/2020	3404.21	48.17	NM	NA	3356.04
MW076SA	3/9/2020	3404.13	49.76	NM	NA	3354.37
MW079SA	3/9/2020	3408.8	46.57	NM	NA	3362.23
MW084SA	3/9/2020	3405.98	48.87	NM	NA	3357.11
MW084SA	9/23/2020	3405.98	48.87	NM	NA	3357.11
MW085SA	3/9/2020	3405.98	49.19	NM	NA	3356.79
MW085SA	9/23/2020	3405.98	49.22	NM	NA	3356.76
MW086SA	3/9/2020	3401.86	47.81	NM	NA	3354.05
MW086SA	9/24/2020	3401.86	48.35	NM	NA	3353.51
MW087A	3/9/2020	3430.75	49.21	NM	NA	3381.54
MW088M	3/9/2020	3430.27	49.61	NM	NA	3380.66
MW089SA	3/9/2020	3428.09	48.12	NM	NA	3379.97
MW090SA	3/9/2020	3428.33	47.62	NM	NA	3380.71
MW091SA	3/9/2020	NM	43.23	NM	NA	NM
MW093SA	3/9/2020	3422.72	43.54	NM	NA	3379.18
MW093SA	9/23/2020	3422.72	43.49	NM	NA	3379.23

**Table 4**  
**2020 Groundwater Elevations**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Top of Casing (feet amsl)	Depth To Groundwater (feet)	Depth to LNAPL (feet btoc)	LNAPL Thickness (feet)	Groundwater Elevation (feet amsl)
MW094	3/9/2020	3443.15	61.27	NM	NA	3381.88
MW095	3/9/2020	3436.13	54.35	NM	NA	3381.78
MW095	9/23/2020	3436.13	54.10	NM	NA	3382.03
MW097P	3/9/2020	NM	46.66	NM	NA	NM
MW099	3/9/2020	3444.76	58.92	NM	NA	3385.84
MW100	3/9/2020	3406.49	51.56	NM	NA	3354.93
MW100	9/23/2020	3406.49	51.44	NM	NA	3355.05

**Note:**

1. Corrected groundwater elevations at MW006 are corrected using an assumed LNAPL specific gravity of 0.75. The formula used to correct groundwater elevation is as follows:

$$\text{Corrected GW Elevation} = \text{TOC Elevation} - (\text{DTW} - \text{LNAPL Thickness} * \text{LNAPL Specific Gravity})$$

**Acronyms and Abbreviations:**

amsl = above mean sea level  
 btoc = below top of casing  
 DTW = depth to groundwater  
 GW = groundwater  
 ID = identification  
 LNAPL = light nonaqueous phase liquid  
 NA = not applicable  
 NM = not measured  
 TOC = top of casing

**Table 5**  
**Spring 2020 BTEX Analytical Data**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Analyte	Benzene		Toluene		Ethylbenzene		Total Xylenes		DRO		GRO	
		Unit	mg/L											
		NMWQCC Standard	0.005		1		0.7		0.62		NA		NA	
IW019	3/13/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.29	U	2.29	U
MW001	3/13/2020	REG	0.00200	U	0.00200	U	0.000740	J	0.00200	U	2.28	U	2.28	U
MW037	3/13/2020	REG	0.210	J	0.000460	J	0.314	J	0.0123	J	1.40	J	3.34	
MW043	3/13/2020	REG	0.000620	J	0.00200	U	0.00122	J	0.00366		2.30	U	2.30	U
MW045	3/13/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.26	U	2.26	U
MW046A	3/13/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.29	U	2.29	U

**Notes:****bold** = detected analytes

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = diesel-range organics (C10-C28)

FD = field duplicate sample

GRO = gasoline-range organics (C6-C10)

ID = identification

mg/L = milligrams per liter

NMWQCC = New Mexico Water Quality Control Commission

REG = regular field sample

shading = analytes exceeding the NMWQCC Standard

NA = not applicable- no standard available

\*\* = one-time sample collected but not included in Sampling and Analysis Plan

**Qualifiers:**

J = The target analyte was positively identified below the laboratory reporting and above the detection limit.

U = analyte was not detected above laboratory reporting limits.

**Table 6**  
**Fall 2020 BTEX Analytical Data**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date Sampled	Analyte	Benzene		Toluene		Ethylbenzene		Total Xylenes		DRO		GRO	
		Unit	mg/L											
		NMWQCC Standard	0.005		1		0.7		0.62		NA		NA	
		Sample Purpose												
MW043	9/28/2020	REG	0.00200	UJ	0.00200	UJ	0.00200	UJ	0.00200	UJ	2.19	U	1.29	J
MW046A	9/28/2020	REG	0.00200	UJ	0.00200	UJ	0.00200	UJ	0.00200	UJ	2.20	U	0.876	J

**Notes:****bold** = detected analytes

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = diesel-range organics

FD = field duplicate sample

GRO = gasoline-range organics

ID = identification

mg/L = milligrams per liter

NMWQCC = New Mexico Water Quality Control Commission

REG = regular field sample

NA = not applicable- no standard available

**Qualifiers:**

J = The target analyte was positively identified below the laboratory reporting and above the detection limit.

U = analyte was not detected above laboratory reporting limits.

