State of New Mexico
Energy, Minerals and Natural Resources Department

Jason C Michelson
Chevron USA Inc
1500 Louisiana Street
Houston, TX 77002

RE: Determination of Administratively Complete Stage 2 Abatement Plan for Former North (#2) and South (#1) Eunice Gas Plants (Incident #s NAUTOFGP000686 & NAUTOFGP000685) GW-003 & GW-004

Mr. Michelson,

Oil Conservation Division (OCD) received a Stage 2 Abatement Plan as well as a Proposed Public Notice and Participation submittal prepared for Chevron USA Inc.'s on behalf by Arcadis U.S., Inc. dated July 21, 2022.

We have reviewed the plan and determined it to be administratively complete.

OCD also approves the draft of the Public Notice and Participation Proposal. The required public notice and participation should now proceed under the provisions of Subsections A and B of 19.15.30.15 NMAC.

Stage 2 abatement plan document satisfies the requirements of Paragraph (2) of Subsection D of 19.15.30.13 NMAC. Proof of notice to be provided to the OCD.

The division shall distribute notice of the abatement plan's filing with the next division and commission hearing docket.

If you have any questions, please contact Bradford Billings of the Environmental Incident Group at (505) 470-6549 or by email at *bradford.billings@emnrd.nm.gov*.

Respectfully,

Adrienne Sandoval
Division Director
AES/njv

Date: 10/13/2022

Jason Michelson
Project Manager

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November 9, 2022

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

Re: 2022 Stage 2 Abatement Plan
Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

Dear Mr. Billings,

Please find enclosed the 2022 Stage 2 Abatement Plan, prepared for the Former Eunice North and Eunice South Gas Plants, in Eunice, New Mexico.

The Stage 2 Abatement Plan was prepared by Arcadis U.S., Inc. on behalf of Chevron Environmental Management Company for Chevron U.S.A. Inc.

Please do not hesitate to call Sonja Zabienski with Arcadis at 720-344-3723 or myself at 832-854-5601, should you have any questions.

Sincerely,

Jason Michelson

Jason Michelson

cc Amy Barnhill, Chevron/MCBU

ARCADIS

Chevron Environmental Management Company

2022 Stage 2 Abatement Plan

Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

Incident No. NAUTOFGP000686

Case No. GW-003 & GW-004 (Former Discharge Permits)

OGRID No. 4323

November 7, 2022

2022 STAGE 2 ABATEMENT PLAN

Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

Incident No. NAUTOFGP000686

Case No. GW-003 & GW-004 (Former Discharge Permits)

OGRID No. 4323

November 7, 2022

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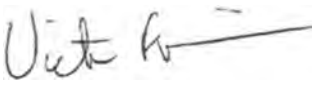

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Appendix F South Eunice 2020 Annual Groundwater Monitoring Report Tables and Figures

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Appendix I Waste Management Plan

Acronyms and Abbreviations

ac-ft	acre-foot
amsl	above mean sea level
Arcadis	Arcadis U.S., Inc.
bgs	below ground surface
BST	bench-scale treatability
BTEX	benzene, toluene, ethylbenzene, and xylenes
CEMC	Chevron Environmental Management Company
CIP	clean in place
COC	constituent of concern
CRA	Conestoga-Rovers & Associates
DGR	directed groundwater recirculation
DRO	diesel-range organics
Dynegy	Dynegy Midstream Services
EBCT	empty bed contact time
EDR	electrodialysis reversal
EMNRD	New Mexico Energy, Minerals and Natural Resources Department
ft/ft	foot per foot
gpm	gallon per minute
GRO	gasoline range organics
GWTP	groundwater treatment plant
HCl	hydrochloric acid
HDPE	high-density polyethylene
HS	HydraSleeve
IDW	Investigation Derived Waste
IEX	ion exchange
LGAC	liquid granular activated carbon
LNAPL	light nonaqueous phase liquid
MDPE	mobile dual-phase extraction
mg/L	milligram per liter

MMF	multimedia filtration
NMAC	New Mexico Administrative Code
NMOCD	New Mexico Oil Conservation Division
NMOSE	New Mexico Office of the State Engineer
NMWQCC	New Mexico Water Quality Control Commission
North Eunice	former North Eunice Gas Plant
NSZD	natural source zone depletion
O&M	operations and maintenance
psi	pound per square inch
RO	reverse osmosis
SAP	Sampling and Analysis Plan
Site	former North and South Eunice Gas Plants, located in Eunice, Lea County, New Mexico
South Eunice	former South Eunice Gas Plant
SVE	soil vapor extraction
SWD	saltwater disposal
Targa	Targa Resources
TDS	total dissolved solids
Texaco	Texaco Exploration and Production, Inc.
TOC	top of casing
TPH	total petroleum hydrocarbons
USEPA	United States Environmental Protection Agency
WBA	weak base anion

1 Introduction

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) prepared this 2022 Stage 2 Abatement Plan for the former North and South Eunice Gas Plants, located in Eunice, Lea County, New Mexico (Site). This 2022 Stage 2 Abatement Plan summarizes historical investigation and remediation activities, the conceptual site model, and selection of an abatement option, and will be submitted to the New Mexico Oil Conservation Division (NMOCD) as outlined in the New Mexico Administrative Code (NMAC) 19.15.30. This 2022 Stage 2 Abatement Plan discusses the abatement of the collective Site, unless specifically stated as the former North Eunice Gas Plant (North Eunice) or the former South Eunice Gas Plant (South Eunice).

North Eunice is located approximately 0.5 mile north of Eunice, New Mexico in Lea County, 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 North Eunice 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.

South Eunice is located approximately 4.5 miles south of Eunice, New Mexico in Lea County, in the northwest quarter of the southwest quarter of Section 27, Township 22 South, Range 37 East. The approximately 90-acre South Eunice is bordered by State Highway 248 to the west and State Highway 18 to the east. The surrounding area is mostly flat, undeveloped grazing land with oil and gas production infrastructure. Current remedial infrastructure includes three active bioventing units for passive light nonaqueous phase liquid (LNAPL) degradation, which have been in operation since 2017. Maps of North Eunice and South Eunice are shown on Figures 1 and 2.

1.1 Regulatory Background

1.1.1 Discharge Permit History

On April 29, 1980, the NMOCD requested that a discharge plan be filed according to Section 3-106A of the New Mexico Water Quality Control Commission (NMWQCC) regulations to cover all discharges of effluent at the Site. On March 16, 1981, the discharge plans for North Eunice (GW-004) and South Eunice (GW-003) were approved by the NMOCD for 5 years pursuant to discharge plan requirements. Subsequent discharge plans were renewed and approved on an approximately 5-year basis until the most recent renewal applications submitted to NMOCD on November 11, 2015 (GHD 2015a, 2015b).

Modifications that have been noted since the initial issuance of GW-004 include:

- *April 17, 2008*. An in-situ pilot study was approved for pilot-scale injection of sodium dithionite, rather than calcium polysulfide, for chromium treatment with less potential to foul injection wells.
- *January 11, 2012*. Proposed injections of 5 percent sodium dithionite and/or 10 percent soy lactate solution in injection wells to remediate chromium in groundwater was approved.
- *June 13, 2012*. A proposed discharge plan modification was approved for the relocation of the two existing pilot test areas due to continued city water line leaks in the areas originally proposed.

- *October 27, 2015*. A proposed reduced sampling methodology was approved to sample a reduced subset of seven wells for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbon (TPH) constituents rather than the whole well network.
- *March 25, 2016*. A proposed groundwater sampling methodology modification from purge to no-purge was approved.
- *July 10, 2020*. The Groundwater Monitoring Reduction Workplan (Arcadis 2020a) was submitted to the NMOCD and implemented in fall 2020.

Modifications that have been noted since the initial issuance of GW-003 include:

- *April 1996*. The NMOCD requested a work plan from Texaco Exploration and Production, Inc. (Texaco, a legacy Chevron company), to address specific areas of concern. The response resulted in a modification of the existing discharge plan along with a comprehensive site investigation (Geraghty & Miller 1996).
- *September 14, 1999*. Proposed discharge plan modification was approved for modification of the tank drain system at South Eunice, including the removal of four sumps (east sump, oil and water sump, slop oil sump, and concrete drain sump).
- *April 10, 2012*. Proposed discharge plan modification was approved for an alternate disposal method for the groundwater recovery system, which was originally discharged into Targa Resource's (Targa) onsite underground injection control Class II injection well. The alternate disposal method proposed to transfer water to a third-party owned and operated disposal well located offsite.
- *March 25, 2016*. A proposed groundwater sampling methodology modification from purge to no purge was approved.
- *July 10, 2020*. A Groundwater Monitoring Reduction Workplan (Arcadis 2020b) was submitted to the NMOCD and implemented in fall 2020.

1.1.2 Transition from Discharge Permit to Stage 2 Abatement

In an email dated January 27, 2022, and subsequent teleconference on February 1, 2022, the NMOCD requested submittal of a voluntary Stage 2 Abatement Plan in place of a Discharge Permit Modification. The previous assumption that an Abatement Plan would not be required for North and South Eunice remediation was based on Section 2F of former Discharge Permits GW-004 and GW-003, which stated that the owner/operator was exempt from the requirement to obtain and implement an Abatement Plan (Appendix A).

This request from the NMOCD indicated that a Stage 1 Abatement Plan is not required, which is a scenario not provided for in NMAC 19.15.30. The sections below provide background information to support this 2022 Stage 2 Abatement Plan in lieu of a separate Stage 1 Abatement Plan submittal.

As part of this 2022 Stage 2 Abatement Plan, the network of injection wells associated with remediation at the Site will be permitted and inventoried as Class V remediation injection wells in accordance with form C-108, at the direction of the NMOCD. Additional information is provided in Section 3.6 and Appendix B.

1.1.3 North Eunice Investigation and Remediation Activities Completed Pursuant to Discharge Permit GW-004

North Eunice was originally constructed in the 1940s by Skelly Oil Company and was acquired and modified by Texaco. It was operated as a turbo expander-type natural gas processing plant for the extraction of natural gas liquids until the 1980s when operations were halted. North Eunice is currently an active compressor station. Various structures remain onsite including compressors, a compressor building, a cooling tower, former office buildings, aboveground storage tanks, sumps, and piping. On July 1, 1998, operations were transferred to Versado Gas Processors, LLC, a limited liability partnership originally between Chevron and Dynegy Midstream Services (Dynegy). Dynegy was subsequently purchased by Targa, and Chevron divested its interest to Targa in 2016. North Eunice is currently owned and operated solely by Targa. Former gas plant site layout maps are provided in Appendix C.

Several investigations were conducted at North Eunice between 1995 and 2003, and the following constituents of concern (COCs) were identified: dissolved chromium and hexavalent chromium, dissolved petroleum hydrocarbons, BTEX, and total dissolved solids (TDS) represented by chloride. Arsenic, iron, and manganese are also included in the groundwater monitoring requirements set forth by the discharge permit and have been analyzed since 2004. Remedial efforts at North Eunice have been ongoing since 2003 and have included soil removal, LNAPL recovery, and in-situ treatment.

In 1995 and 1996, subsurface investigation of the compressor building area was conducted to determine if impacts to the shallow soil were present as a result of leaks from the compressor engines. Results indicated that TPH and chromium were present at concentrations greater than the relevant standards, and it was determined that impacts in soil at this location were likely due to leaks and spills of oil from the compressor engines rather than gasoline-related hydrocarbons. Deeper soil investigation defined the vertical extent of soil impacts in this area and noted that the dense layer of caliche located at approximately 14 feet below ground surface (bgs) likely impedes vertical movement of the hydrocarbons. Soil investigation also included the waste oil and water storage area, sumps north and south of the engine room, north sumps (northeast of facility), and the trash pit. The investigations concluded that soil impacts were likely the result of leaks and surface spills, rather than subsurface releases of hydrocarbons, in the onsite areas investigated (Highlander 1996).

From 2001 to 2003, soil sampling programs were conducted to evaluate several areas for the presence of COCs, including the waste oil water storage area, north sump area, compressor building area, plant perimeter and background areas, southwest drainage area, cooling tower area, and monitoring well and city park area. Approximately 740 cubic yards of impacted soils and the sumps located at the north sump area were removed from North Eunice, near the current location of monitoring wells MW005 and MW006. The north sumps contained oil and water from compressor engines, saltwater from water treaters, and blowdown water from boilers, and condensates. Excavated soils were stockpiled at the southwest corner of North Eunice and were periodically turned during the work to encourage volatilization prior to removal for offsite landfarm application. The investigations concluded that TPH, BTEX, and arsenic were present in soils at concentrations greater than the relevant standards in the north sump and compressor building areas; TPH and arsenic concentrations were greater than the relevant standards at the cooling tower area. Arsenic was the only other constituent exceeding soil standards at the remaining locations (Arcadis 2003).

Discussion of the origination of elevated chromium and chlorides in groundwater is not found in historical records for these soil investigations. Findings from groundwater investigations at North Eunice up to 2004 indicate that the groundwater containing dissolved chromium most likely originated from surface sources and percolated into the groundwater south and southwest of North Eunice (upgradient), and potentially within the gas plant. The greatest chromium concentrations occur southwest of North Eunice, under the southern part of the gas plant, and in an area immediately to the east of the gas plant (Arcadis 2005).

The limited amount of elevated hydrocarbons (particularly benzene) located within the North Eunice boundaries, was delineated. LNAPL was historically observed in two wells (MW005 and MW006), located near the eastern edge of North Eunice and near the location where the north sumps were removed. Weekly LNAPL removal was performed, and records indicate that approximately 120 gallons of LNAPL were removed between 1997 and 2005. LNAPL recovery continued as needed after 2006; however, compiled records do not indicate a cumulative volume of LNAPL removed.

Elevated chloride and TDS at North Eunice were unrelated to historical gas plant activities (Arcadis 2005). The highest concentrations appear at sites southwest and south of North Eunice (upgradient) and east of the gas plant. The sources of the high chloride concentrations were not identified with any certainty in past investigations (Arcadis 2005). In 2013, the area of the former sprinkler systems, which were used to distribute cooling tower blowdown wastewater and other wastewater that was collected in a sump tank, was investigated for the presence of residual chloride impacts in soil. The sprinkler systems of concern were located along the south and east sides of North Eunice. The investigation concluded that the sprinkler systems did not appear to be sources of chloride contamination in soil (Conestoga-Rovers & Associates [CRA] 2014).

Various injection systems for remediation of chromium in groundwater were tested and operated from 2003 to 2012. Molasses solution injections in downgradient injection wells were performed from 2003 to 2005 to create an in-situ reactive zone for chromium reduction and precipitation of chromate. Following bench-scale studies in 2005, molasses injections were discontinued. In 2008, calcium polysulfide and sodium acetate injections were pilot tested and results indicated that well injection well fouling became an issue despite a reduction in chromium concentrations during the pilot test. In 2012, sodium dithionite and soy lactate injections were pilot tested in two areas; however, full-scale injection operations were not initiated. Currently, there is no active remediation system operating onsite.

1.1.4 South Eunice Investigation and Remediation Activities Completed Pursuant to Discharge Permit (GW-003)

South Eunice was originally constructed in the 1940s by Skelly Oil Company and was acquired and modified by Texaco. It was operated as a turbo expander-type natural gas processing plant for the extraction of natural gas liquids until the 1980s when operations were halted. Various structures remain onsite including two compressors, a compressor building, a cooling tower, former office buildings, aboveground storage tanks, sumps, and piping. On July 1, 1998, operations were transferred to Versado Gas Processors, LLC, a limited liability partnership originally between Chevron and Dynegy. Dynegy was subsequently purchased by Targa, and Chevron divested its interest to Targa in 2016. South Eunice is currently owned and operated solely by Targa. Current site infrastructure associated with plant activities includes one active hydrogen sulfide gas injection well, which was installed in September 2011. Current remedial infrastructure includes an inactive groundwater extraction system

and three active bioventing units for passive LNAPL degradation (ongoing operation since 2017). Former site layout maps are provided in Appendix C.

Based on soil and groundwater investigations completed in 1996 and 1997, it was determined that BTEX and barium were present in groundwater at elevated concentrations in the southwest corner of South Eunice, where many of the facility sumps were located, and chloride and TDS were present in groundwater at elevated concentrations in the northeast corner of South Eunice, near the brine water retention ponds. Additional areas of concern included limited areas of LNAPL on the east side of South Eunice and BTEX to the south. Investigation of the Northern Natural Gas property, which is located to the north (upgradient) and adjacent to the South Eunice, also indicated potential sources of BTEX, metals, and chloride (Geraghty & Miller 1996). As a result of the investigations, COCs were identified including LNAPL, dissolved-phase hydrocarbons (onsite and offsite), chloride (onsite and offsite), TDS across the site, and dissolved-phase metals (onsite and offsite). Dissolved metals listed in the discharge plan include arsenic, barium, and chromium (total and hexavalent); however, specific source area investigation or discussion of the origination of these metals is not found in historical records.