**Table 7**  
**Spring 2020 Metals, Chloride, and Total Dissolved Solids Analytical Data**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Analyte	Dissolved Arsenic	Dissolved Total Chromium	Dissolved Hexavalent Chromium	Dissolved Iron	Dissolved Manganese	TDS	Chloride						
		Unit	mg/L												
		NMWQCC Standard	0.01 <sup>(1)</sup>	0.05	0.05	1	0.2	1,000	250						
IW003	3/11/2020	REG	0.0107	0.00306	J	0.0100	U	5.29	3.41	D	2,400	886			
IW008	3/10/2020	REG	0.0150	0.00331	J	0.0100	U	4.05	1.60	D	2,590	943	J		
IW010	3/10/2020	REG	0.00745	0.00208	J	0.0100	J	10.6	7.85	D	3,680	1,230	J		
IW019	3/13/2020	REG	0.00867	0.500		0.625	0.100	U	0.0398		3,750	599			
IW023	3/12/2020	FD	0.00921	0.334		0.333	0.100	U	0.000349	J	3,230	489			
IW023	3/12/2020	REG	0.00952	0.333		0.342	0.100	U	0.000456	J	3,230	521			
IW024	3/12/2020	REG	0.0104	0.941		0.891	0.100	U	0.00174	J	4,040	656			
MW001	3/13/2020	REG	0.00132	J	0.00147	J	0.0100	U	0.100	U	1.42	D	2,860	360	
MW002A	3/12/2020	FD	0.0176		0.891		0.736	0.0647	J	0.0193		3,340	939		
MW002A	3/12/2020	REG	0.0176		0.832		0.716	0.0429	J	0.0188		3,460	953		
MW004A	3/12/2020	REG	0.0145		0.500		0.453	0.100	U	0.000272	J	2,240	599		
MW007A	3/12/2020	REG	0.0121		0.870		0.143	J	0.100	U	0.00172	J	3,160	396	
MW008M	3/12/2020	REG	0.00407		0.00821		0.00560	J	43.9		3.65	D	4,710	812	
MW010	3/12/2020	REG	0.00914		0.0206		0.0180	0.100	U	0.00128	J	4,640	2,430		
MW011A	3/12/2020	REG	0.0145		0.0942		0.0585	0.100	U	0.157		1,680	430		
MW012M	3/12/2020	REG	0.0511		0.0287		0.0100	U	4.42		0.0723		2,950	832	
MW013	3/12/2020	REG	0.00608		1.30		1.35	0.100	U	0.000588	J	3,120	823		
MW015A	3/12/2020	REG	0.0119		0.00793		0.0100	U	0.0242	J	0.00734		9,780	5,800	
MW018	3/12/2020	REG	0.0109		0.00400	U	0.0100	U	0.100	U	0.000492	J	1,450	327	
MW019A	3/12/2020	REG	0.0112		0.000552	J	0.0100	UJ	0.100	U	0.00196	J	1,180	259	
MW020A	3/12/2020	REG	0.00967		0.00568		0.0100	UJ	0.100	U	0.000353	J	2,600	951	
MW021A	3/11/2020	REG	0.0115		0.00314	J	0.0100	U	0.100	U	0.0155		5,330	2,310	
MW023	3/10/2020	REG	0.00868		2.91	D	2.72	0.100	U	0.000383	J	3,580	790	J	
MW024A	3/11/2020	REG	0.0117		0.498		0.471	0.100	U	0.000550	J	2,200	910		
MW026	3/12/2020	REG	0.00908		0.00400	U	0.0100	U	0.0749	J	0.00186	J	670	84.9	
MW027	3/12/2020	REG	0.0067		0.000861	J	0.0100	U	0.100	U	0.000300	J	1,710	364	
MW030	3/11/2020	REG	0.0198		0.00163	J	0.0100	U	0.100	U	0.000266	J	701	235	
MW031	3/11/2020	REG	0.0436		0.00400	U	0.0100	U	1.52		0.892		852	247	
MW032	3/12/2020	REG	0.00359	J	0.00356	J	0.0100	U	0.100	U	0.000244	J	1,720	399	
MW037	3/13/2020	REG	0.0754		0.000725	J	0.0100	U	28.6		0.341		834	115	
MW040A	3/12/2020	REG	0.0208		0.00246	J	0.0100	UJ	0.100	U	0.00200	U	511	55.1	
MW041A	3/12/2020	FD	0.0107		0.200		0.194	0.100	U	0.000420	J	1,570	397		
MW041A	3/12/2020	REG	0.0105		0.192		0.194	0.100	U	0.000373	J	1,580	393		
MW043	3/13/2020	REG	0.00402		0.000554	J	0.0100	U	0.620		0.602		2,210	627	
MW045	3/13/2020	REG	0.00216	J	0.0130		0.0100	U	0.0289	J	0.104		1,310	66.9	
MW046A	3/13/2020	REG	0.0102		1.91		1.59	0.0360	J	0.00311		3,280	714		
MW047	3/12/2020	REG	0.0101		0.0693		0.0751	0.100	U	0.00200	U	1,800	274		
MW048SA	3/12/2020	FD	0.0117		0.357		0.378	0.151		0.00374		1,860	453		
MW048SA	3/12/2020	REG	0.0119		0.363		0.382	0.128		0.00364		1,870	488		
MW049SA	3/12/2020	REG	0.0120		0.197		0.200	J	0.0438	J	0.00116	J	2,640	847	
MW050SA	3/11/2020	REG	0.00917		0.416		0.352	0.100	U	0.0148		3,590	1,400		
MW051SA	3/11/2020	FD	0.0114		0.665		0.637	0.0245	J	0.00248		3,250	990		
MW051SA	3/11/2020	REG	0.0124		0.718		0.699	0.0794	J	0.00293		3,380	1,030		
MW052SA	3/11/2020	REG	0.0133		0.255		0.259	0.173		0.00704		2,830	1,400		
MW054SA	3/11/2020	REG	0.0105		0.123		0.120	0.100	U	0.00114	J	2,040	817		
MW055SA	3/11/2020	REG	0.00761		0.180		0.177	0.100	U	0.000539	J	1,890	655		
MW056SA	3/11/2020	REG	0.0144		0.319		0.321	0.163		0.00202		3,280	1,100		
MW057SA	3/11/2020	REG	0.0128		0.0340		0.0342	0.100	U	0.000621	J	1,460	303		
MW058	3/11/2020	REG	0.0131		3.59	DX	4.08	0.133		0.00232		4,060	1,120		
MW059	3/10/2020	FD	0.0132		0.568		0.528	0.0925	J	0.00208		3,560	898	J	
MW059	3/10/2020	REG	0.0150		0.594		0.556	0.100	U	0.00200	U	3,730	891	J	
MW060	3/12/2020	REG	0.00170	J	0.00400	U	0.0100	U	0.299		12.5	D	3,620	1,210	
MW061	3/11/2020	REG	0.0132		1.06		0.967	0.0395	J	0.0213		3,580	879		
MW062A	3/10/2020	REG	0.0241		0.00192	J	0.0100	UJ	0.100	U	0.000593	J	486	63.9	J
MW063A	3/10/2020	REG	0.0233		0.00135	J	0.0100	U	0.100	U	0.000637	J	477	56.4	J
MW065SA	3/10/2020	REG	0.0104		0.0400		0.0154	0.0435	J	0.0265		2,910	954	J	
MW066SA	3/10/2020	REG	0.0102		0.00456		0.0100	U	0.0239	J	0.0604		1,540	458	J
MW068	3/13/2020	REG	0.0187		0.00400	U	0.0100	U	0.227		2.31	D	17,200	10,500	
MW069	3/11/2020	REG	0.0107		0.000605	J	0.00310	J	0.193		0.0969		15,600	10,500	
MW070	3/11/2020	REG	0.0134		0.00400	U	0.0100	U	0.100	U	0.000603	J	1,170	432	
MW071SA	3/10/2020	REG	0.00901		0.00368	J	0.0100	U	0.0774	J	0.232		1,520	618	J
MW072SA	3/11/2020	REG	0.0211		0.00208	J	0.0100	U	1.09		0.0273		1,090	232	
MW073SA	3/11/2020	REG	0.0112		0.00400	U	0.0100	U	0.100	U	0.00478		4,000	1,660	
MW074SA	3/11/2020	REG	0.0144		0.00687		0.00740	J	0.0520	J	0.00102	J	1,670	446	
MW075SA	3/10/2020	REG	0.0153		0.0122		0.00350	J	0.100	U	0.000640	J	1,840	495	J
MW076SA	3/10/2020	REG	0.0131		0.00788		0.0100	U	0.0417	J	0.00108	J	1,920	526	J
MW079SA	3/11/2020	REG	0.00895		0.00400	U	0.0100	U	0.0544	J	0.0173		1,070	233	
MW084SA	3/10/2020	REG	0.0107		0.0248		0.0171	0.109		0.00461		3,100	1,140	J	
MW085SA	3/10/2020	REG	0.0128		0.0532		0.0100	U	0.101		0.0541		4,370	1,620	J

**Table 7**  
**Spring 2020 Metals, Chloride, and Total Dissolved Solids Analytical Data**  
**2020 Annual Groundwater Monitoring Report**  
**Former Eunice North Gas Plant**  
**Eunice, Lea County, New Mexico**

Location ID	Date	Analyte	Dissolved Arsenic	Dissolved Total Chromium	Dissolved Hexavalent Chromium	Dissolved Iron	Dissolved Manganese	TDS	Chloride
		Unit	mg/L						
		NMWQCC Standard	0.01 <sup>(1)</sup>	0.05	0.05	1	0.2	1,000	250
MW086SA	3/10/2020	REG	0.0110	0.0726	0.0639	0.162	0.00556	3,500	1,300 J
MW087A	3/12/2020	REG	0.00239 J	0.0498	0.00830 J	6.77	0.118	3,570	791
MW088M	3/12/2020	REG	0.0234	0.131	0.0100 U	6.72	1.94 D	3,250	975
MW089SA	3/12/2020	REG	0.0108	1.14	0.902	0.100 U	0.000751 J	4,250	630
MW090SA	3/12/2020	REG	0.00980	0.315	0.303	0.100 U	0.00172 J	2,710	400
MW093SA	3/12/2020	REG	0.00893	0.576	0.680	0.100 U	0.0130	3,420	685
MW094	3/11/2020	REG	0.0108	1.77	1.63	0.0248 J	0.0103	3,920	926
MW095	3/11/2020	FD	0.00837	2.50 D	2.36	0.100 U	0.126	3,890	1,370
MW095	3/11/2020	REG	0.00874	2.42 D	2.22	0.0239 J	0.131	3,630	1,460
MW097P	3/12/2020	REG	0.0112	0.457	0.446 J	0.100 U	0.0733	3,610	576
MW099	3/11/2020	REG	0.0124	0.00400 U	0.0100 U	0.146	0.207	502	70.2
MW100	3/10/2020	REG	0.00818	0.00400 U	0.0100	0.0440 J	0.456	2,330	1,070 J

**Notes:**

(1) Updated NMWQCC Standard effective July 1, 2020. Both spring and fall datasets compared to new standard.

**Acronyms and Abbreviations:**

**bold** = detected analytes

FD = field duplicate sample

ID = identification

mg/L = milligrams per liter

MS/MSD = matrix spike/matrix spike duplicate

NMWQCC = New Mexico Water Quality Control Commission

REG = regular field sample

TDS = total dissolved solids

shading = analytes exceeding the NMWQCC Standard

-- = not applicable/not analyzed

**Qualifiers:**

D = diluted sample

J = The target analyte was positively identified below the laboratory reporting and above the detection limit.

U = analyte was not detected above laboratory reporting limits.

X = MS/MSD recoveries outside of laboratory control limits.



Table 8  
Fall 2020 Metals, Chloride, and Total Dissolved Solids Analytical Data  
2020 Annual Groundwater Monitoring Report  
Former Eunice North Gas Plant  
Eunice, Lea County, New Mexico



Location ID	Date	Analyte	Dissolved Arsenic	Dissolved Total Chromium	Dissolved Hexavalent Chromium	Dissolved Iron		Dissolved Manganese	TDS	Chloride	
		Unit	mg/L								
		NMWQCC Standard	0.01 <sup>(1)</sup>	0.05	0.05	1	0.2	1000	250		
MW007A	9/28/2020	REG	0.0101	0.614	0.499	0.100	U	0.00264	3,450	844	
MW011A	9/28/2020	REG	0.0143	0.0570	0.0436	0.100	U	0.0985	1,630	401	
MW013	9/25/2020	REG	0.00729	2.10	0.396	0.190		0.00479	3,460	908	
MW015A	9/25/2020	REG	0.00819	0.00639	0.100	U	0.766	0.0257	8,280	5,090	
MW018	9/25/2020	REG	0.0110	0.00400	U	0.100	U	0.000520	967	153	
MW023	9/25/2020	REG	0.00809	3.05	0.270	0.0240		0.00164	3,510	780	
MW032	9/25/2020	REG	0.00346 J	0.00357 J	0.100	U	0.100	U	0.000480	1,400	374
MW043	9/28/2020	REG	0.00492	0.000769 J	0.100	U	0.502	0.642	2,330	1,050	
MW046A	9/28/2020	REG	0.0108	1.95	1.77	0.100	U	0.000754 J	3,370	760	
MW047	9/28/2020	FD	0.00946	0.0624	0.0644	0.100	U	0.000465 J	1,890	284	
MW047	9/28/2020	REG	0.0118	0.0736	0.0724	0.0256	J	0.000425 J	1,950	294	
MW049SA	9/25/2020	REG	0.0108	0.195	0.224	0.260		0.00397	3,030	1,240	
MW050SA	9/24/2020	REG	0.00835	0.351	0.362	0.100	U	0.0130	3,730	1,150	
MW054SA	9/25/2020	REG	0.0104	0.115	0.121	0.0829		0.00429	2,030	801	
MW056SA	9/24/2020	REG	0.0135	0.292	0.330	0.0778		0.000924	3,440	578	
MW057SA	9/24/2020	REG	0.0138	0.0106	0.00780 J	0.0274		0.00106	1,870	611	
MW061	9/28/2020	FD	0.0119	1.03	1.07	0.100	U	0.0234	4,560	1,030	
MW061	9/28/2020	REG	0.0115	1.00	1.05	0.100	U	0.0195	4,540	1030	
MW067SA	9/24/2020	REG	0.0194	0.00400	U	0.100	U	0.000250	1,060	191	
MW068	9/25/2020	REG	0.0153	0.00400	U	0.100	U	0.265	2.62	16,600	10,600
MW069	9/25/2020	REG	0.00698	0.00400	U	0.100	U	0.177	0.201	14,400	7,990
MW070	9/25/2020	REG	0.0125	0.00400	U	0.100	U	0.000275	1,220	393	
MW073SA	9/24/2020	REG	0.0118	0.00400	U	0.100	U	0.0641	0.0137	3,960	1,230
MW075SA	9/24/2020	REG	0.0124	0.0256	0.0230	0.066		0.00247	1,480	260	
MW084SA	9/24/2020	REG	0.0100	0.0240	0.0234	0.100	U	0.00271	2,890	945	
MW085SA	9/24/2020	REG	0.0177	0.0696	0.0232	0.278		0.188	4,120	1,230	
MW086SA	9/24/2020	REG	0.00921	0.0277	0.0432	0.100	U	0.00619	2,880	916	
MW093SA	9/25/2020	REG	0.00831	0.494	0.500	0.100	U	0.0154	3,960	922	
MW095	9/28/2020	FD	0.00917	3.42	3.39	0.0396	J	0.102	4,720	1,540	
MW095	9/28/2020	REG	0.00950	3.40	3.34	0.0369	J	0.106	4,570	1,520	
MW100	9/24/2020	REG	0.00918	0.00173 J	0.100	U	0.289	0.146	2,520	1,050	