Sump removal and overexcavation were performed at the east sump, slop oil sump, oil and water sump, concrete drain sump, and field oil pit “d” in 2000, and were backfilled, including a nutrient-rich slurry for enhanced natural attenuation. Approximately 4,800 cubic feet of soil, generated from excavation of spills or from upgrades in the plant operation, were previously stockpiled on the northeast corner of South Eunice. Additional soils from sump excavations were combined with this existing stockpile, and all soils were disposed of at an offsite landfarm facility (Highlander 2001).

Three lined water retention ponds were located on the east side of South Eunice and were used to temporarily store brine and produced water during site operations. Use of two of the ponds (Ponds #2 and #4) was discontinued in 1998 and the ponds were capped in 2000 (Highlander 2001). The third pond (Pond #3) was demolished in 2007, during which it was concluded that a breach in the liner of this pond may have been the source of the elevated chloride and TDS concentrations in the northeast area of South Eunice (SECOR 2007).

Historical project information indicates that four remediation systems have operated at South Eunice since December 2000, including soil vapor extraction (SVE; April 2004 to October 2006), LNAPL recovery (2003 through 2015), and chloride and TDS groundwater recovery (2004 through 2020). The installation, operation, and recovery of the four remediation systems are discussed below.

1.1.4.1 Soil Vapor Extraction

An SVE system was installed on the west side of South Eunice in April 2004 and operated until October 2006. The SVE consisted of a trailer-mounted thermal oxidizer, which extracted hydrocarbon vapors from recovery wells RW-2, RW-3, RW-4, and RW-5; and monitoring well MW-28. In September 2005, seven additional wells (MW-1, MW-2, MW-10, MW-24, MW-25, MW-26, and MW-27) were connected to the SVE system. The operation of the SVE was suspended in mid-October 2006 due to site demolition activities (SECOR 2007). Records indicate that a total of 300,560 pounds of hydrocarbons were recovered and treated by the SVE system while in operation (CRA 2009).

1.1.4.2 Light Nonaqueous Phase Liquid Recovery

LNAPL recovery has been performed at South Eunice intermittently since 2003 and focused recovery on both the west and east sides of South Eunice. From 2004 to October 2006, skimmer pumps were operated at west side

wells RW-2, RW-3, RW-4, RW-5, and MW-28 and approximately 5,330 gallons of hydrocarbons were recovered during that time. Interim manual LNAPL recovery was performed at South Eunice intermittently from 2011 to 2015, during which at least 450 gallons of LNAPL were removed from the west side wells based on historical reports. Mobile dual-phase extraction (MDPE) was initiated through a pilot test at west side wells RW-1, MW-27, and MW-28 in April 2015. Based on evaluation of the pilot test results, additional MDPE events were performed in August, October, and December 2015. During the four 2015 MDPE events at these three wells, an approximate total of 1,185 gallons of LNAPL and associated vapors (liquid equivalent) were recovered, and a total of 22,874 gallons of hydrocarbon- and chloride-impacted groundwater were recovered for off-site disposal. Historical records indicate a total of 7,554 gallons of LNAPL and 22,898 gallons of affected groundwater were recovered using skimmer pump, manual bailing, and MDPE methods from the LNAPL wells at the west side of South Eunice between 2004 and 2015 (GHD 2016a).

From May 2003 to through 2008, Ferret separation pumps were operated at east side wells MW-20 and MW-5 and approximately 3,700 gallons of LNAPL and 57,700 gallons of water were recovered during that time. From April 2009 to January 2011, a skimmer pump recovery system was operated at MW-20 and manual LNAPL recovery was performed at MW-5 to decrease the amount of water recovered as part of the LNAPL recovery system. Approximately 1,350 gallons of LNAPL were recovered using these methods. Manual recovery of LNAPL from the east side wells was performed in 2014 and 2015, recovering approximately 200 gallons of LNAPL. Manual recovery was suspended in August 2015 as MDPE recovery methods were initiated through a pilot test performed in April 2015 at well MW-5. Based on evaluation of the results of this pilot test, additional MDPE events were performed in August, October, and December 2015. During the four 2015 MDPE events at well MW-5, a total of approximately 260 gallons of LNAPL and associated vapors (liquid equivalent) were recovered, and a total of approximately 8,020 gallons of hydrocarbon- and chloride-impacted groundwater were recovered for offsite disposal. Historical records indicate that a total of approximately 5,600 gallons of LNAPL and 65,600 gallons of affected groundwater were recovered using skimmer pump, manual bailing, and MDPE methods from the east side wells from 2003 through 2015 (GHD 2016a).

Starting in 2016, LNAPL transmissivity was evaluated at South Eunice by conducting LNAPL baildown tests at monitoring wells. LNAPL baildown tests are analogous to rising-head slug tests that are typically used to estimate the average hydraulic conductivity of saturated geologic formation materials near the screened portion of a groundwater well under prevailing ambient test conditions. LNAPL is removed from the test well in one event, in a relatively short period of time, and fluid levels within the well are monitored to measure LNAPL recharge to the well and track LNAPL drawdown. LNAPL transmissivity values calculated from baildown testing are representative of the LNAPL transmissivity of the formation near the well being tested, under the conditions existing at the time of the test (Arcadis 2021b).

The LNAPL transmissivity values calculated from baildown test data were used to quantitatively characterize LNAPL transport conditions at South Eunice and to characterize LNAPL recoverability. Low LNAPL transmissivity values are indicative of conditions not conducive to practical hydraulic recovery. High LNAPL transmissivity values are indicative of higher LNAPL saturation and locally drainable/flowable LNAPL, and of locations ideal for bioventing to accelerate long-term reductions in LNAPL saturation and LNAPL mass.

In 2017, wellhead bioventing units were installed at wells with historical measurable LNAPL for individual well treatment. Bioventing is a remedial process in which oxygen is circulated through contaminated vadose zone soils via applied air flow for stimulation of microbial degradation of contaminants. Wells MW-1, RW-2, and MW-28 were initially identified for bioventing. Performance monitoring data for the unit installed at MW-1 indicated that remedial

objectives had been achieved at this well in 2019; therefore, the unit operating at MW-1 was moved to monitoring well MW-27 on July 27, 2020. Effluent gas monitoring is conducted to determine the volume of volatile organic compounds that have been removed and the rate of LNAPL degradation that has been achieved. As of September 2020, approximately 2,600 gallons of LNAPL have been degraded during system operation since 2017 (Arcadis 2021b).

1.1.4.3 Chloride and Total Dissolved Solids Recovery System

In 2004, the appropriation of 208 acre-feet (ac-ft) of groundwater per year from five on-site recovery wells was approved by the New Mexico Office of the State Engineer (NMOSE). Groundwater usage was granted on a per-well basis under the following NMOSE well permits:

- CP-009-S: MWD-9, 32 ac-ft
- CP-231-S: RW-7, 48 ac-ft
- CP-233-S: RW-6, 48 ac-ft
- CP-243-S: MWD-3, 32 ac-ft
- CP-244-S: RW-8, 48 ac-ft.

A chloride and TDS groundwater recovery system was installed in 2004 on the east side of South Eunice and consisted of two recovery wells (MWD-3 and MWD-9). In 2006, the network of recovery wells was expanded to include wells RW-6, RW-7, and RW-8. A total of 1,044,619 barrels of groundwater were recovered from 2004 through 2010. The extracted groundwater was disposed of at an onsite deep injection well (injection well #5) operated by Targa. In February 2011, Chevron notified the NMOCD that they no longer had permission from Targa to use the injection well and the recovery system operations were temporarily suspended (Chevron 2011). Limited groundwater recovery was performed at wells MWD-3 and MWD-9 from 2012 to October 2013 during system redesign, with the full-scale redesigned groundwater recovery system startup at the end of April 2014. The system operated from 2014 to April 2020, when the last two operating wells (MWD-3 and MWD-9) were taken out of service and made inoperable in October 2019 and April 2020, respectively. As directed by the NMOSE, CEMC continues to provide quarterly volume totals to the NMOSE for the five recovery wells; however, none of the wells are currently in operation and all downhole equipment has been removed. Historical records indicate that an approximate total of 1,483,800 barrels, or approximately 62,319,581 gallons, of chloride-impacted groundwater were recovered by this system from January 2004 through April 2020.

2 Conceptual Site Model

This section discusses the site and regional geology and hydrogeology, a water well inventory at the Site, site characterization and identification of COCs based on historical investigations conducted at the Site, and the current groundwater monitoring program at the Site.

2.1 Site Geology

The Site is underlain by the Ogallala Formation. From ground surface downward, the Ogallala Formation comprises:

- Surficial sand (eolian), sandstone, and caliche caprock.
- Interbedded sand and sandstone, with intermittent clay and caliche lenses (referred to as the sandstone).
- A discontinuous lower sand and gravel layer.
- The red clay deposit of the Chinle Formation (referred to as the clay redbed or Dockum Group).

The clay redbed forms the base of the Ogallala Formation. The geologic conditions beneath the Site are shown on cross sections provided in Appendix D (Arcadis 2021a, 2021b). The clay redbed is located at depths of approximately 45 to 115 feet bgs in the site vicinity. The upper sandstone consists of sandstone with caliche and clay lenses, with a thickness ranging from approximately 20 to 80 feet (GHD 2016b).

The sand and gravel layer consists of fine- to medium-grained sand and gravel, with intermittent clay lenses at some locations. This unit has a thickness ranging from approximately 0 to 20 feet. A ridge in the clay redbed is present at North Eunice along the existing row of injection wells (IW001 to IW012), approximately ½ mile northeast of North Eunice, between Continental Road and 6th Street. The sand and gravel layer is absent in places along this clay redbed ridge (GHD 2016b).

2.2 Site Hydrogeology

The Site lies in the southern High Plains of the Great Plains physiographic province situated in the Eunice Plain, which is bounded on the south by the South Plain, on the east by Rattlesnake Ridge, on the northeast by the High Plains, on the northwest by the Laguna Valley and Gramma Ridge Area, on the west by the San Simone Ridge, San Simone Swale, and on the southwest by the Antelope Ridge Area (SECOR 2007, Arcadis 2005).

2.2.1 Former North Eunice Gas Plant Hydrogeology

North Eunice and the surrounding area are underlain by the Ogallala Formation, which is bounded by claystones, sandstones, siltstones, and shale 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. Historically, North Eunice was characterized by deep and shallow wells. In 2016, an in-depth review of site boring logs, COC concentrations, and well screen intervals across North Eunice was completed, and it was determined there was no technical justification for the two zones. Boring logs do not indicate the presence of a confining layer that would validate the presence of two separate zones. Wells previously considered deep and shallow do not display differences in COC concentrations or water-level elevations (Arcadis 2017a).

Groundwater elevation, as presented in the 2020 Annual Groundwater Monitoring Report (Arcadis 2021a), ranged from 3,354.05 feet above mean sea level (amsl; MW086SA) to 3,394.08 feet amsl (MW010) during the March 2020 semiannual gauging event and from 3,353.51 feet amsl (MW086SA) to 3,391.17 feet amsl (MW032) during the September 2020 semiannual gauging event.

Groundwater at North Eunice flows to the northeast, with a gradient of approximately 0.005 foot per foot (ft/ft); 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 (Arcadis 2021a). The 2020 annual potentiometric surface elevation map and 2020 groundwater elevations are shown on Figure 3 and presented in Table 4 of Appendix E; historical groundwater elevations are provided in Appendix C of the 2020 Annual Groundwater Monitoring Report (Arcadis 2021a).

2.2.2 Former South Eunice Gas Plant Hydrogeology

South Eunice and the surrounding area are underlain by the Ogallala Formation, which is bounded by claystones, sandstones, siltstones, and shale 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. Historically, South Eunice was characterized by deep and shallow wells. In 2016, an in-depth review of site boring logs, COC concentrations, and well screen intervals across South Eunice was completed, and it was determined there was no technical justification for differentiating the two zones. Boring logs do not indicate the presence of a confining layer that would validate the presence of two separate zones. Wells previously considered deep and shallow do not display differences in COC concentrations or water-level elevations (Arcadis 2017b).

Groundwater elevations presented in the 2020 Annual Groundwater Monitoring Report (Arcadis 2021b) ranged from 3,279.33 feet amsl at MW-28 to 3,285.23 feet amsl at MW-25 during the spring 2020 semiannual gauging event and from 3,281.90 feet amsl at MW-15 to 3,285.27 feet amsl at MW-25 during the fall 2020 semiannual gauging event.

Groundwater flows to the southeast across South Eunice, with an average gradient of approximately 0.002 ft/ft to the southeast (Arcadis 2021b). The 2020 annual potentiometric surface elevation map and 2020 groundwater elevations are shown on Figure 3 and presented in Table 4 of Appendix F; historical groundwater elevations are provided in Appendix C of the 2020 Annual Groundwater Monitoring Report (Arcadis 2021b).

2.3 Regional Conditions

2.3.1 Regional Geology

The geologic formation of interest at the Site includes (from the oldest to the youngest): Triassic Chinle, Cretaceous undifferentiated, Tertiary Ogallala, and Quaternary windblown sediments designated as the Blackwater Draw Formation. Of particular interest with the groundwater impact at the Site are the Tertiary Ogallala and the Blackwater Draw, which together make up the Ogallala aquifer (SECOR 2007).

The Triassic Chinle Formation is composed of red and yellowish-green claystone and shell interbedded with fine-grained sandstones and siltstones. The top of the Chinle Formation (base of the Ogallala aquifer) is an erosional surface.

The Cretaceous Formations has been eroded and has not been encountered at the Site.

The lower Tertiary Ogallala Formation is the primary freshwater-bearing formation near and under the Site. The Ogallala Formation rests uncomformably upon the claystones, shales, sandstones, and siltstones of the Triassic Chinle Formation. It is a heterogeneous combination of clay, silt, sand, and gravel of braided-stream deposits interbedded with, and overlain by, eolian sediments deposited as sand sheets and loess. These river- or stream-

related (fluvial or alluvial) sediments were deposited on a sloping plain in the form of coalescing alluvial fans by streams that originated in the Rocky Mountains to the west and northwest. The Ogallala Formation was deposited in the lenses of predominately medium- to yellowish-brown conglomeratic sandstone. In contrast to the fluvial deposition of the lower Ogallala sediments, the upper part of the Ogallala and all of the Blackwater Draw Formation overlying the Ogallala Formation are composed of eolian deposits.

The Blackwater Draw Formation occurs as a mantle of Quaternary eolian sediments throughout the Southern High Plains. During the depositional time of the Blackwater Draw, laterally restricted lenticular layers of eolian and playa lake (lacustrine) facies were formed. The Blackwater Draw occurs below the relatively well-developed soils at the Site and contains 5 to 20 feet of firm to very hard caliche that is overlain by reddish sediments composed of moderately well-developed soils (SECOR 2007).

2.3.2 Regional Hydrogeology

The primary source of freshwater at the Site is the Ogallala aquifer. The Ogallala aquifer at the Site consists of fluvial and eolian sediments of the Tertiary Ogallala Formation and eolian sediments of the Quaternary Blackwater Draw Formation. The Ogallala aquifer is bounded unconformably upon the erosional surface of the claystones, shales, sandstones, and siltstones of the Triassic Chinle Formation. The Chinle Formation forms the base of the fresh groundwater in the area due to its low vertical permeability (SECOR 2007).

The base of the Ogallala aquifer is composed of 5 to 10 feet of gravel, sand, and clay. This gravel unit is overlain by alternating layers of loose and well-consolidated red and yellow sandstones. Overall depth to groundwater measurements collected in 2020 show that groundwater roughly varies with typography across the Site, ranging from 28 to 66 feet bgs (Arcadis 2021a, 2021b).

The groundwater gradient at North Eunice generally slopes to the northeast and the groundwater gradient at South Eunice generally slopes to the southeast, following the topographic slope toward Monument Draw.

2.4 Water Well Inventory

2.4.1 North Eunice Water Well Inventory

The 66 registered water wells located inside and within 1 mile of the perimeter of the three-dimensional contaminate plume are presented in Table 1. A majority of the registered water wells fall within the plume and along the perimeter. CEMC supplies potable water monthly to one residence (Teague) located downstream of the Site.