Notes:  
(1) Updated NMWQCC Standard effective July 1, 2020. Both spring and fall datasets compared to new standard.

Acronyms and Abbreviations:

**bold** = detected analytes

FD = field duplicate sample

ID = identification

mg/L = milligrams per liter

NMWQCC = New Mexico Water Quality Control Commission

REG = regular field sample

TDS = total dissolved solids

shading = analytes exceeding the NMWQCC Standard

Qualifiers:

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

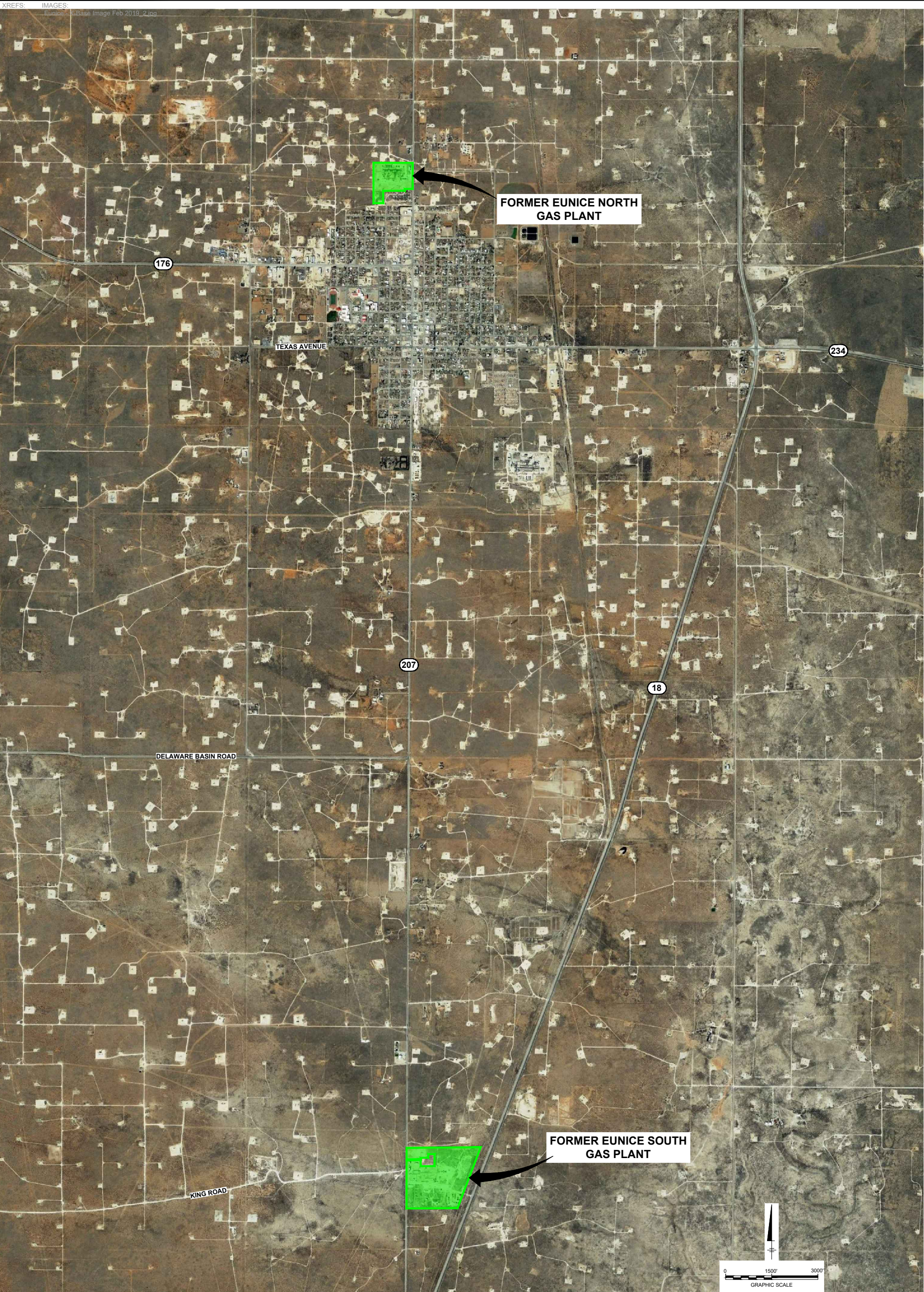
U = analyte was not detected above laboratory reporting limits.