The water wells include:

- One 72-12-1 livestock watering
- One cathodic protection
- Three closed files
- Nine commercial
- Fifteen domestic

- Thirteen industrial
- Eleven irrigation
- Three municipal
- Two no use of right or pod
- Three non 72-12-1 domestic
- One non 72-12-1 domestic and livestock
- Two pollution control
- Two sanitary in conjunction with commercial use.

2.4.2 South Eunice Water Well Inventory

The 56 registered water wells located inside and within 1 mile of the perimeter of the three-dimensional contaminate plume are presented in Table 2. A majority of the registered water wells fall within the plume and along the perimeter.

The water wells include:

- One 72-12-1 domestic and livestock watering
- One 72-12-1 livestock watering
- One 72-12-1 prospecting or development of natural resources
- One cathodic 72-12-1 prospecting or development of natural resources
- Four commercial
- One domestic
- Twenty-six industrial
- One non 72-12-1 domestic
- Three non 72-12-1 domestic and livestock
- Five non 72-12-1 livestock watering
- One sanitary
- Eleven secondary recovery of oil.

2.5 Site Characterization and Constituents of Concern

2.5.1 North Eunice

The historical investigations summarized in Section 1.1.3 identified the following COCs at North Eunice: chloride, TDS, dissolved chromium, dissolved hexavalent chromium, dissolved arsenic, dissolved iron, dissolved manganese, BTEX, gasoline-range organics (GRO), and diesel-range organics (DRO).

The current North Eunice groundwater chloride plume covers approximately 290 acres, including the former gas plant and adjacent properties, both upgradient and downgradient (Figures 4 and 5 of Appendix E). The upgradient and downgradient chloride plume edges are currently not delineated. Based on information collected from historical investigations described in Section 1.1.3, the source of chloride impacts is not believed to be a result of any site activities. The highest concentration of chloride is consistently located at an upgradient, offsite location believed to be the source area of the chloride plume; however, historical activities at this location are unknown. Variable concentration 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 North Eunice could indicate natural fluctuations within the plume footprint and potential concentration migration within the plume, especially because no active treatment is being conducted at this time. Decreasing trends near the leading edge of the plume at MW086SA but increasing trends at the southeastern edge (MW073SA) and northern edge (MW100) indicate variable behavior within the plume at the leading edge. This variable behavior is potentially attributed to naturally occurring fluctuations because no active treatment is being conducted at this time (Arcadis 2021a).

The groundwater chromium and hexavalent chromium plume is delineated and contained within the chloride plume footprint (Figures 6 through 9 of Appendix E). Based on information collected from historical investigations described in Section 1.1.3, the source of chromium impacts is not directly linked to historical site activities and the highest concentrations of chromium indicate that the source area could be upgradient of North Eunice. However, potential historical spills or leaks from the gas plant may have contributed to the overall plume. As of 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 North Eunice. 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 being conducted at this time (Arcadis 2021a).

Dissolved arsenic has been historically detected at concentrations greater than the NMWQCC standard in areas of North Eunice, although it should be noted that the standard was lowered from 0.1 to 0.01 milligram per liter (mg/L) in July 2020, which has resulted in additional exceedances due to the administrative change. Currently there is not a discernable arsenic trend identified along the axis of the groundwater plume and arsenic is believed to be a transient issue due to reducing conditions as a result of localized TPH and LNAPL, in addition to the presence of total organic carbon (TOC) from historical injections to treat chromium. As the overall chromium

plume attenuates, it is anticipated that arsenic will return to stable, background conditions. Historical investigations indicate that background arsenic at North Eunice may still exceed the current NMWQCC standard; therefore, future evaluation may be conducted to determine the appropriateness of the current arsenic NMWQCC standard at the Site.

Similar to arsenic, dissolved iron and manganese are believed to be a transient result of the increased TOC due historical injections. This is seen through the localized nature of metals exceedances in areas of the historical injection wells, and the exceedances have not propagated beyond the injection areas. As the overall chromium plume attenuates, it is anticipated that iron and manganese will return to stable, background conditions. Future evaluation may be conducted to ensure that the NMWQCC standards are appropriate for the Site.

Elevated hydrocarbons, particularly benzene, in groundwater are delineated and located within the North Eunice gas plant boundaries. LNAPL has been historically observed in two wells, MW005 and MW006, located near the eastern edge of the plant and near the former location of the north sumps. Based on historical investigations, it is believed that hydrocarbon impacts are a result of onsite surface leaks and spills. Upgradient source areas of chloride do not appear to be source areas of BTEX or hydrocarbon impacts based on historical data at MW068, MW069, and MW031.

Current concentrations of COCs (as of 2020) are presented in the tables provided in Appendix E; historical analytical data for North Eunice are provided in Appendices E and F the 2020 Annual Groundwater Monitoring Report (Arcadis 2021a).

2.5.2 South Eunice

The historical investigations summarized in Section 1.1.4 identified the following COCs at South Eunice: chloride, TDS, dissolved chromium, hexavalent chromium, dissolved arsenic, dissolved barium, BTEX, GRO, and DRO.

The current South Eunice groundwater chloride plume covers approximately 110 acres, including the former gas plant site and adjacent properties (Figures 7 and 8 of Appendix F). Based on information collected from historical investigations described in Section 1.1.4, the main source of chloride impacts was likely breaches in the liners of the brine retention ponds located in the northeast portion of South Eunice. Decreasing chloride concentration trends seen across the upgradient portion of the plume (as represented by MW-35, TMW-1, MW-26, MWD-14, and MW-32) could indicate natural plume attenuation or migration within the existing plume footprint. Stable concentrations seen at the easternmost edge of the plume near MWD-7 also support the stability of the upgradient to crossgradient plume edges. An increasing trend seen in the area of MW-29, MW-36, and MW-38 could indicate a natural concentration migration within the plume footprint toward the downgradient, leading edge of the chloride plume (Arcadis 2021b).

The benzene plume is generally encompassed within the chloride plume and covers a smaller footprint generally within the South Eunice gas plant property (Figures 5 and 6 of Appendix F). While the specific sources of BTEX and TPH constituents are not identified based on historical investigations, the sources likely were sump areas within the main gas plant operation and potentially areas within the upgradient Northern Natural Gas property; however, this assumption is not confirmed. A significantly increasing trend indicated at the most upgradient fringe of the plume represented by TMW-1 could indicate that a residual source is potentially contributing to the overall plume to a limited extent because concentrations at this well remain near the NMWQCC groundwater standard for benzene. Significantly decreasing trends seen downgradient and a stable trend seen in the eastern plume area

(MWD-9), however, could indicate that the plume footprint and concentration are potentially naturally attenuating at the leading edges because active benzene treatment is not being conducted at this time (Arcadis 2021b).

Localized LNAPL presence is delineated at South Eunice (Figure 4 of Appendix F). Limited LNAPL characterization and forensic assessment completed in 2017 determined that LNAPL to the north at TMW-2, near the Northern Natural Gas property, and to the east at MW-20 have similar compositions consistent with partially weathered crude oil, with LNAPL at TMW-2 more weathered than at MW-20. LNAPL present at the west side of the South Eunice plant area, encompassing RW-1 and MW-28, have similar compositions consistent with partially weathered gas condensate, with LNAPL at RW-1 more weathered than at MW-28. Based on this assessment, it is assumed that potential separate LNAPL sources were located in the areas of TMW-2 and RW-1. LNAPL is believed to be attenuating naturally across South Eunice based on indicators such as temperature, LNAPL transmissivity, and emissions from bioventing unit operation. It is assumed the LNAPL will continue to naturally attenuate through the active treatment of other COCs.

Dissolved arsenic has been historically detected at concentrations greater than the NMWQCC standard in areas of South Eunice, although it should be noted that the standard was lowered from 0.1 to 0.01 mg/L in July 2020, which has resulted in additional exceedances due to the administrative change. Currently there is not a discernable arsenic trend identified along the axis of the groundwater plume and arsenic is believed to be a transient issue due to reducing conditions as a result of localized TPH, BTEX, and LNAPL. As the overall benzene and LNAPL plumes attenuate, it is anticipated that arsenic will return to stable, background conditions. Historical investigation indicates that background arsenic at South Eunice may still exceed the current NMWQCC standard; therefore, future evaluation may be conducted to determine the appropriateness of the current arsenic NMWQCC standard at the Site.

Dissolved barium concentrations in groundwater exceeding the NMWQCC standard appear to be in localized areas across South Eunice and likely are a result of site operations. As the overall benzene, LNAPL, and chloride plumes attenuate, it is anticipated that barium impacts will resolve; however, future evaluation may be conducted to determine the appropriateness of the current barium NMWQCC standard at the Site.

Current concentrations of COCs (as of 2020) are presented in tables provided in Appendix F. Historical analytical data for South Eunice are provided in Appendices E and F the 2020 Annual Groundwater Monitoring Report (Arcadis 2021b).

2.6 Current Groundwater Monitoring Program

2.6.1 Sampling Methodology

Prior to 2016, groundwater samples were collected at the Site using low-flow sampling techniques. In April 2016, CEMC submitted a request to change the method to no-purge sampling using a HydraSleeve (HS). This change was approved by the NMOCD via email on March 25, 2016.

Starting with the May 2016 groundwater monitoring event, HS samplers have been used at all wells sampled across the Site. A comparison of previous sampling method results from 2015 to the 2016 and 2017 HS results was performed for the primary COCs at North Eunice and South Eunice, and is provided in Appendix F of the 2017 Annual Groundwater Monitoring Report (Arcadis 2018a, 2018b). The comparison showed that results from

HS sampling were comparable to low-flow results (within an acceptable range of +/- 30 percent) and the change in sample method would not negatively impact trend evaluation or system performance evaluation.

Three anomalies were observed as part of the sampling method comparison at North Eunice; HS results for wells MW026, MW045, and MW065SA did not follow historical trends. Therefore, these wells were vertically profiled at a maximum of four discreet intervals (HS samples were taken from four different vertical locations to evaluate variability) during spring 2018 and the most conservative results for COCs at North Eunice were used to determine the optimal HS sample interval going forward.

One anomaly was observed as part of the sampling method comparison at South Eunice; HS results at well TMW-6 did not follow historical trends. Therefore, this well was vertically profiled at three discreet intervals (HS samples were taken from three different vertical locations to evaluate variability) during the spring 2018 event and the most conservative results for COCs at South Eunice were used to determine the optimal HS sample interval going forward.

2.6.2 Groundwater Monitoring and Reporting

Groundwater conditions at North Eunice are evaluated with a network of approximately 80 monitoring wells based on the Sampling and Analysis Plan (SAP; Arcadis 2017c) and updated network established in the Proposed Groundwater Monitoring Reduction Workplan (Arcadis 2020a). Spring monitoring events include sampling and gauging of 80 wells and fall events include sampling and gauging a reduced set of 32 wells (Figure 2 of Appendix E).

Groundwater conditions at South Eunice are evaluated with a network of approximately 66 wells based on the SAP (Arcadis 2017d) and updated network established in the Proposed Groundwater Monitoring Reduction Workplan (Arcadis 2020b). Spring monitoring events include sampling and gauging of all 66 wells and fall events include sampling and gauging a reduced set of 20 wells (Figure 2 of Appendix F).

After recording fluid levels in required monitoring locations, monitoring wells are sampled using no-flow HS methodology and field filtered. At a minimum, water quality parameters pH, temperature, dissolved oxygen, turbidity, oxidation-reduction potential, and conductivity are recorded during well sampling. Duplicates are collected at a rate of 10 percent. Groundwater samples are transported to a State of New Mexico-certified laboratory, under chain-of-custody protocol for the following analyses:

- Metals by United States Environmental Protection Agency (USEPA) Method 6020:
  - North Eunice: arsenic, chromium, iron, manganese
  - South Eunice: arsenic, chromium, barium
- Hexavalent chromium by USEPA Method 7196A
- Chloride by USEPA EPA Method 300.0
- TDS by USEPA Method 2540C
- BTEX by USEPA Method SW 8021B.
- GRO and DRO by USEPA Method 8015B.

Pursuant to the SAP (Arcadis 2017c) for North Eunice, sampling and analysis of BTEX, GRO, and DRO is only performed at eight selected wells in the northeast corner of North Eunice where these COCs and/or LNAPL have been historically detected or that horizontally delineate such detections.

Results of the two semiannual monitoring events are summarized and presented in annual reports for North Eunice and for South Eunice submitted to the NMOCD by March 15 of the following year. The annual reports include the semiannual gauging and analytical data, semiannual COC contour maps, an annual potentiometric surface map, and geologic cross sections for North Eunice and South Eunice.

3 Abatement Plan

This section discusses the approach that will be taken to remediate site COCs, including the development and assessment of abatement options, the preferred abatement option design, abatement standards, monitoring program updates, site maintenance activities, and Class V injection wells.

3.1 Development and Assessment of Abatement Options

To successfully implement a groundwater remedy at the Site, several key strategic and tactical decisions were first considered, including which technical approaches should be used to remediate the chromium-, benzene-, LNAPL- and chloride-impacted groundwater, and how to handle brine generated from the groundwater treatment plant (GWTP).

Six remedial technologies were identified to address the primary strategic decisions associated with groundwater treatment and waste disposal at North Eunice:

1. Electrodialysis reversal (EDR), treated water reinjection/Dynamic Groundwater Recirculation (DGR), and offsite brine handling
2. EDR, reverse osmosis (RO) brine reduction, treated water reinjection/DGR, and offsite brine handling
3. RO and multimedia filtration (MMF), RO brine reduction, treated water reinjection/DGR, and offsite brine handling
4. Groundwater extraction (no treatment) and untreated groundwater transportation and injection at offsite Christmas #1 saltwater disposal (SWD) well
5. Groundwater extraction (no treatment) and pipeline to offsite Christmas #1 SWD well for injection of untreated groundwater
6. Groundwater extraction (no treatment), onsite evaporation pond, and untreated groundwater transport and injection at offsite Christmas #1 SWD well

Six remedial technologies were identified to address the primary strategic decisions associated with groundwater treatment and waste disposal at South Eunice:

1. Liquid granular activated carbon (LGAC), EDR, active venting and natural source zone depletion (NSZD), treated water reinjection/DGR, and offsite brine handling
2. LGAC, EDR, active venting and NSZD, RO brine reduction and treated water reinjection/ DGR, and offsite brine handling
3. LGAC, RO, active venting and NSZD, RP brine reduction, treated water reinjection/ DGR, and offsite brine handling
4. Groundwater extraction (no treatment), active venting and NSZD, and untreated groundwater and injection at off-site Christmas #1 SWD well
5. Groundwater extraction (no treatment), active venting and NSZD, and pipeline to offsite Christmas #1 SWD well for injection of untreated groundwater

6. Groundwater extraction (no treatment), active venting and NSZD, on-site evaporation pond, and untreated groundwater transport and injection at offsite Christmas #1 SWD well

The decision criteria identified for assessing each strategic alternative included long-term effectiveness and permanence, implementability and practicality, stakeholder support and acceptance, waste generation, and protection of human health and the environment.

Ultimately, alternative #1, EDR, treated water reinjection/DGR, and offsite brine handling, was chosen as the preferred alternative for North Eunice and alternative #1, LGAC, EDR, active venting and NSZD, treated water reinjection/ DGR, and offsite brine handling, was chosen as the preferred alternative for South Eunice.

Following selection of the preferred alternative, additional key decisions were evaluated, including selection of a phasing approach for remedy implementation to effectively address the primary risk drivers at the Site; the number of treatment plants that should be installed to manage cost, risk, operability, and schedule; and, if one centralized plant is selected, the location of the plant.

Six alternatives were identified to address the primary tactical decisions associated with how to address the impacted groundwater and disposal of the generated waste:

1. Two separate treatment plants, with implementation occurring simultaneously at North Eunice and South Eunice
2. One treatment plant located at North Eunice, with implementation occurring simultaneously at North Eunice and South Eunice
3. One treatment plant located at a central location, with implementation occurring simultaneously at North Eunice and South Eunice
4. Two separate treatment plants, with implementation occurring first at North Eunice and then South Eunice
5. One treatment plant located at North Eunice, with implementation occurring first at North Eunice and then South Eunice
6. One treatment plant located at a central location, with implementation occurring first at North Eunice and then South Eunice.

The decision criteria identified for assessing each tactical alternative included long-term effectiveness, lifecycle cost, schedule, implementability, Site operation and management, stakeholder acceptance, and health and safety considerations (site worker and public).

Ultimately, alternative #5, one centralized treatment plant located at North Eunice, with implementation occurring first at North Eunice then South Eunice, was chosen as the preferred alternative.

3.2 Preferred Abatement Option

As discussed above, the preferred abatement option was determined through multiple alternatives analysis steps before full-scale design of the treatment technology commenced. As design progressed, minor alterations were made to the preferred alternative as more detailed site and technology considerations surfaced. Design

alterations following the alternatives analysis included the addition of site-specific groundwater pretreatment steps and offsite brine handling.