# FIGURES





DIV/GROUP: ENVCAD  
D:\Tasks\UBU4834 Eunice North O&M\Drawings\GEN-F01-SITE LOCATION.dwg LAYOUT: 1 SAVED: 2/19/2021 5:57 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/19/2021 6:05 AM BY: THORWATH, CHANDRAKANTH



AERIAL IMAGE PROVIDED BY GOOGLE™ EARTH PRO, IMAGE DATE 2/20/2019

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY  
FORMER EUNICE NORTH GAS PLANT  
EUNICE, LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

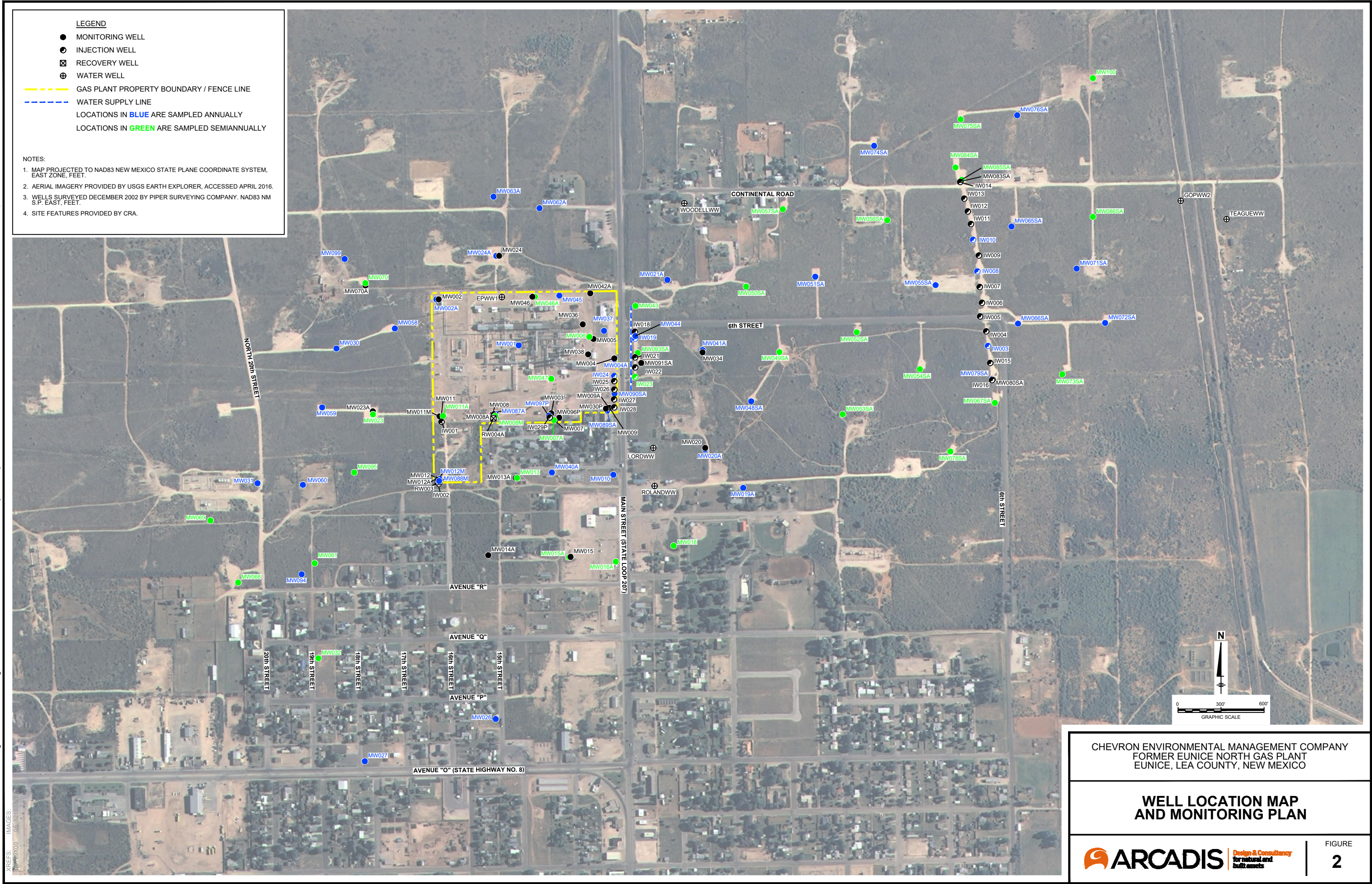


Design & Consultancy  
for natural and  
built assets

FIGURE  
**1**

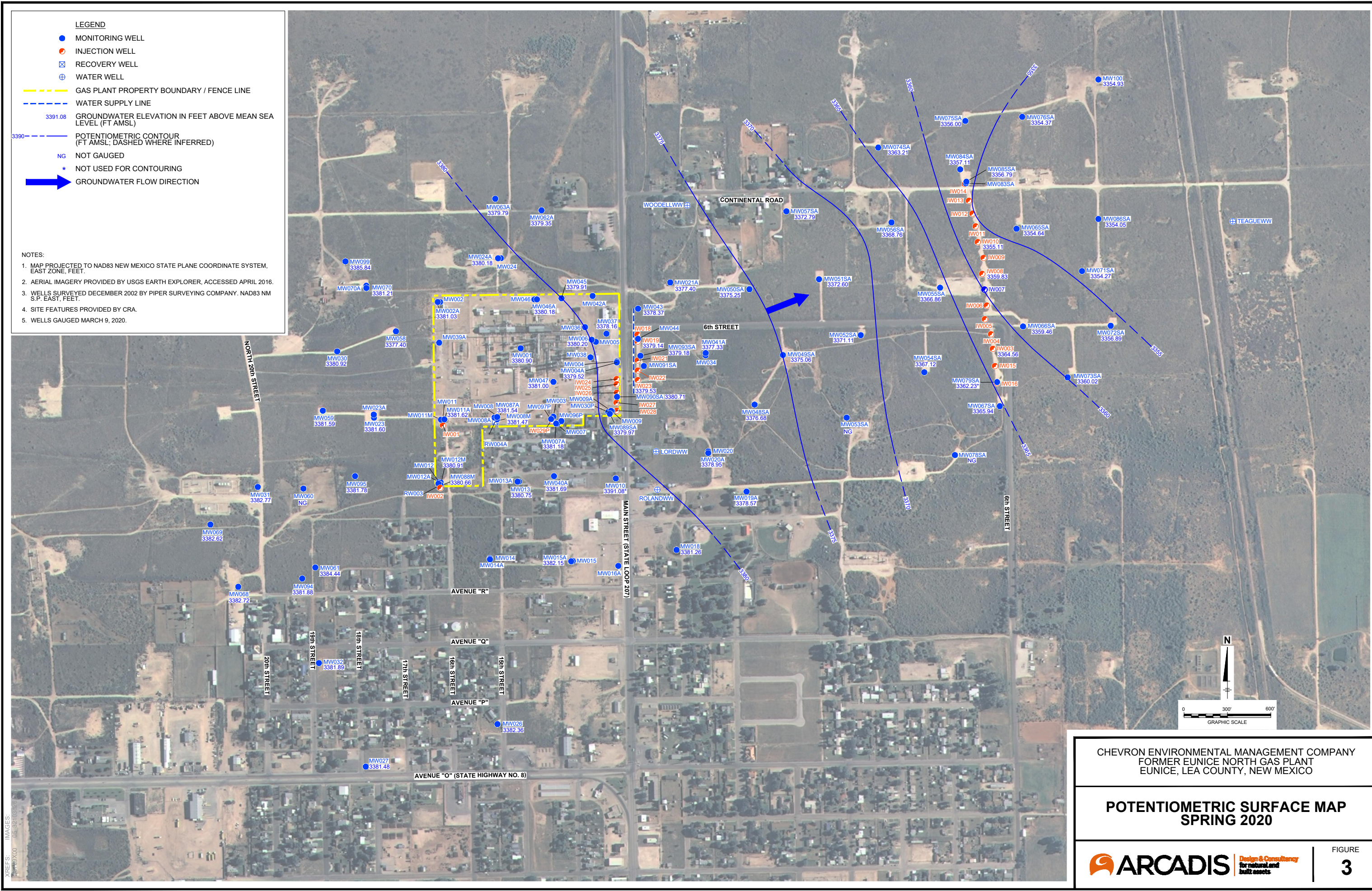