During a meeting with the NMOCD in October 2016, CEMC shared the remedial path forward and attained concurrence on progressing with design of the preferred abatement option.

Following internal treatment technology pilot testing and design review, CEMC submitted a Groundwater Remedial Design Overview (Arcadis 2018c), to the NMOCD at the completion of final design to attain concurrence on remedial implementation and GWTP construction activities. The intent of the Groundwater Remedial Design Overview (Arcadis 2018c) was to summarize the overall remedial approach and engineering design for the full-scale groundwater remediation system to treat COCs consistent with previous NMOCD Discharge Permits GW-004 and GW-003, which were the assumed governing regulatory documents at the time.

Following building permit approval in August 2018, construction of the groundwater treatment system began in September 2018. Remediation wells were installed in November 2018. The main building and North Eunice remediation system construction was largely completed by the end of 2020. The remaining construction scope to be completed prior to startup activities includes the installation of North Eunice headers 3 and 4, which is anticipated to be completed in 2022.

3.2.1 Groundwater Model

Groundwater flow and solute transport models for the Site were developed as the basis for determining the DGR remedy design and evaluation. This remedial strategy is a method of recirculation to enhance groundwater flushing and access stored COC mass by creating dynamic hydraulic gradients within the target treatment area. Injection and extraction wells, installed as a component of the DGR remedy, will be optimized dynamically during the remedy lifecycle to maximize COC mass removal as the remedy progresses. DGR allows for optimized pore flushing to achieve a remedial timeframe that is generally lower compared to extraction via pump and treat only. Details regarding how the groundwater flow and solute transport models for the Site were used to design the DGR remedies are described below.

Prior to modeling, the volume of groundwater impacted with COCs and the required number of pore flushes to reduce the average groundwater concentrations to the target cleanup goals were computed for the Site. North Eunice volumes included chloride and chromium plumes, while volumes at South Eunice focused on the chloride plume. Initial DGR system cumulative flow rates were based upon the number of pore flushes required to achieve cleanup goals, the initial plume volume, and the targeted cleanup timeframes for the Site. These flow rates, in conjunction with assumed sustainable yields per injection and extraction well, were used to initially determine the number of injection and extraction wells needed. At North Eunice, the chromium and chloride plume footprints overlap, and the chloride plume requires the greater volume of groundwater to be treated. Therefore, the chloride plumes were the drivers for the initial DGR design at the Site; however, BTEX and chromium plume distribution was considered during well placement.

Extraction well locations and flow rates were determined using three key considerations:

1. Property access to install wells (identified areas where well installation would not be feasible)
2. Naturally occurring hydraulic gradient and ability to maintain hydraulic control of all COC plumes to prevent any offsite migration

3. Maximizing mass recovery by extracting from high-concentration areas within the plume.

Injection well locations and flow rates were determined with the following objectives:

1. Hydraulically constrain the plume to prevent expansion beyond the current footprint using perimeter injection wells
2. Interior injection well locations to break up stagnation points that may develop during remedy operation and manage hydraulic gradients to flush contaminants toward extraction wells while not compromising hydraulic capture of the plume
3. Maximize pore flushing through plume areas with high concentrations.

Based on the considerations listed above, the initial extraction and injection well locations and flow rates were evaluated with the groundwater flow model developed using MODFLOW-88 (McDonald and Harbaugh 1988) and MODALL (Potter et al. 2008). MODALL is a groundwater modeling code developed by Arcadis that uses cell-by-cell flow terms generated by MODFLOW to determine the percentage of flow in each cell of the model originating from a given source(s) or flowing to a specified sink(s). Output is in the form of capture fractions and pore volume exchange rates at each cell. These results can be combined with initial concentration datasets to compute the pore volume flushes necessary to reach a specified concentration level (i.e., period of performance) or to identify potential stagnation zones. Based on the MODALL results, the extraction and injection well locations and flow rates were optimized.

Upon completion of the groundwater flow model, the solute transport model MT3DMS (Zheng and Wang 1999) was run to simulate plume contraction through time. Three operational scenarios were simulated for chloride transport to evaluate different levels of chloride treatment during the targeted treatment timeframe. The scenarios included reinjection of treated water at proposed injection wells with chloride concentrations of 50, 100, and 200 mg/L, which are less than the state cleanup threshold of 250 mg/L. The 100 mg/L reinjection scenario was selected for final design. The chromium plume simulation at North Eunice includes the assumption that chromium will be fully treated (i.e., nondetect) prior to injection. The results of these solute transport runs were the basis to further adjust well locations and flow rates to meet cleanup goals and provide design parameters for installation of the DGR system components.

The final DGR design reflects the ideal well locations in accessible areas and targeted flow rates that will achieve remedial cleanup targets within the desired timeframe of 25 years. It is anticipated that the model will be periodically updated during remedy implementation to better reflect existing conditions and evaluate future optimizations. Planned optimizations (including well relocations and flow rate adjustments) were built into the model and will be carried out during predetermined optimization phases. Although the flow and transport model is integral to the initial design phase and optimization evaluation, the operational data will be the main tool to evaluate remedy performance.

3.2.2 Basis of Design

The GWTP location is across Highway 248 from Eunice North on Parcel #40050207001, which is owned by Chevron U.S.A. Inc. This location was chosen for the GWTP because it is centrally located within the Eunice North plume and provided sufficient vacant space for conveyance piping and associated GWTP infrastructure

installation. There is also an existing high-voltage power line near the proposed plant location where Xcel Energy could install a transformer to supply power to the GWTP.

The GWTP conducts groundwater extraction, treatment, and injection for remediation of impacted groundwater at the Site. North Eunice and South Eunice are approximately 6 miles from one another, on either side of the city of Eunice, along New Mexico State Highway 248. Groundwater from South Eunice will be pumped to the GWTP via a high-density polyethylene (HDPE) conveyance pipeline that will be constructed prior to operation of the extraction and injection system at South Eunice. Treated water will also be pumped to South Eunice via the same HDPE conveyance pipeline. The pipeline will include a fiber optic communication line for automation and control of the South Eunice water conveyance infrastructure from the GWTP located at North Eunice. The current proposed route is approximately 8 miles, as shown on Figure 5 of Appendix G, but the precise route may vary as land access negotiations are advanced. The extracted groundwater pipeline and the treated injection water pipeline will be 6 inches in diameter, with a maximum operating pressure of approximately 135 pounds per square inch (psi). Pumps will be installed at the inlet end of each pipe and pump stations are not anticipated to be required along the pipeline. The extracted groundwater flow rate from South Eunice to North Eunice will be approximately 100 gallons per minute (gpm). The treated water flow rate from North Eunice to South Eunice will be approximately 90 gpm. The piping system will be rated for a minimum of 300 psi. Operation of the GWTP will follow a detailed operations and maintenance (O&M) plan that will be made available upon request.

To safeguard from untreated groundwater being unintentionally reinjected, the system will be equipped with check valves to prevent backward flow of untreated water. In addition, the programming and piping will be set up so that water treatment will not be bypassed during a system upset condition. There are separate pipes, one for extracted, untreated groundwater from South Eunice to the North Eunice GWTP, and one for treated water from the North Eunice GWTP to South Eunice reinjection points, in order to keep process streams separated. Periodic testing will be completed to confirm that injected water meets the standards set in Section 3.3.

Conveyance piping will be flushed or rinsed as needed and process indicators such as flow and pressure will be monitored as described in Section 3.5 to determine when these activities will be required. If a pattern is determined during normal operations, a change to a proactive scheduling may be used. Treated water will be flushed through the conveyance lines, re-routed from the system, and sent back to the influent side after flushing for treatment prior to injection. Water used during flushing that is not returned to the system for treatment and injection will be tracked separately.

The GWTP is designed to treat groundwater extracted from 42 extraction wells located at the Site to treat COCs as described in Section 2.5, consistent with former Discharge Permits GW-004 and GW-003. The GWTP uses technologies including MMF, ion exchange (IEX), LGAC, and EDR to achieve the discharge standards for COCs prior to reinjection. Extraction well IDs are presented below and shown on the design drawings provided in Appendix G:

Site	Well IDs
North Eunice	N-EW-1, N-EW-2, N-EW-3, N-EW-4, N-EW-5S, N-EW-5D, N-EW-6S, N-EW-6D, N-EW-7S, N-EW-7D, N-EW-8, N-EW-9, N-EW-10S, N-EW-10D, N-EW-11S, N-EW-11D, N-EW-12S, N-EW-12D, N-EW-13S, N-EW-13D, N-EW-14S, N-EW-14D, N-EW-15S, N-EW-15D.

South Eunice	S-EW-8S, S-EW-8D, S-EW-9S, S-EW-9D, S-EW-1S, S-EW-1D, S-EW-2S, S-EW-2D, S-EW-3S, S-EW-3D, S-EW-4S, S-EW-4D, S-EW-5S, S-EW-5D, S-EW-6S, S-EW-6D, S-EW-7S, S-EW-7D.

Operational start dates and flow rates for each individual extraction well will vary to optimize containment and treatment, and will be adjusted based on subsurface hydraulic observations and COC monitoring. Flow rates for the North Eunice and South Eunice extraction wells will range from 5 to 30 gpm.

The extracted groundwater will be treated through MMF, IEX, LGAC, and EDR processes to achieve discharge standards for the COCs.

3.2.2.1 Multimedia Filtration

MMF is provided ahead of the other pretreatment steps to reduce suspended solids in the influent process stream prior to entering the IEX and LGAC vessels. IEX influent specification requires filtration of suspended solids to less than 10 microns. MMF is an effective technology to filter suspended solids to less than 5 microns. The GWTP will be equipped with two duplex filter skids. Each skid will filter water from North Eunice and South Eunice, separately, prior to the IEX and LGAC vessels, respectively. The MMF vessels are slightly oversized compared to the anticipated flow rate. The filters were selected to accommodate potential expansion, and slightly oversized filters will not have a deleterious effect on filtration.

3.2.2.2 Ion Exchange

Extracted groundwater from North Eunice will contain dissolved chromium, including hexavalent chromium, at concentrations greater than NMWQCC standards. It is expected that influent water quality will vary based on well flow rates and phase of operation but will generally improve through time due to plume degradation. Anticipated concentrations are based upon the groundwater model and blending scenarios using locations and flow rates determined by the groundwater model.

While EDR can remove chromium, the concentrated brine produced by the EDR process would contain high levels of chromium if not pretreated, which would significantly limit brine disposal options. Therefore, groundwater from North Eunice will be pretreated to remove chromium. Arcadis performed a bench-scale treatability (BST) study at Arcadis' treatability laboratory in Durham, North Carolina to evaluate the most appropriate technology for chromium pretreatment. The objectives of the study were to perform small-scale column testing of multiple IEX resins to identify the most effective resin type, perform jar tests to evaluate chemical reduction/precipitation effectiveness, and generate performance data to guide and verify the design of a scaled-up pilot system.

The selected technology is IEX using a weak base anion (WBA) exchange resin. SIR-700 supplied by ResinTech, Inc., was used for the BST study. WBA exchange resins are characterized by higher achievable hexavalent chromium loadings than other resins but are not regenerable and often require pH adjustment for optimal hexavalent chromium removal. WBA resins work by reducing hexavalent chromium to trivalent chromium and complexing the chrome with the resin. During the BST study, the SIR-700 was successful in treating hexavalent chromium to less than the detection limit by targeting an empty bed contact time (EBCT) of 15 minutes and adjusting the influent pH to 6 prior to treatment.

While the pH was within the predicted range provided by the vendor, the EBCT was approximately 50 percent higher than the highest predicted value. TOC was measured in the influent water at approximately 40 mg/L at the beginning of the BST study and has the potential to interfere with hexavalent chromium removal. At the conclusion of the BST study, TOC in the influent water had degraded to approximately 4.5 mg/L. A field pilot test was conducted to evaluate TOC interference with hexavalent chromium removal using groundwater that is extracted and treated within the same day to prevent TOC degradation during testing. The field pilot test was also designed to compare the effectiveness of the ResinTech SIR-700 WBA exchange resin used during the BST study with Purolite S-106, an equivalent WBA exchange resin from a different supplier. The ResinTech SIR-700 WBA exchange resin was selected based on treatment performance. Additionally, the Purolite S-106 resin elevated the pH during treatment, which would negatively impact the EDR process. The target full-scale design influent pH is 6.5. The design includes a pH adjustment step where the pH will be adjusted to 6.5 prior to IEX treatment using 37 percent hydrochloric acid (HCl). The acid requirement will be refined through initial system operation.

3.2.2.3 Liquid-Phase Granular Activated Carbon

Extracted groundwater from South Eunice will contain BTEX as a result of the LNAPL plume. Influent BTEX concentrations are anticipated to exceed NMWQCC concentrations. It is expected that influent water quality will vary based on well flow rates and phase of operation but will generally improve through time due to plume degradation. Anticipated concentrations are based on the groundwater model and blending scenarios using locations and flow rates determined by the groundwater model.

The preferred treatment technology for BTEX at Eunice South is LGAC. Arcadis contacted multiple vendors to discuss impacts that the influent water chemistry (primarily high chloride concentrations) may have on the LGAC adsorption rate and total capacity. Vendors were unable to provide a conclusive answer. Therefore, a rapid small-scale column test was performed on two types of LGAC to determine the required vessel size and projected LGAC use.

3.2.2.4 Electrodialysis Reversal

EDR is a proprietary technology owned and sold by SUEZ. EDR was selected as the preferred technology for chloride removal primarily based on reduced fouling potential, instead of RO.

The EDR treatment system was designed by GE Water (now SUEZ) using their proprietary model WATSYS. Arcadis met with SUEZ on multiple occasions to discuss data requirements for the model, develop a blending scenario, and finalize the model inputs. The model inputs incorporate groundwater data collected from multiple wells at the Site. Based on the design parameters from the model, the EDR system will be a four-line, four-stage system.

3.2.2.5 Electrodialysis Reversal Influent pH Adjustment

Lowering the pH at the influent to the EDR system typically enhances the solubility of compounds, resulting in lower brine production. However, gypsum precipitation (unaffected by pH) in the EDR waste stream is the limiting factor for the GWTP. A target pH of 6.5 was set prior to the IEX treatment step for North Eunice. The ability to adjust pH prior to the EDR system was included in the design in the event that influent water quality changes and pH adjustment can be shown to improve treatment efficiency.

3.2.2.6 Antiscalant

EDR operation and efficiency can be optimized by amending feed water with antiscalant. Antiscalant can significantly reduce scale formation and fouling in membrane systems. The chosen antiscalant (MDC-706) is part of SUEZ's Hypersperse line of pretreatment products and effectively controls calcium sulfate, barium sulfate, and calcium fluoride. Optimization of antiscalant results in higher recovery rates and lower operating costs.

3.2.2.7 Clean-In-Place

The clean-in-place (CIP) system associated with the EDR system is used periodically to flush scale, primarily calcium carbonate, and other fouling agents from the EDR stacks. Fouling or blockages are indicated by a decline in efficiency, which can be identified through stack voltage checks or erratic conductivity swings during EDR system cycles. The CIP system is engaged manually, but functions as an automated, supervised process. The CIP system circulates low-pH water through one EDR train at a flow rate of approximately 100 gpm for at least 60 minutes. Other trains continue to treat groundwater during CIP system operation. The clean EDR stacks are then flushed with clean water for 30 to 60 minutes before electricity is reapplied. Effluent from the CIP system is pumped to the brine storage tanks and disposed with the brine. Stacks typically require cleaning every 12 weeks. The CIP system skid is located outside of EDR skid. Water is stored in the dedicated CIP tank and transferred to the EDR units by the CIP pump. The CIP tank comes equipped with a blower to prevent the accumulation of acid vapor during operation. The blower will be vented to the atmosphere.

3.2.2.8 Reinjection and Brine Waste Handling and Disposal

Treated water will be reinjected in and around both the site plumes for aquifer restoration and enhanced cleanup using DGR principles. Approximately 90 percent of the extracted groundwater will be treated to at or less than the abatement standards (see Section 3.3) and reinjected into a total of 39 Class V injection wells (see Section 3.6).

Operational start dates and flow rates for each individual injection well will vary to optimize containment and treatment, and will be adjusted based on subsurface hydraulic observations and COC monitoring. Flow rates for the site injection wells will range from 2 to 30 gpm. Because the pH of influent groundwater needed to be lowered due to IEX treatment using 37 percent HCl, the effluent groundwater will be returned to circumneutral pH prior to reinjection using 30 percent sodium hydroxide.