DIV/GRP: ENVCAD  
D:\Tasks\UBU4834 Eunie North O&M\Drawings\GEN-F02-SITE MAP.dwg LAYOUT: 2  
SAVED: 2/19/2021 5:58 AM  
ACADVER: 23.1 S (LMS TECH)  
PAGESETUP: ---  
PLOTSTYLETABLE: ---  
PLOTTED: 2/19/2021 6:11 AM  
BY: THORWATH, CHANDRAKANTH



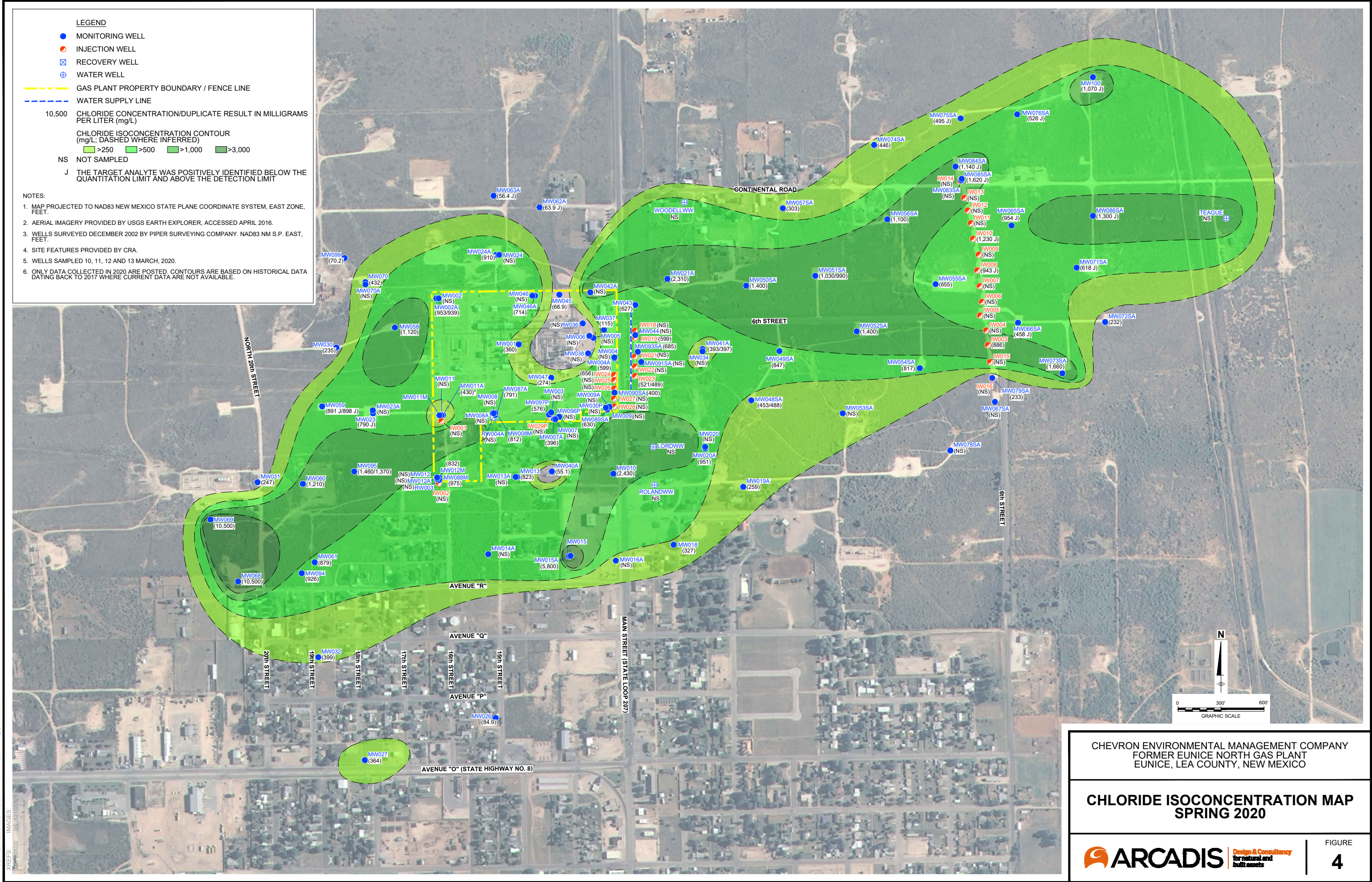


DIV/GRP: ENVCAD  
C:\Users\jrharris\OneDrive\Documents\Projects\North Gas Plant\Site C\Map\2021\100394770\DWG\GWM-SPRING20-F03-PSM.dwg LAYOUT: 3 SAVED: 2/21/2021 10:56 PM ACADVER: 24.05 (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/24/2021 1:38 PM BY: HARRIS, JESS