Throughout the treatment process, 10 percent of the extracted groundwater will be converted to a brine concentrate and stored onsite in four 500-barrel aboveground storage tanks. The current plan for brine disposal is to contract Key Energy to transport the brine to the Christmas #003 SWD well (API 30-025-10500), located approximately 1 mile west of South Eunice. If Key Energy cannot meet the brine disposal demands, the Lea Fee SWD (API 30-025-27682), owned by Basic Energy, is the backup location for brine disposal. The Lea Fee SWD is located approximately 8 miles from the treatment plant location. Another potential future alternative may include a permanent pipeline connection to an existing brine pipeline near the GTWP. The estimates for brine production and disposal frequency are presented below, although actual brine production rates will vary based on the operational configuration of the wellfield and resulting efficiency of EDR.

Design Parameter	Approximate Value
Brine production	30 gpm or 1,029 barrels per day
Brine storage	2,000 barrels
Trucks Per day	10

An additional waste stream will be generated from backwashing the MMF unit. This process automatically backwashes when associated differential high-pressure alarms are triggered. Backwash intervals will correspond with vendor recommendations and will be verified during initial operation to ensure adequate removal of total suspended solids. Backwash water will be discharged to the backwash conditioning cone bottom tank. After a minimum of approximately 6 to 8 hours of settling time has passed, the backwash decant pump will discharge the supernatant to the appropriate influent equalization tank (North or South, consistent with the process train) for reprocessing.

Sludge depth will be measured periodically within both the North and South backwash conditioning tanks. If the maximum allowable sludge depth approaches or meets 10 feet or an approximate sludge volume of 3,000 gallons is met or exceeded, the sludge will be removed via a vacuum truck and properly disposed offsite. The backwash conditioning tank design incorporates consideration of locally available sludge disposal methods. The maximum sludge volume was designed to be approximately 3,000 gallons due to local sludge hauling capacities of approximately 3,000 to 5,000 gallons.

The approximate disposal frequency of sludge waste from the site influent processing steams is presented below, although these values may change based on operational configuration of the wellfield and the resulting total suspended solids loading into the GWTP:

Site	Approximate Disposal Frequency
North Eunice	59 days
South Eunice	73 days

It is anticipated that solids produced from the extraction wells will not have hazardous characteristics, and listed hazardous constituents are not expected to be present in the system influent. However, verification of the solids hazardous characteristics will be conducted prior to waste disposal. Once verified that the solids do not exhibit hazardous characteristics, the solids will be disposed of as nonhazardous waste. In the unforeseen circumstance that solids contain hazardous characteristics, the waste will be handled and disposed of accordingly.

3.3 Abatement Standards

As described in Section 3.2, the groundwater remediation process will create two streams, a concentrated brine waste stream and a clean water injection stream. The treated groundwater will be pumped from the GWTP via HDPE conveyance lines for reinjection at both North and South Eunice through a series of 39 Class V injection wells (as defined in NMAC 20.6.2.5002). The treated groundwater will be reinjected in and around the North and South Eunice plumes for aquifer restoration and enhanced cleanup using DGR principles. The reinjected groundwater will comply with standards set forth in NMAC 20.6.2.5006. The proposed treatment goals and endpoint criteria are based on values for site COCs provided in NMAC 20.6.2.3103, which is referenced in the former discharge permits GW-004 and GW-003 (NMAC 20.6.2.3103). Treatment goals for injected water are presented in Table 5, below.

Table 3 Reinjection Treatment Goals and Endpoint Criteria

Constituent	Reinjection Treatment Goal (mg/L)	Endpoint Groundwater Criteria (mg/L)
Chloride	250	250
TDS	1,000	1,000
Total (dissolved) chromium	0.05	0.05
Dissolved hexavalent chromium	0.05	0.05
Benzene	0.005	0.005
Toluene	1	1
Ethylbenzene	0.7	0.7
Total xylenes	0.62	0.62
Dissolved arsenic[1]	0.01	0.01
Dissolved iron[1]	1	1
Dissolved manganese[1]	0.2	0.2
Dissolved barium	2	2
pH	6-9 (USEPA Secondary MCL)	6-9 (USEPA Secondary MCL)

Note:
1. Site data indicate that arsenic, iron, and manganese are generally present as a result of other COCs (TPH, BTEX) or TOC from injections and tend to attenuate.

Pursuant to NMAC 20.6.2.4112, abatement of the Site will be considered complete when the standards and requirements set forth in NMAC 20.6.2.4103 are met. At that time, CEMC will submit an Abatement Completion Report to document compliance with the standards and requirements set forth in NMAC 20.6.2.4103, to the NMOCD for approval. The Abatement Completion Report will propose any changes to long-term monitoring and site maintenance activities, if needed, to be performed after termination of the Abatement Plan. Once the NMOCD approves the Abatement Completion Report, the Abatement Plan is terminated. Closure measures to be completed are described in Section 4 of this document.

3.4 Monitoring Program Updates

3.4.1 Groundwater Treatment Plant Monitoring and Reporting

The owner/operator will comply with the following permit conditions, pursuant to NMAC 20.6.2.1203, if it is determined that a release of oil or other water contaminant has occurred in such quantity as may with

reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property.

Routine grab samples will be collected weekly from the influent and effluent treatment system streams and recorded on weekly, monthly, and semiannual operations log sheets to monitor system performance and regulatory compliance (Appendix H). The samples will be analyzed for the following:

- Water quality parameters (pH, oxidation-reduction potential, dissolved oxygen, temperature, conductivity, and turbidity)
- BTEX (USEPA Method 8021B)
- GRO (USEPA Method 8015B)
- Dissolved metals (arsenic, iron, manganese, barium, chromium; USEPA Method 6020)
- Hexavalent chromium (USEPA Method 7196A)
- Chloride (USEPA Method 300.0)
- TDS (USEPA Method 2540C).

Samples will be collected, handled, and provided to the laboratory for analysis under chain of custody, following the procedures described in the SAP (Arcadis 2017c, Arcadis 2017d).

If the owner/operator determines that any COC listed in Table 5 exceeds the standards specified in the table from samples collected during routine system performance monitoring, the treatment system will be shut down until the malfunction causing the exceedance is rectified and CEMC will report the release to the NMOCD. Any spill will be handled as per NMAC 19.15.29 in the spill rule. The release will be communicated orally and in writing, as summarized below:

1. *Oral notification*. As soon as possible after learning of such a discharge, but not more than 24 hours thereafter, CEMC will orally notify the NMOCD. CEMC will provide the following information:
    a. Name, address, and telephone number of the person or persons in charge of the facility, as well as of the Owner/Operator of the facility,
    b. Name and location of the facility,
    c. Date, time, location, and duration of the discharge,
    d. Source and cause of discharge,
    e. Description of the discharge, including its chemical composition,
    f. Estimated volume of the discharge, and
    g. Any actions taken to mitigate immediate damage from the discharge.
2. *Written notification*. Within 1 week after CEMC has learned of the discharge, CEMC will send a written notification to the NMOCD verifying the prior oral notification as to each of the items listed above and providing any appropriate additions or corrections to the information provided in the oral notification.

3.4.2 Quarterly Volume Reporting

Remediation wells will be equipped with flow totalizers approved by the NMOSE for groundwater accounting. Data from the totalizers will be compiled and reported quarterly to the NMOSE, or as required by the relevant water rights appropriation.

3.4.3 Sitewide Monitoring Plan

Groundwater monitoring will be performed semiannually at North Eunice and South Eunice in alignment with the current monitoring program described in Section 2.6.

3.5 Site Maintenance Activities

Records of maintenance logs and previous operations and maintenance events will be kept onsite. Several examples of routine maintenance activities and frequencies are presented in Tables 7 through 11, below. A complete list of maintenance activities is specified in the O&M manual.

Table 4 Potential Daily Maintenance Activities (to be determined, if necessary)

Item	Activity
Air compressors	Inspect for proper operation and check coolant level
Metering pumps	Inspect for leaks and set check parameters

Table 5 Weekly Maintenance Activities

Item	Activity
Metering pumps	Inspect for leaks, clean pump surface, and check set parameters
Site maintenance	Optimize system flow rates, monitor and optimize operation pressures, inspect headers, drive out extraction/injection well field lines, inspect well heads/ vaults, remove site trash/debris, inspect perimeter fencing and gates, and inspect posted signage and conduct weed abatement
Tanks/totes/drums	Inspect for leaks, signs of deterioration, and fluid levels
Air compressors	Inspect for proper operation and check coolant level
Reporting	Record system operation parameters, tank volumes, system maintenance, and repairs. Submit report to management.
System performance sampling	Collect system samples

Table 6 Monthly Maintenance Activities

Item	Activity
Air compressors	Clean pre-filter and cooler
Transfer pumps	Inspect piping and electrical connections, and add roller bearing grease
Tanks	Inspect piping connections and tank condition
Desiccant canisters	Inspect canisters; if water is in canisters, empty the water
Extraction well sampling	Collect monthly samples from all active extraction wells

Table 7 Quarterly Maintenance Activities

Item	Activity
Media filters	Inspect electrical connections, lubricate valves, and shock treat with chlorine
Volume Reporting	Extraction well recovered volume reports submitted to the NMOSE in accordance with permit requirements

Table 8 Annual Maintenance Activities

Item	Activity
Heat trace	Test for proper function
Air compressors	Change filters
Pumps	Inspect wiring
Media filters	Check media depth, inspect valves, gaskets, and hydraulic lines
Critical safety devices	Test all critical safety devices (alarm interlock and telemetry)

Waste (e.g., brine, activated carbon, IEX resin, personal protective equipment) will be generated during operation of the GWTP. Waste materials will be stored onsite before being disposed of at an appropriate waste disposal facility. Further details are included on the Waste Management Plan for North Eunice construction, which is provided in Appendix I. The Waste Management Plan will be updated for GWTP operation under separate cover prior to startup.

Periodic DGR optimization will occur throughout treatment. Optimization events may include installation of select new injection and/or extraction wells, adjustment of flow rates, well development (as needed), and flush/rinse of conveyance piping (as needed).

3.6 Class V Injection Well Inventory

As mentioned above, treated water will be reinjected in and around the North and South plumes for aquifer restoration and enhanced cleanup using DGR principles. Approximately 90 percent of the extracted groundwater will be reinjected into 39 Class V injection wells. Injection well location and well IDs are presented below:

Site	Well IDs
North Eunice	N-IW-1, N-IW-2, N-IW-3, N-IW-4, N-IW-5, N-IW-6, N-IW-7, N-IW-8, N-IW-9, N-IW-10, N-IW-11, N-IW-12, N-IW-13, N-IW-14, N-IW-15, N-IW-16, N-IW-17, N-IW-18, N-IW-19, N-IW-20, N-IW-21, N-IW-22, N-IW-23, N-IW-24, and N-IW-25.
South Eunice	S-IW-1, S-IW-2, S-IW-3, S-IW-4, S-IW-5, S-IW-6, S-IW-7, S-IW-8, S-IW-9, S-IW-10, S-IW-11, S-IW-12, S-IW-13, and S-IW-14.

At the direction of the NMOCD, these injection wells will be permitted and inventoried as Class V remediation injection wells in accordance with form C-108, provided in Appendix B.

4 Post-Closure Maintenance Activities

Pursuant to NMAC 20.6.2.4112, once all standards and requirements specified in NMAC 20.6.2.4103have been met, the owner/operator will submit a Site Closure Report, documenting compliance with the standards and requirements set forth in NMAC 20.6.2.4103, to the NMOCD for approval. The Site Closure Report will propose any changes to long-term monitoring and site maintenance activities, if needed, to be performed after closure of the facility. Once approved, the owner/operator will perform the following closure activities:

- Remove or plug all lines leading to and from groundwater recovery or injection wells so that a discharge can no longer occur.
- Owner/operator will submit a pre-closure notification to NMOCD at least 30 days prior to closure of all Class V injection wells. Upon approval, the owner/operator will plug and abandon all recovery and injection wells per regulations outlined in NMAC 20.6.2.5005.
- Remove all abatement system components from the Site.
- Remediate soils exhibiting staining caused by remedial activities or equipment.
- After receiving notification from the NMOCD that post-closure monitoring may cease, the owner/operator will plug and abandon its monitoring wells in accordance rules outlined by the NMOSE.

Pursuant to NMAC 20.6.2.4107B, the owner/operator will provide the NMOCD with at least four working days advance notice of any well plugging, abandonment, or destruction at the Site. The owner will maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the NMOCD until one of the following conditions is met:

- The wells have been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to Subsection P of NMAC 20.6.2.5341, and NMAC 20.6.2.5209, and Plugging and Abandonment Report has been submitted pursuant to Subsection Q of NMAC 20.6.2.5341.
- The wells have been converted in compliance with the requirements of Subsection O of NMAC 20.6.2.5341.
- The transferor of a permit has received notice from the NMOCD that the transfer has been approved and that the transferee’s required financial assurance is in place.

CEMC will maintain all permit-required documents for a minimum of 5 years and will make the records available for inspection by the NMOCD.

5 Abatement Plan Implementation Schedule

Upon approval of this Stage 2 Abatement Plan, CEMC will complete final GWTP construction activities and implement startup of the full-scale North Eunice treatment processes within 6 months of approval notice. South Eunice infrastructure and wells, and transfer pipeline construction will commence within 1 year of approval notice. It is anticipated that the South Eunice treatment system will be brought online and started within 2 years of approval notice.

6 Public Notification Proposal

Once the NMOCD has approved this 2022 Stage 2 Abatement Plan, the following individuals and entities will be notified in writing.

- Surface owners of record within 1 mile of the perimeter of the affected area
- Local County Commissioners
- Individuals or organizations requesting notification that are identified by the NMOCD
- All others as directed by the NMOCD.

Within 15 days after receiving notice from the NMOCD that this 2022 Stage 2 Abatement Plan is administratively complete, CEMC will issue a public notice in the newspapers with county and statewide circulation (such as the Hobbs News-Sun and Lea County Tribune).

The public notice will include the following information:

- Name and address of the responsible party
- Location of the proposed abatement
- Description of the source, extent, and estimated volume of release and affected media
- Description of this 2022 Stage 2 Abatement Plan
- Description of the procedure required by the NMOCD before making a final determination
- Statement that this 2022 Stage 2 Abatement Plan can be viewed at the NMOCD office or electronically from a site maintained by the NMOCD
- Statement that the NMOCD will consider the following comments and requests if received within 30 days after publication of the public notice:
  - Written comments on this 2022 Stage 2 Abatement Plan
  - Written requests for public hearing that include reasons why a hearing should be held
  - Address and telephone number at which interested persons may obtain further information.