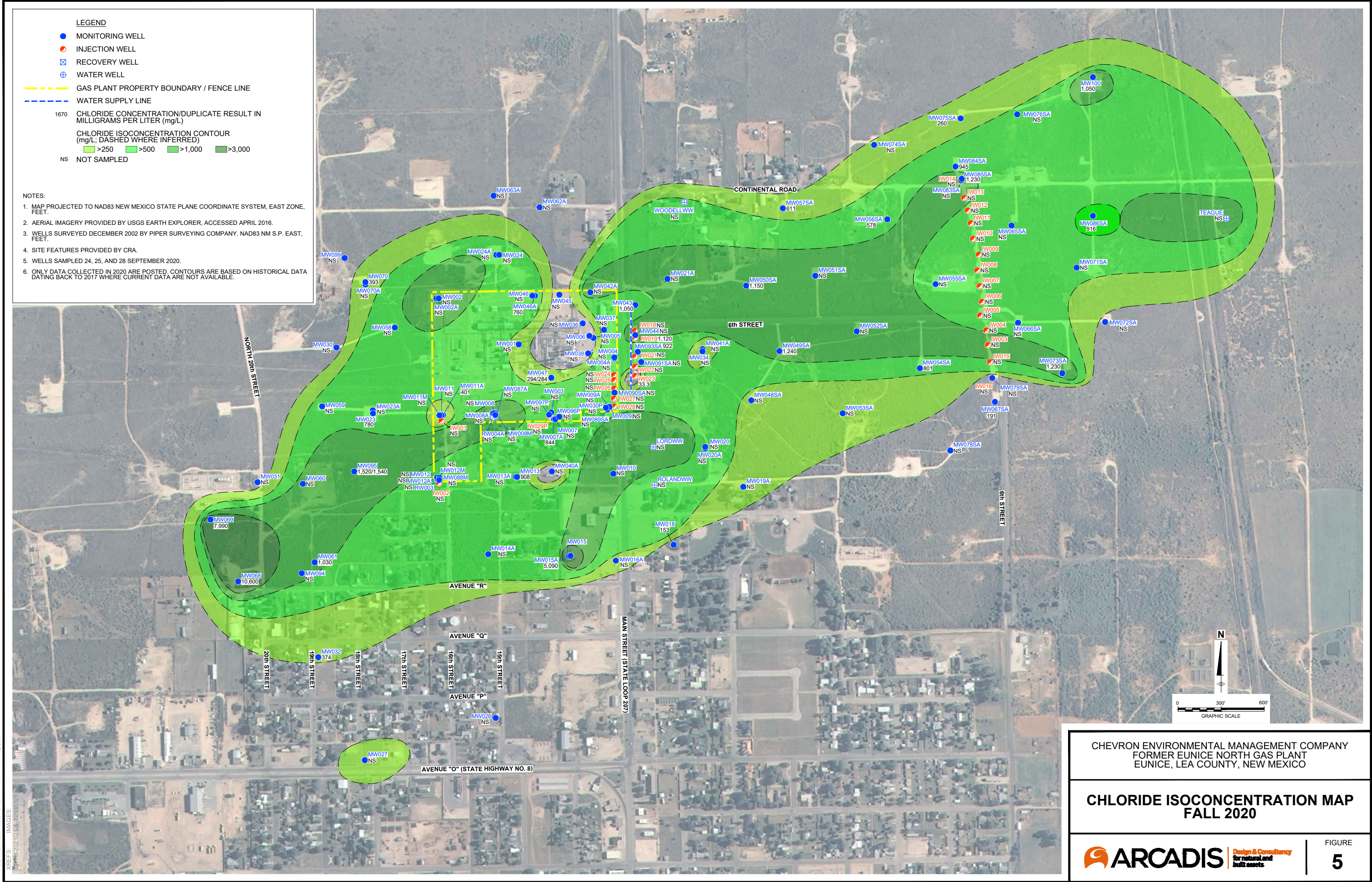


DIV/GRP: ENVCAD  
C:\Users\c10121\OneDrive\Documents\Projects\North Gas Plant\Site O&M\2021\1003947701-DWG\GWM-SPRING20-F04-CHLORIDE SPRING.dwg LAYOUT: 4  
PLOTED: 2/22/2021 12:53 PM BY: THORWATH, CHANDRAKANTH  
XREFS: IMAGES: 05\_32103020





DIV/GRP: ENV/CAD  
C:\Users\jrharris\BIM\360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice North Gas Plant\Site O&M\2021\1003947701-DWG\GWM-FALL-20-F05-CHLORIDE FALL.dwg LAYOUT: 5 SAVED: 2/21/2021 11:19 PM ACADVER: 24.05 (LMS TECH) PAGES: 50 OF 50 PLOT: 2/24/2021 9:48 PM BY: HARRIS, JESS

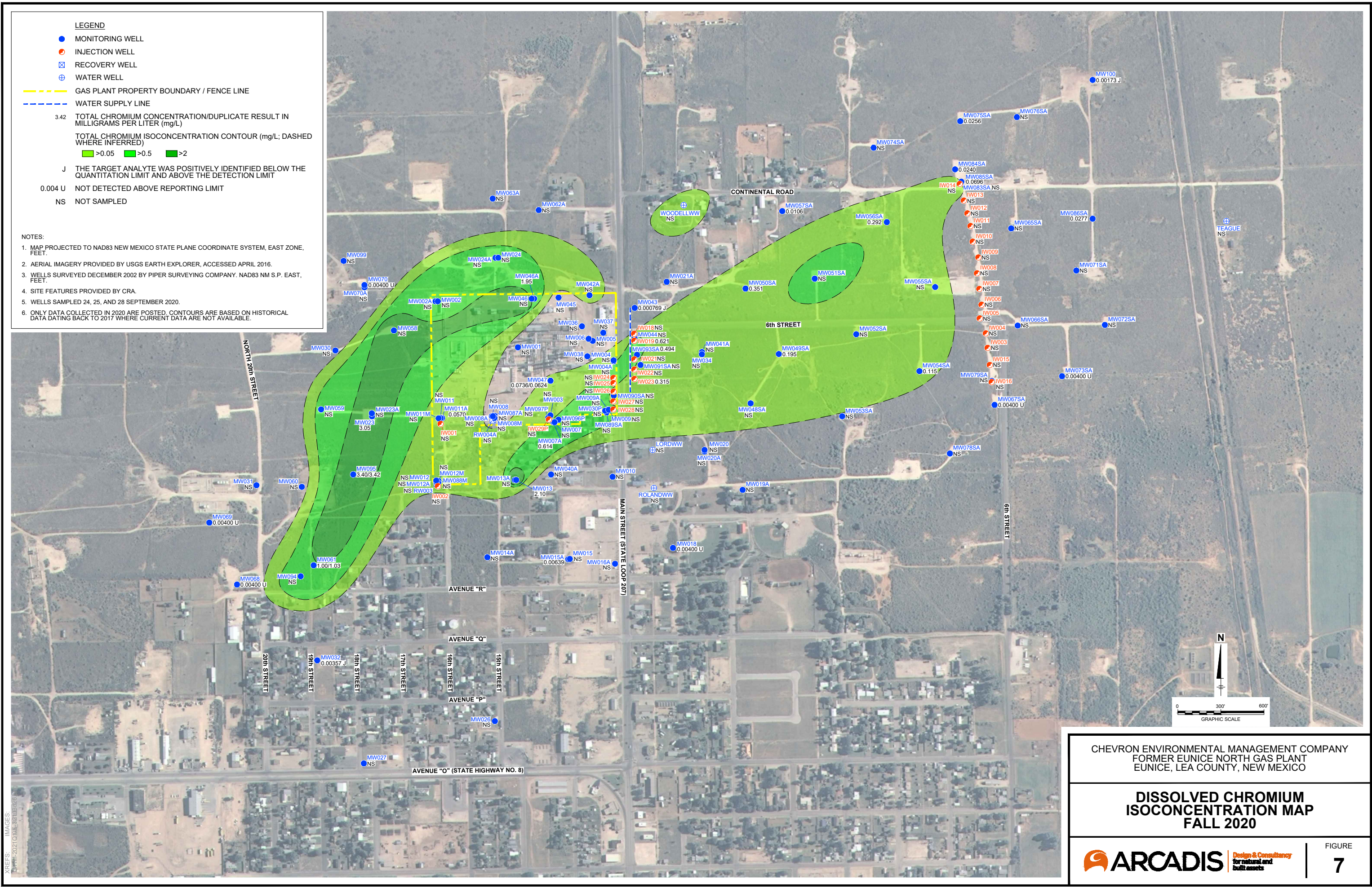






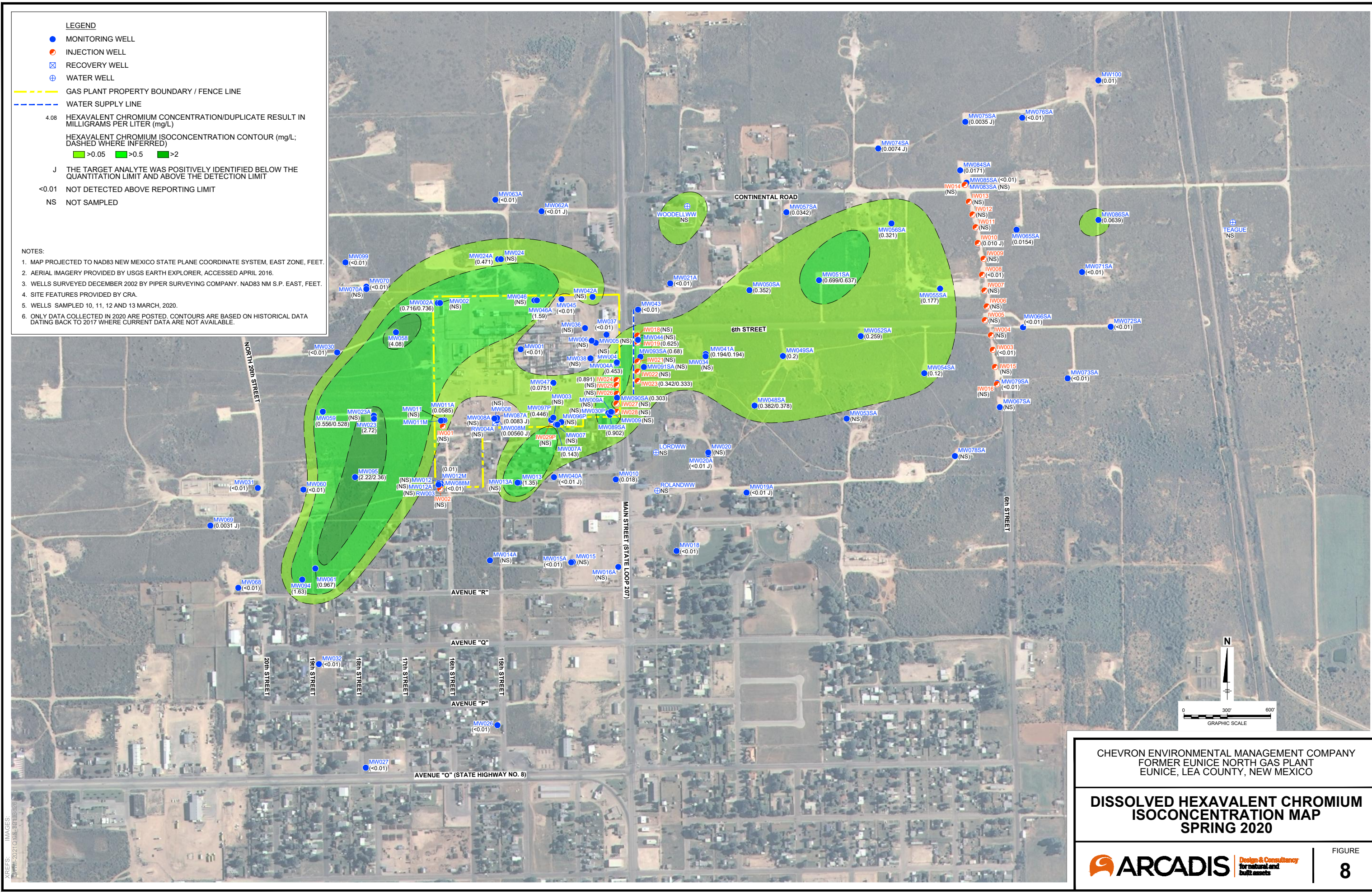


DIV/GRP: ENV/CAD  
D:\Tasks\UBU4834\_Eunice North O&M\Drawings\GWM-FALL-20-F07-DCIM FALL.dwg LAYOUT: 7. SAVED: 2/19/2021 6:38 AM ACADVER: 23.1 S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 2/19/2021 6:43 AM BY: THORWATH, CHANDRANATH





DIV/GRP: EN/CAD  
D:\Tasks\UBU4834\_Eunice North O&M\Drawings\GWM-FALL-20-F08-DHCIM SPRING.dwg LAYOUT: 8 SAVED: 2/19/2021 6:38 AM ACADVER: 23.1S (LMS TECH) PAGES: 23 PLOTTED: 2/19/2021 6:41 AM BY: THORWATH, CHANDRANATH









**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 22818

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 22818
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 157671 for most updated status.	12/12/2022