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Chevron Environmental Management Company

2022 Stage 2 Abatement Plan || *Tables & Figures*

Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

Case No. GW-003 & GW-004
OGRID No. 4323

November 7, 2022

Tables

Table 1
North Eunice Water Well Inventory
2022 Stage 2 Abatement Plan
Former North and South Eunice Gas Plants

Water Well ID	Use	Owner	Total Depth	Depth to Water	Latitude	Longitude
CP 01828 POD1	72-12-1 Livestock Watering	BROWN, BRENT	--	--	32.453092	-103.157094
CP 01088 POD1	Cathodic Protection Well	NEWTON	--	--	32.436528	-103.171695
CP 00018 POD1	Closed File	SKELLY OIL COMPANY	--	--	32.451683	-103.148715
CP 00019 POD1	Closed File	SKELLY OIL COMPANY	--	--	32.451683	-103.148715
CP 00016 POD1	Closed File	SKELLY OIL COMPANY	--	--	32.460716	-103.146541
CP 01354 POD1	Commercial	BETTIS	--	--	32.436056	-103.175722
CP 01302 POD1	Commercial	BURROWS, MARVIN	162	100	32.443612	-103.176111
CP 00100 POD1	Commercial	EUNICE RENTAL TOOL CO. INC.	--	--	32.447132	-103.143405
CP 01556 POD1	Commercial	GUNS UP SERVICES LLC	--	--	32.442697	-103.176922
CP 01178 POD1	Commercial	GUNS UP SERVICES LLC.	145	85	32.442778	-103.176666
CP 00161 POD4	Commercial	MITCHELL	--	--	32.447157	-103.179739
CP 00161 POD2	Commercial	MITCHELL, ALFRED P.	--	--	32.445304	-103.177575
CP 00213 POD1	Commercial	OWEN	--	--	32.463456	-103.134825
CP 01301 POD1	Commercial	PARKER ENERGY SUPPORT SVCS INC	130	35	32.443889	-103.171666
CP 00966 POD1	Domestic	BETTIS, DALE	154	--	32.446139	-103.167
CP 00711	Domestic	BLOCK, FLOYG G.	100	65	32.454373	-103.160511
CP 00749	Domestic	CRISWELL, D.M.	123	75	32.445297	-103.169013
CP 00322	Domestic	DECK, MILLARD	138	73	32.4462	-103.172185
CP 00063 POD1	Domestic	EL PASO DIOCESE OF THE CHURCH	--	--	32.450786	-103.166912
CP 00943 POD1	Domestic	GOOCH, JIMMY	142	--	32.437333	-103.158028
CP 00735	Domestic	JENNINGS, CHARLES W.	105	--	32.448047	-103.161533
CP 00881	Domestic	JONES	95	53	32.458944	-103.144439
CP 00548	Domestic	REDDEN, A.J.	--	--	32.439901	-103.158348
CP 00965 POD1	Domestic	THRASH, BILLY	123	60	32.445945	-103.166717
CP 00965 POD2	Domestic	THRASH, BILLY	135	--	32.445864	-103.167353
CP 01077 POD1	Domestic	VINSON, MARK	80	45	32.442223	-103.162777
CP 00464	Domestic	WINKER	--	--	32.443501	-103.177611
CP 00726	Domestic	WOOTEN	125	100	32.433544	-103.161529
CP 00736	Domestic	WORDEN, RONALD K.	120	76	32.451673	-103.157257
CP 00140 POD1	Industrial	ROBINSON	--	--	32.434422	-103.156183
CP 00285 POD1	Industrial	CONTINENTAL OIL CommercialPANY	80	--	32.454414	-103.149808
CP 00251 POD1	Industrial	VERSADO GAS PROCESSORS LLC	103	--	32.459812	-103.147645
CP 00252 POD1	Industrial	VERSADO GAS PROCESSORS LLC	106	78	32.461644	-103.143416
CP 00235 POD4	Industrial	VERSADO GAS PROCESSORS LLC	100	80	32.467113	-103.141229
CP 00224 POD1	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.458018	-103.139139
CP 00235 POD9	Industrial	VERSADO GAS PROCESSORS LLC	94	58	32.46531	-103.136989
CP 00230 POD1	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.447172	-103.13698
CP 00017 POD1	Industrial	VERSADO GAS PROCESSORS LLC	101	--	32.456186	-103.147645
CP 00242 POD1	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.450778	-103.162626
CP 00249 POD1	Industrial	VERSADO GAS PROCESSORS LLC	102	--	32.452561	-103.147644
CP 00250 POD1	Industrial	VERSADO GAS PROCESSORS LLC	101	--	32.452561	-103.147644
CP 00253 POD1	Industrial	VERSADO GAS PROCESSORS LLC	101	--	32.450789	-103.145532
CP 00169 POD1	Irrigation	DECK TESTAMENTARY TRUST	--	--	32.459812	-103.147645
CP 00166 POD1	Irrigation	DECK TESTAMENTARY TRUST	--	--	32.459821	-103.143368
CP 00294 POD1	Irrigation	FAULKNER, T.P.	--	--	32.452582	-103.158313
CP 00098 POD1	Irrigation	MCLEAN	--	--	32.448966	-103.141219
CP 00099 POD1	Irrigation	MCLEAN	--	--	32.448966	-103.141219
CP 00168 POD1	Irrigation	MILLARD DECK TESTAMENTARY TRUST	--	--	32.45803	-103.158362
CP 00161 POD3	Irrigation	MITCHELL	--	--	32.452595	-103.179704
CP 00161 POD6	Irrigation	MITCHELL, ALFRED P.	--	--	32.445304	-103.177575
CP 00206 POD1	Irrigation	SIMS	--	--	32.441678	-103.177563
CP 00206 POD2	Irrigation	SIMS	--	--	32.441678	-103.177563
CP 00206 POD3	Irrigation	SIMS	--	--	32.441678	-103.177563
CP 00022 POD1	Municipal	CITY OF EUNICE	--	--	32.436274	-103.166898
CP 00023 POD1	Municipal	CITY OF EUNICE	--	--	32.434421	-103.164734
CP 00024 POD1	Municipal	CITY OF EUNICE	--	--	32.434421	-103.164734
CP 00083 POD1	No Use of Right or Pod	GULF OIL CORPORATION	--	--	32.448047	-103.161533
CP 00669 POD1	No Use of Right or Pod	TEAGUE	--	--	32.451684	-103.144439
CP 00415 POD1	NON 72-12-1 Domestic	AMERADA PETROLEUM CORPORATION	--	--	32.434451	-103.171136
CP 00417 POD1	NON 72-12-1 Domestic	AMERADA PETROLEUM CORPORATION	--	--	32.434451	-103.171136
CP 00293 POD1	NON 72-12-1 Domestic	FAULKNER, T.P.	80	--	32.45256	-103.151921
CP 00346 POD1	NON 72-12-1 Domestic & Livestock	BRAMLETT, H.A.	--	--	32.452582	-103.158313
CP 01096 POD1	Pollution Control	CHEVRON ENVIRO MGMT CO	108	48	32.449122	-103.161031
CP 01096 POD2	Pollution Control	CHEVRON ENVIRO MGMT CO	98	48	32.44932	-103.1598
CP 01145 POD1	Sanitary in Conjunction with Commercial Use	COOPER NATURAL RESOURCES	--	--	32.441111	-103.143612
CP 00318	Sanitary in Conjunction with Commercial Use	MCCASLAND HOT OIL SERVICE INC	--	--	32.44442	-103.170083

Abbreviation:

-- Not Reported

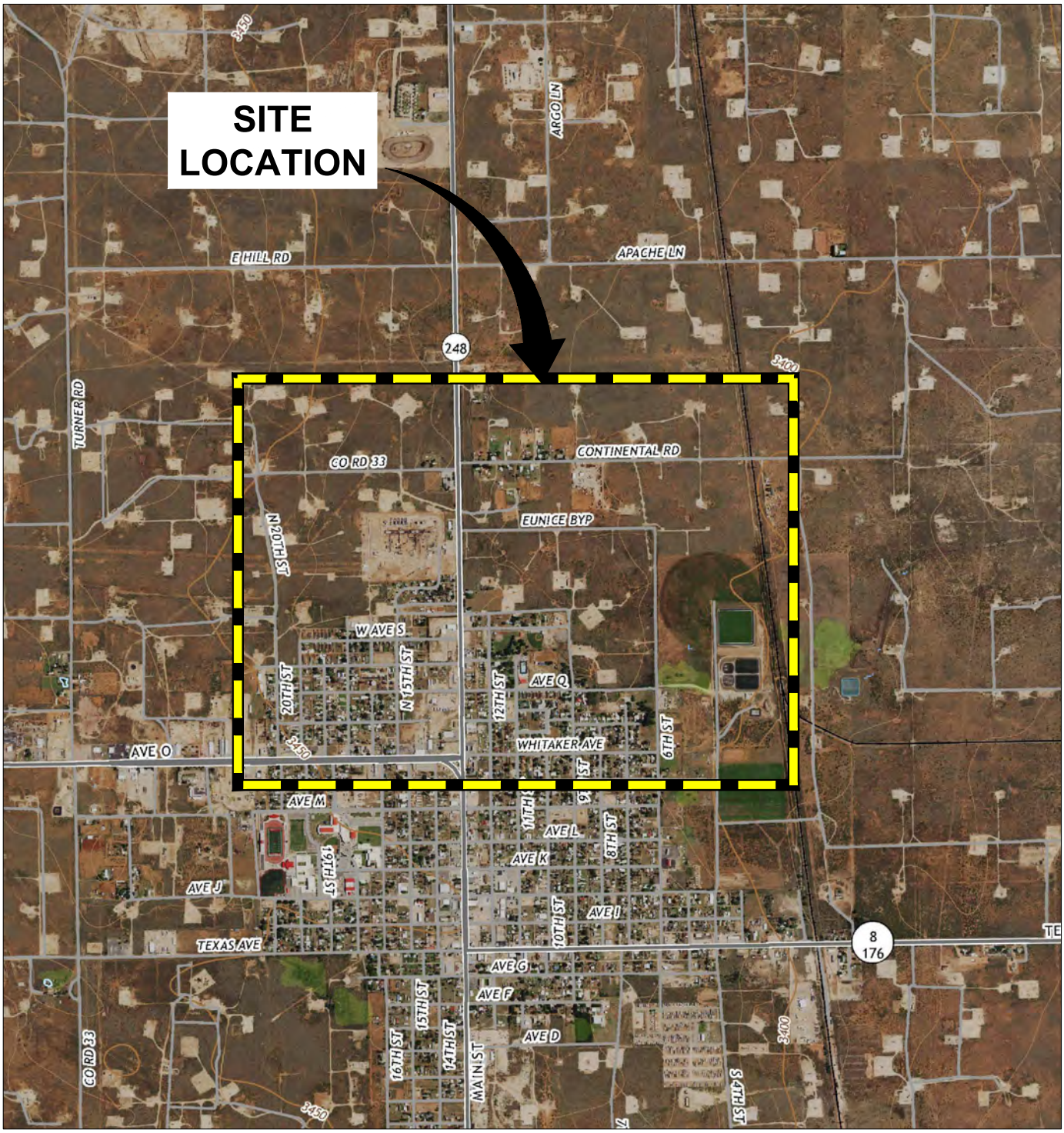
Table 2
South Eunice Water Well Inventory
2022 Stage 2 Abatement Plan
Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

ARCADIS

Water Well ID	Use	Owner	Total Depth	Depth to Water	Latitude	Longitude
CP 00276 POD1	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358264	-103.147593
CP 00277 POD1	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	95	50	32.358295	-103.149718
CP 00277 POD2	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358264	-103.147593
CP 00277 POD3	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	94	50	32.358295	-103.149718
CP 00277 POD5	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358263	-103.151865
CP 00277 POD6	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358263	-103.151865
CP 00277 POD7	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358295	-103.149718
CP 00277 POD8	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.354669	-103.153989
CP 00277 POD9	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.358295	-103.149718
CP 00277 POD4	Secondary Recovery of Oil	ANADARKO PRODUCTION CO.	--	--	32.347406	-103.166791
CP 00003 POD1	Industrial	Columbian Carbon Company	142	110	32.37368	-103.146503
CP 00005 POD1	Industrial	COLUMBIAN CARBON COMPANY	--	--	32.37367	-103.155048
CP 00503	72-12-1 Domestic & Livestock Watering	HENDERSON, TOMMY	115	65	32.371888	-103.161493
CP 00445 POD1	72-12-1 Prospecting or Development of Natural Resource	JOHNSON, HAROLD E.	--	--	32.36915	-103.147605
CP 00256 POD1	Industrial	JOHNSTON, EDWIN	146	--	32.372797	-103.158276
CP 00256 POD2	Industrial	JOHNSTON, EDWIN	--	--	32.372797	-103.158276
CP 00257 POD1	Industrial	JOHNSTON, EDWIN	136	--	32.372797	-103.158276
CP 00381 POD1	Non 72-12-1 Domestic & Livestock	JOHNSTON, WILLIAM E.	--	--	32.37463	-103.149768
CP 00382 POD1	Non 72-12-1 Domestic & Livestock	JOHNSTON, WILLIAM E.	--	--	32.371004	-103.149767
CP 00383 POD1	Non 72-12-1 Domestic & Livestock	JOHNSTON, WILLIAM E.	--	--	32.37463	-103.149768
CP 00384 POD1	NON 72-12-1 Livestock Watering	JOHNSTON, WILLIAM E.	--	--	32.369141	-103.151878
CP 00081 POD1	Commercial	LOUISIANA ENERGY SERVICES	120	--	32.372765	-103.160423
CP 00081 POD2	Commercial	LOUISIANA ENERGY SERVICES	--	--	32.372796	-103.162548
CP 00911	Sanitary	LOUISIANA ENERGY SERVICES	153	--	32.37318	-103.160733
CP 00273 POD1	Commercial	MILLARD DECK TESTAMENTARY TRUST	--	--	32.374619	-103.162585
CP 00396 POD1	Commercial	ROBINSON, ROSS L.	100	59	32.361919	-103.162534
CP 00747 POD1	Cathodic 72-12-1 Prospecting or Development of Natural Resource	SHELL PIPE LINE CORPORATION	410	--	32.366418	-103.155036
CP 00141 POD1	Non 72-12-1 Domestic	SIMS, R.D.	41	--	32.35647	-103.143358
CP 00142 POD1	NON 72-12-1 Livestock Watering	SIMS, R.D.	350	--	32.354669	-103.153989
CP 00143 POD1	NON 72-12-1 Livestock Watering	SIMS, R.D.	140	--	32.347418	-103.149706
CP 00561	72-12-1 Livestock Watering	Skelly Oil Company	137	60	32.341987	-103.158284
CP 00008 POD1	Industrial	Skelly Oil Company	--	--	32.362729	-103.15069
CP 00010 POD1	Industrial	Skelly Oil Company	135	--	32.362729	-103.15069
CP 00011 POD1	Industrial	Skelly Oil Company	148	--	32.362729	-103.15069
CP 00156 POD1	Secondary Recovery of Oil	Skelly Oil Company	--	--	32.341987	-103.158284
CP 01157 POD1	Domestic	SKILES, GREG	143	--	32.355639	-103.158
CP 00244 POD1	Industrial	STATE OF NEW MEXICO	150	--	32.35646	-103.156174
CP 00244 POD2	Industrial	STATE OF NEW MEXICO	87	--	32.363743	-103.154028
CP 00248 POD1	Industrial	STATE OF NEW MEXICO	--	--	32.358294	-103.158262
CP 00395 POD1	NON 72-12-1 Livestock Watering	STRAIN-KING RANCH LLC	90	--	32.360074	-103.16899
CP 00400 POD1	NON 72-12-1 Livestock Watering	STRAIN-KING RANCH LLC	--	--	32.361876	-103.173226
CP 00006 POD1	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.362729	-103.15069
CP 00007 POD1	Industrial	VERSADO GAS PROCESSORS LLC	182	--	32.362729	-103.15069
CP 00009 POD1	Industrial	VERSADO GAS PROCESSORS LLC	150	--	32.362729	-103.15069
CP 00009 POD2	Industrial	VERSADO GAS PROCESSORS LLC	90	52	32.363712	-103.151903
CP 00231 POD1	Industrial	VERSADO GAS PROCESSORS LLC	145	--	32.360116	-103.158299
CP 00231 POD2	Industrial	VERSADO GAS PROCESSORS LLC	97	--	32.363712	-103.151903
CP 00232 POD1	Industrial	VERSADO GAS PROCESSORS LLC	150	--	32.360085	-103.156174
CP 00233 POD1	Industrial	VERSADO GAS PROCESSORS LLC	182	--	32.360085	-103.156174
CP 00233 POD2	Industrial	VERSADO GAS PROCESSORS LLC	90	--	32.36192	-103.15399
CP 00234 POD1	Industrial	VERSADO GAS PROCESSORS LLC	135	--	32.360116	-103.158299
CP 00234 POD2	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.36192	-103.15399
CP 00234 POD3	Industrial	VERSADO GAS PROCESSORS LLC	--	--	32.363743	-103.154028
CP 00243 POD1	Industrial	VERSADO GAS PROCESSORS LLC	106	--	32.363742	-103.1583
CP 00243 POD2	Industrial	VERSADO GAS PROCESSORS LLC	90	54	32.36192	-103.15399
CP 00247 POD1	Industrial	VERSADO GAS PROCESSORS LLC	100	--	32.358294	-103.158262

Abbreviation:
-- Not Reported

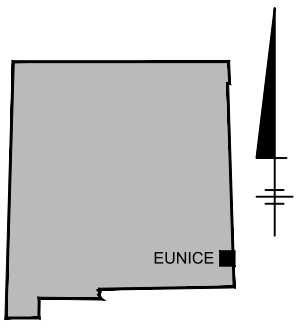
Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., EUNICE, NEW MEXICO, 2020.
AERIAL IMAGERY: STREAMED FROM BING MAPS ©2021 MICROSOFT CORPORATION.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

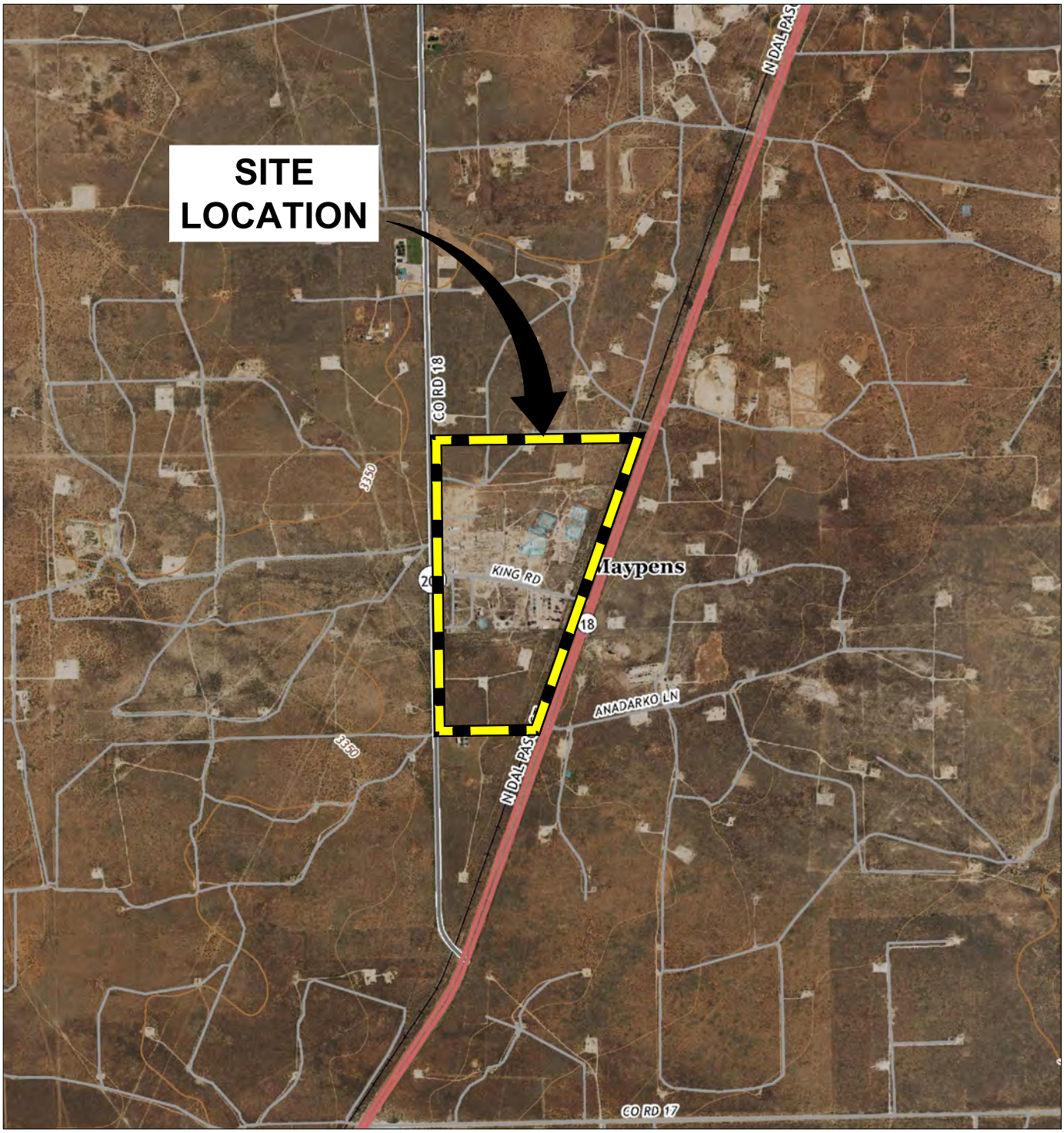


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

NORTH EUNICE SITE LOCATION MAP

ARCADIS

FIGURE 1



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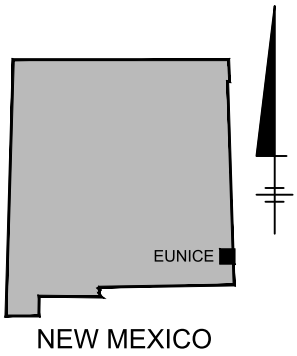
AERIAL IMAGERY: STREAMED FROM BING MAPS ©2021 MICROSOFT CORPORATION.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



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

SOUTH EUNICE
SITE LOCATION MAP

ARCADIS

FIGURE
2

C:\Users\jlharris\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AUS-CHEVRON-FORMER EUNICE NORTH GAS PLANT-EUNICE New Mexico\2022\01-In Progress\01-DWG\GEN-F01-SLM North South.dwg LAYOUT: 2 SAVED: 3/29/2022 4:31 PM ACADVER: 24.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 3/29/2022 4:36 PM BY: HARRIS, JESS

ARCADIS

Chevron Environmental Management Company

2022 Stage 2 Abatement Plan || *Appendices*

Former North and South Eunice Gas Plants
Eunice, Lea County, New Mexico

Case No. GW-003 & GW-004
OGRID No. 4323

November 7, 2022

Appendix A

Former NMOCD Discharge Permits GW-004 and GW-003

DISCHARGE PERMIT GW-004

1. GENERAL PROVISIONS:

A. PERMITTEE AND PERMITTED FACILITY: The Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-004 (Discharge Permit) to Chevron U.S.A., Inc. (Owner/Operator), located at 1400 Smith Street, Houston, Texas 77002 to abate ground water and vadose zone contamination at its Eunice North Gas Plant (Facility) located at State Highway 207 (Eunice-Hobbs Highway) Eunice, New Mexico 88231 in the NE/4 of the SE/4 of Section 28, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

As a result of historical operations at the site, Chevron is proposing to remediate chromium contaminated ground water by injecting 5 percent solution of sodium dithionite and/or a 10 percent soy lactate solution in injection wells to remediate contaminated ground water. Chevron will mix 2800 gallons fresh water with a five percent solution of sodium dithionite and/or mix 2800 gallons fresh water with ten percent soy lactate solution to generate a solution which will then be discharged into the Ogallala aquifer. The ground water will be sampled to determine the effectiveness of the discharged solution to remediate the chromium contamination. The depth to ground water in the Ogallala aquifer is 37 to 73 feet below the surface and the background total dissolved solids concentration is approximately 1,200 mg/L. The discharge plan specifies that Chevron will remediate contaminated ground at the site to meet the standards specified in the Water Quality Control Commission regulations (20.6.2.3103 NMAC).

B. SCOPE OF PERMIT: OCD has been granted authority to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to gas processing plants by statute and by delegation from the Water Quality Control Commission pursuant to Section 74-6-4(E) NMSA 1978.

The Water Quality Act and the rules issued under that Act protect ground water and surface water of the State of New Mexico by providing that, unless otherwise allowed by rule, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge plan. See 20.6.2.3104 NMAC and 20.6.2.3106 NMAC.

This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by-product, or oil field waste, including, but not limited to, the on-site disposal of lube oil, glycol, antifreeze, filters, elemental sulfur, washdown water, contaminated soil, and cooling tower blowdown water.

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Owner/Operator shall operate in accordance with the Discharge Permit conditions to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health, (see 20.6.2.3109H(3) NMAC); and so that the numerical standards specified of 20.6.2.3103 NMAC are not exceeded.

The Owner/Operator shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams).

C. DISCHARGE PERMIT CONDITIONS: By signing this Discharge Permit, the Owner/Operator agrees to the specific provisions set out in this document, and the commitments made in the approved Discharge Plan Application and the attachments to that application, which are incorporated into the Discharge Permit by reference.

If this Discharge Permit is a permit renewal, it replaces the permit being renewed. Replacement of a prior permit does not relieve the Owner/Operator of its responsibility to comply with the terms of that prior permit while that permit was in effect.

D. DEFINITIONS: Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to that Act, as the context requires.

E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a discharge permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100.00 filing fee for this application. The flat fee for "Abatement of Ground Water and Vadose Zone Contamination at Oil and Gas Sites" is $2,600.00. The Owner/Operator shall submit this amount along with the signed Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit is effective when the Division's Environmental Bureau receives the signed Discharge Permit from the Owner/Operator and the $2,600.00 fee. This Discharge Permit will expire on March 16, 2016. The Owner/Operator shall submit an application for renewal no later than 120 calendar days before that expiration date, pursuant to 20.6.2.3106F NMAC. If an Owner/Operator submits a renewal application at least 120 calendar days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. Operating with an expired Discharge Permit may subject the Owner/Operator to

civil and/or criminal penalties. See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978.

G. MODIFICATIONS: The Owner/Operator shall notify the Division's Environmental Bureau of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants. See 20.6.2.3107C NMAC. The Division's Environmental Bureau may require the Owner/Operator to submit a permit modification pursuant to 20.6.2.3109E NMAC and may modify or terminate a permit pursuant to Section 74-6-5(M) through (N) NMSA 1978.

H. TRANSFER OF DISCHARGE PERMIT: Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of the Facility, the transferor shall notify the transferee in writing of the existence of the Discharge Permit, and shall deliver or send by certified mail to the Division's Environmental Bureau a copy of such written notification, together with a certification or other proof that such notification has been received by the transferee pursuant to 20.6.2.3111 NMAC. Upon receipt of such notification, the transferee shall inquire into all of the provisions and requirements contained in the Discharge Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the Division's file or files concerning the Discharge Permit. Upon assuming either ownership or possession of the Facility the transferee shall have the same rights and responsibilities under the Discharge Permit as were applicable to the transferor. See 20.6.2.3111 NMAC.

Transfer of the ownership, control, or possession of the Facility does not relieve the transferor of responsibility or liability for any act or omission which occurred while the transferor owned, controlled, or was in possession of the Facility. See 20.6.2.3111E NMAC.

I. CLOSURE PLAN AND FINANCIAL ASSURANCE: The Owner/Operator shall notify the Division's Environmental Bureau in writing when any operations of its Facility are to be discontinued for a period in excess of six months. Upon review of the Owner/Operator's notice, the Division's Environmental Bureau will determine whether to modify this permit pursuant to 20.6.2.3107 NMAC and 20.6.2.3109E NMAC or to require the Owner/Operator to submit a closure plan and/or post-closure plan, including financial assurance.

J. COMPLIANCE AND ENFORCEMENT: If the Owner/Operator violates or is violating a condition of this Discharge Permit, the Division's Environmental Bureau may issue a compliance order requiring compliance immediately or within a specified time period, suspending or terminating this Discharge Permit, and/or assessing a civil penalty. See Section 74-6-10 NMSA 1978. The Division's Environmental Bureau may also commence a civil action in district court for appropriate relief, including injunctive relief. See Section 74-6-10(A)(2) NMSA 1978 and Section 74-6-11 NMSA 1978. The Owner/Operator may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with

or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. See Section 74-6-10.2 NMSA 1978.

2. GENERAL FACILITY OPERATIONS:

A. OPERATIONAL MONITORING: The Owner/Operator shall comply with its approved monitoring programs pursuant 20.6.2.3107 NMAC.

1. Ground Water Monitoring System: The Owner/Operator shall monitor and sample all ground water monitor wells in accordance with its approved ground water abatement program, including the monitor wells for the hydrocarbon plume, the chloride plume, and the chromium plume.

2. Installation of Monitor Wells Near Injection Wells IW023 and IW024:

a. The Owner/Operator shall install three monitor wells near Injection Well IW023 and three monitor wells near Injection Well IW024 in accordance with its renewal application of December 6, 2010.

b. The Owner/Operator shall monitor the near monitor wells to determine whether it has achieved its primary objectives as specified in its renewal application of December 6, 2010.

3. Dithionite Injection Pilot Study Monitoring

a. Field Monitoring: During the injection, the Owner/Operator shall monitor the three monitoring wells hourly for pH, DO, ORP, conductivity, and temperature.

b. Post-Injection Monitoring and Sampling: The Owner/Operator shall sample the three monitor wells and IW023 monthly for 3 months after the injection, using the injection and monitoring wells, to evaluate the effectiveness of the sodium dithionite treatment. Ground water samples will be collected and analyzed for total and hexavalent chromium, bromide, sulfate, sulfide, total organic carbon, sodium, total and dissolved iron, and field parameters (pH, temperature, conductivity, DO and ORP).

4. Biodegradation Pilot Study

a. Baseline Sampling: Prior to the injection of a soy-lactate solution, the Owner/Operator shall sample and analyze IW023 and the three monitoring wells for total and hexavalent chromium, sulfate, sulfide, ammonia-nitrogen, orthophosphate-phosphorus, total anaerobic microbial counts, total organic carbon, total and dissolved iron, and field parameters (pH, temperature, conductivity, DO, and ORP).

b. Field Monitoring: During the injection, the Owner/Operator shall monitor the three monitor wells hourly for pH, DO, ORP, conductivity, and temperature.

c. Post -Injection Monitoring and Sampling: The Owner/Operator shall sample the IW024 and the three monitoring wells to evaluate the treatment effectiveness. Ground water samples will be collected for successive quarters after the injection event and analyzed for total and hexavalent chromium, sulfate, sulfide, ammonia -nitrogen, orthophosphate - phosphorus, total anaerobic microbial counts, total organic carbon, total and dissolved iron, and field parameters (pH, temperature, conductivity, DO, and ORP).

B. CONTINGENCY PLANS: The Owner/Operator shall implement its approved Contingency Plans to cope with failure of the discharge permit or system in accordance with Permit Condition 2.F.

C. CLOSURE PLAN: After completing abatement of all ground water and vadose contamination required under Permit Condition 2.G, the Owner/Operator shall perform the following closure measures:

1. Remove or plug all lines leading to and from ground water recovery or injection wells so that a discharge can no longer occur.

2. Remove all abatement system components from the site, if applicable.

3. After receiving notification from the Division's Environmental Bureau that post-closure monitoring may cease, the Owner/Operator shall plug and abandon its monitor well(s).

D. RECORD KEEPING: The Owner/Operator shall maintain records of all inspections required by this Discharge Permit at its local office located at 240 Avenue O, Eunice, NM 88231 for a minimum of five years and shall make those records available for inspection by the Division's Environmental Bureau.

E. RELEASE REPORTING: The Owner/Operator shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Owner/Operator shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Owner/Operator determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to the Division's Environmental Bureau.

1. Oral Notification: As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the Owner/Operator shall orally notify the Division's Environmental Bureau. The Owner/Operator shall provide the following:

- the name, address, and telephone number of the person or persons in charge of the facility, as well as of the Owner/Operator of the facility;
- the name and location of the facility;

- the date, time, location, and duration of the discharge;
- the source and cause of discharge;
- a description of the discharge, including its chemical composition;
- the estimated volume of the discharge; and,
- any actions taken to mitigate immediate damage from the discharge.

2. **Written Notification:** Within one week after the Owner/Operator has learned of the discharge, the Owner/Operator shall send written notification to the Division's Environmental Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

F. ABATEMENT PLAN: Pursuant to 20.6.2.4105A(6) NMAC, an Owner/Operator is exempt from the requirement to obtain and implement an Abatement Plan, as required in 20.6.2.4104 NMAC. However, an Owner/Operator's Discharge Permit must address abatement of contaminated ground water and be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC.

1. **Purpose of Abatement Plan:** The Owner/Operator shall abate polluted ground water so as to either remediate or protect the ground water for use as domestic and agricultural water supply.

2. **Abatement Standards and Requirements:** The Owner/Operator shall abate the vadose zone so that water contaminants in the vadose zone shall not contaminate ground water or surface water, through leaching, percolation or as the water table elevation fluctuates. The Owner/Operator, where the Total Dissolved Solids concentration is 10,000 mg/L or less, shall abate contaminated ground water so that toxic pollutant(s), as defined in 20.6.2.7WW NMAC, shall not be present and so that the standards of 20.6.2.3103 NMAC shall be met.

3. **Ground Water Abatement:** The Owner/Operator shall implement its approved ground water abatement program until it has remediated the contaminated ground water to meet the standards and requirements set forth in 20.6.2.4103 NMAC.

4. **Completion and Termination:** Pursuant to 20.6.2.4112 NMAC, abatement shall be considered complete when the standards and requirements specified in 20.6.2.4103 NMAC are met. At that time, the Owner/Operator shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in 20.6.2.4103 NMAC and this Discharge Permit, to Division's Environmental Bureau for approval. The abatement completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.

G. OTHER REQUIREMENTS:

1. Inspection and Entry: Pursuant to 20.6.2.4107A NMAC, the Owner/Operator shall allow the Division's Environmental Bureau, upon the presentation of proper credentials, to:

- enter the facility at reasonable times;
- inspect and copy records required by this discharge permit;
- inspect any treatment works, monitoring, and analytical equipment;
- sample any wastes, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;
- use the Owner/Operator's monitoring systems and wells in order to collect samples; and
- gain access to off-site property not owned or controlled by the Owner/Operator, but accessible to the Owner/Operator through a third-party access agreement, provided that it is allowed by the agreement.

2. Advance Notice: Pursuant to 20.6.2.4107B NMAC, The Owner/Operator shall provide the Division's Environmental Bureau with at least four (4) working days advance notice of any sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or destruction at the facility site.

3. Plugging and Abandonment: Pursuant to 20.6.2.4107C NMAC, the Owner/Operator shall request by certified mail, approval by the Division's Environmental Bureau to plug and abandon a monitor well, unless such approval is required from the State Engineer. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from the Division's Environmental Bureau, unless written approval or disapproval is not received by the Owner/Operator within thirty (30) days of the date of receipt of the proposal.

H. ANNUAL REPORT: The Owner/Operator shall submit its annual report for each calendar year pursuant to 20.6.2.3107 NMAC to the Division's Environmental Bureau by March 15th of the following year. The annual report shall include the following:

1. Results of its ground water monitoring program; including:

- summary tables listing laboratory analytic results of all ground water and soil samples. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent year's laboratory analytical data sheets shall also be submitted.
- annual water table potentiometric maps. A corrected water table elevation shall be determined for all wells containing non-aqueous phase liquids. These maps shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient.
- semi-annual isopleth maps for the following constituents: non-aqueous phase liquids; chlorides; chromium; and, BTEX.

- semi-annual geologic cross-sections (both dip and strike), using the geologic/lithologic logs from the monitor, recovery, and injection wells, depicting the concentrations for the following constituents: non-aqueous phase liquids; chlorides; chromium; and, BTEX.
- estimate or measure of the volume of the solutions discharged during each quarter and the total volume discharged to date.

2. Summary of any releases and corrective actions taken in accordance with its approved Contingency Plan.

3. **CLASS V WELLS:** Pursuant to 20.6.2.5002B NMAC, leach fields and other wastewater disposal systems at Division-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells, including ground water management wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste at the Facility. Pursuant to 20.6.2.5005 NMAC, the Owner/Operator shall close any Class V industrial waste injection wells at its Facility that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (*e.g.,* septic systems, leach fields, dry wells, *etc.*) other than the injection remediation wells within 90 calendar days of the issuance of this Discharge Permit. The Owner/Operator shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report.

Other Class V wells, including wells used only for the injection of domestic wastes, must be permitted by the New Mexico Environment Department.

4. **SCHEDULE OF COMPLIANCE:**

A. PERMIT CERTIFICATION: The Owner/Operator shall sign and return this Permit to the Division's Environmental Bureau within 45 days of its receipt of this Permit.

B. SUBMISSION OF THE PERMIT FEES: As specified in Permit Condition 1.F, the Owner/Operator shall submit the fee of $2,600.00 along with the signed Discharge Permit within 45 days of the receipt of the Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

C. ANNUAL REPORT: As specified in Permit Condition 2.H, the Owner/Operator shall submit its annual report to the Division's Environmental Bureau by March 15th of the following year.

5. CERTIFICATION: (OWNER/OPERATOR) by the officer whose signature appears below, acknowledges receipt of this Discharge Permit, and has reviewed its terms and conditions.

Chevron U.S.A. Inc
Company Name - print name

Robert A. Guldner
Company Representative - print name

Company Representative - Signature

Title: Manager OE/HBS

Date: 01/23/2012

DISCHARGE PERMIT GW-003

1. GENERAL PROVISIONS:

A. PERMITTEE AND PERMITTED FACILITY: The Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-003 (Discharge Permit) to Chevron U.S.A., Inc. (Owner/Operator), located at 1400 Smith Street, Houston, Texas 77002 to abate ground water and vadose zone contamination at its Eunice South Gas Plant (Facility) located in the NW/4 of the SW/4 of Section 27, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico. The facility is located approximately 4.5 miles south of Eunice, New Mexico between State Highway 207 (Eunice-Hobbs Highway) and State Highway 18.

Versado L.L.P. (Versado) is a limited partnership between Chevron and Targa Midstream Services (Targa). Versado is the current landowner of record for the land parcel where the Eunice South Gas Plant is located. The Facility is inactive; however, Targa on behalf of Versado presently operates a compressor station and operates a UIC Class II injection well.

When its ground water recovery system is operational, Chevron discharges approximately 180,000 barrels (7,560,000 gallons) per year of contaminated ground water. Ground water that may be affected by a spill, leak, or accidental discharge occurs at a depth of approximately 49 - 54 feet below ground surface, with a total dissolved solids concentration of approximately 1,000 - 1,300 mg/L.

B. SCOPE OF PERMIT: OCD has been granted authority to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to gas processing plants by statute and by delegation from the Water Quality Control Commission pursuant to Section 74-6-4(E) NMSA 1978.

The Water Quality Act and the rules issued under that Act protect ground water and surface water of the State of New Mexico by providing that, unless otherwise allowed by rule, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge plan. See 20.6.2.3104 NMAC and 20.6.2.3106 NMAC.

This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by-product, or oil field waste, including, but not limited to, the on-site disposal of lube oil, glycol, antifreeze, filters, elemental sulfur, washdown water, contaminated soil, and cooling tower blowdown water.

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Owner/Operator shall operate in accordance with the Discharge Permit conditions to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health, (see 20.6.2.3109H(3) NMAC); and so that the numerical standards specified of 20.6.2.3103 NMAC are not exceeded.

The Owner/Operator shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams).

C. DISCHARGE PERMIT CONDITIONS: By signing this Discharge Permit, the Owner/Operator agrees to the specific provisions set out in this document, and the commitments made in the approved Discharge Plan Application and the attachments to that application, which are incorporated into the Discharge Permit by reference.

If this Discharge Permit is a permit renewal, it replaces the permit being renewed. Replacement of a prior permit does not relieve the Owner/Operator of its responsibility to comply with the terms of that prior permit while that permit was in effect.

D. DEFINITIONS: Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to that Act, as the context requires.

E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a discharge permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100.00 filing fee for this application. The flat fee for "Abatement of Ground Water and Vadose Zone Contamination at Oil and Gas Sites" is $2,600.00. The Owner/Operator shall submit this amount along with the signed Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit is effective when the Division's Environmental Bureau receives the signed Discharge Permit from the Owner/Operator and the $2,600.00 fee. This Discharge Permit will expire on March 16, 2016. The Owner/Operator shall submit an application for renewal no later than 120 calendar days before that expiration date, pursuant to 20.6.2.3106F NMAC. If an Owner/Operator submits a renewal application at least 120 calendar days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. Operating with an expired Discharge Permit may subject the Owner/Operator to

civil and/or criminal penalties. See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978.

G. MODIFICATIONS: The Owner/Operator shall notify the Division's Environmental Bureau of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants. See 20.6.2.3107C NMAC. The Division's Environmental Bureau may require the Owner/Operator to submit a permit modification pursuant to 20.6.2.3109E NMAC and may modify or terminate a permit pursuant to Section 74-6-5(M) through (N) NMSA 1978.

H. TRANSFER OF DISCHARGE PERMIT: Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of the Facility, the transferor shall notify the transferee in writing of the existence of the Discharge Permit, and shall deliver or send by certified mail to the Division's Environmental Bureau a copy of such written notification, together with a certification or other proof that such notification has been received by the transferee pursuant to 20.6.2.3111 NMAC. Upon receipt of such notification, the transferee shall inquire into all of the provisions and requirements contained in the Discharge Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the Division's file or files concerning the Discharge Permit. Upon assuming either ownership or possession of the Facility the transferee shall have the same rights and responsibilities under the Discharge Permit as were applicable to the transferor. See 20.6.2.3111 NMAC.

Transfer of the ownership, control, or possession of the Facility does not relieve the transferor of responsibility or liability for any act or omission which occurred while the transferor owned, controlled, or was in possession of the Facility. See 20.6.2.3111E NMAC.

I. CLOSURE PLAN AND FINANCIAL ASSURANCE: The Owner/Operator shall notify the Division's Environmental Bureau in writing when any operations of its Facility are to be discontinued for a period in excess of six months. Upon review of the Owner/Operator's notice, the Division's Environmental Bureau will determine whether to modify this permit pursuant to 20.6.2.3107 NMAC and 20.6.2.3109E NMAC or to require the Owner/Operator to submit a closure plan and/or post-closure plan, including financial assurance.

J. COMPLIANCE AND ENFORCEMENT: If the Owner/Operator violates or is violating a condition of this Discharge Permit, the Division's Environmental Bureau may issue a compliance order requiring compliance immediately or within a specified time period, suspending or terminating this Discharge Permit, and/or assessing a civil penalty. See Section 74-6-10 NMSA 1978. The Division's Environmental Bureau may also commence a civil action in district court for appropriate relief, including injunctive relief. See Section 74-6-10(A)(2) NMSA 1978 and Section 74-6-11 NMSA 1978. The Owner/Operator may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with

or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. See Section 74-6-10.2 NMSA 1978.

2. GENERAL FACILITY OPERATIONS:

A. OPERATIONAL MONITORING: The Owner/Operator shall comply with its approved monitoring programs pursuant 20.6.2.3107 NMAC.

1. Ground Water Monitoring System: The Owner/Operator shall monitor and sample all ground water monitor wells in accordance with its approved ground water abatement program.

2. Disposal of Chloride Contaminated Ground Water:

a. The Owner/Operator shall monitor its ground water recovery wells in accordance with its approved ground water abatement program.

b. The Owner/Operator shall determine the monthly volume and Total Dissolved Solids concentration of the contaminated ground water that it disposes of in accordance with its approved ground water abatement program.

B. CONTINGENCY PLANS: The Owner/Operator shall implement its approved Contingency Plans to cope with failure of the discharge permit or system in accordance with Permit Condition 2.F.

C. CLOSURE PLAN: After completing abatement of all ground water and vadose contamination required under Permit Condition 2.G, the Owner/Operator shall perform the following closure measures:

1. Remove or plug all lines leading to and from ground water recovery or injection wells so that a discharge can no longer occur.

2. Remove all abatement system components from the site, if applicable.

3. After receiving notification from the Division's Environmental Bureau that post-closure monitoring may cease, the Owner/Operator shall plug and abandon its monitor well(s).

D. RECORD KEEPING: The Owner/Operator shall maintain records of all inspections required by this Discharge Permit at its local office located at 240 Avenue O, Eunice, NM 88231 for a minimum of five years and shall make those records available for inspection by the Division's Environmental Bureau.

E. RELEASE REPORTING: The Owner/Operator shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental

to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Owner/Operator shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Owner/Operator determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to the Division's Environmental Bureau.

1. **Oral Notification:** As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the Owner/Operator shall orally notify the Division's Environmental Bureau. The Owner/Operator shall provide the following:

- the name, address, and telephone number of the person or persons in charge of the facility, as well as of the Owner/Operator of the facility;
- the name and location of the facility;
- the date, time, location, and duration of the discharge;
- the source and cause of discharge;
- a description of the discharge, including its chemical composition;
- the estimated volume of the discharge; and,
- any actions taken to mitigate immediate damage from the discharge.

2. **Written Notification:** Within one week after the Owner/Operator has learned of the discharge, the Owner/Operator shall send written notification to the Division's Environmental Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

F. ABATEMENT PLAN: Pursuant to 20.6.2.4105A(6) NMAC, an Owner/Operator is exempt from the requirement to obtain and implement an Abatement Plan, as required in 20.6.2.4104 NMAC. However, an Owner/Operator's Discharge Permit must address abatement of contaminated ground water and be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC.

1. **Purpose of Abatement Plan:** The Owner/Operator shall abate polluted ground water so as to either remediate or protect the ground water for use as domestic and agricultural water supply.

2. **Abatement Standards and Requirements:** The Owner/Operator shall abate the vadose zone so that water contaminants in the vadose zone shall not contaminate ground water or surface water, through leaching, percolation or as the water table elevation fluctuates. The Owner/Operator, where the Total Dissolved Solids concentration is 10,000 mg/L or less, shall abate contaminated ground water so that toxic pollutant(s), as defined in 20.6.2.7WW NMAC, shall not be present and so that the standards of 20.6.2.3103 NMAC shall be met.

3. **Ground Water Abatement:** The Owner/Operator shall implement its approved ground water abatement program until it has remediated the contaminated ground water to meet the standards and requirements set forth in 20.6.2.4103 NMAC.

4. **Completion and Termination:** Pursuant to 20.6.2.4112 NMAC, abatement shall be considered complete when the standards and requirements specified in 20.6.2.4103 NMAC are met. At that time, the Owner/Operator shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in 20.6.2.4103 NMAC and this Discharge Permit, to Division's Environmental Bureau for approval. The abatement completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.

G. OTHER REQUIREMENTS:

1. **Inspection and Entry:** Pursuant to 20.6.2.4107A NMAC, the Owner/Operator shall allow the Division's Environmental Bureau, upon the presentation of proper credentials, to:

- enter the facility at reasonable times;
- inspect and copy records required by this discharge permit;
- inspect any treatment works, monitoring, and analytical equipment;
- sample any wastes, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;
- use the Owner/Operator's monitoring systems and wells in order to collect samples; and
- gain access to off-site property not owned or controlled by the Owner/Operator, but accessible to the Owner/Operator through a third-party access agreement, provided that it is allowed by the agreement.

2. **Advance Notice:** Pursuant to 20.6.2.4107B NMAC, The Owner/Operator shall provide the Division's Environmental Bureau with at least four (4) working days advance notice of any sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or destruction at the facility site.

3. **Plugging and Abandonment:** Pursuant to 20.6.2.4107C NMAC, the Owner/Operator shall request by certified mail, approval by the Division's Environmental Bureau to plug and abandon a monitor well, unless such approval is required from the State Engineer. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from the Division's Environmental Bureau, unless written approval or disapproval is not received by the Owner/Operator within thirty (30) days of the date of receipt of the proposal.

H. ANNUAL REPORT: The Owner/Operator shall submit its annual report for each calendar year pursuant to 20.6.2.3107 NMAC to the Division's Environmental Bureau by March 15th of the following year . The annual report shall include the following:

1. Results of its ground water monitoring program; including:

- summary tables listing laboratory analytic results of all ground water and soil samples. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent year's laboratory analytical data sheets shall also be submitted.
- annual water table potentiometric maps. A corrected water table elevation shall be determined for all wells containing non-aqueous phase liquids. These maps shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient.
- semi-annual isopleth maps for the following constituents: non-aqueous phase liquids; chlorides; and, BTEX.
- semi-annual geologic cross-sections (both dip and strike), using the geologic/lithologic logs from the monitor, recovery, and injection wells, depicting the concentrations for the following constituents: non-aqueous phase liquids; chlorides; and, BTEX.
- estimate or measure of the volume of contaminated ground water discharged during each quarter and the total volume discharged to date.

2. Summary of any releases and corrective actions taken in accordance with its approved Contingency Plan.

3. **CLASS V WELLS:** Pursuant to 20.6.2.5002B NMAC, leach fields and other wastewater disposal systems at Division-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste at the Facility. Pursuant to 20.6.2.5005 NMAC, the Owner/Operator shall close any Class V industrial waste injection wells at its Facility that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (*e.g.*, septic systems, leach fields, dry wells, *etc.*) within 90 calendar days of the issuance of this Discharge Permit. The Owner/Operator shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report.

Other Class V wells, including wells used only for the injection of domestic wastes, must be permitted by the New Mexico Environment Department.

4. **SCHEDULE OF COMPLIANCE:**

A. PERMIT CERTIFICATION: The Owner/Operator shall sign and return this Permit to the Division's Environmental Bureau within 45 days of its receipt of this Permit.

B. SUBMISSION OF THE PERMIT FEES: As specified in Permit Condition 1.F, the Owner/Operator shall submit the fee of $2,600.00 along with the signed Discharge

Permit within 45 days of the receipt of the Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

C. ANNUAL REPORT: As specified in Permit Condition 2.H, the Owner/Operator shall submit its annual report to the Division's Environmental Bureau by March 15th of the following year.

D. REQUIREMENT TO RESUME ABATEMENT PROGRAM: In February 2011, Chevron notified OCD that Targa would no longer allow Chevron to discharge contaminated ground water to its on-site UIC Class II injection well. Consequently, Chevron temporarily ceased operating its ground water abatement program. Chevron shall propose an alternate method of disposing the contaminated ground water to OCD no later than ninety (90) days after the issuance of this discharge permit.

5. CERTIFICATION: (OWNER/OPERATOR) by the officer whose signature appears below, acknowledges receipt of this Discharge Permit, and has reviewed its terms and conditions.

Chevron U.S.A. INC.
Company Name - print name

Robert A. Guldner
Company Representative - print name

Company Representative - Signature

Title: Manager OE/HES

Date: 01/23/2012

Appendix B

Form C-108 Application for Authorization to Inject and Class V Inventory Form

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ____**X**_____Disposal _____Storage
Application qualifies for administrative approval? ____**NA**_____Yes _____No

II. OPERATOR: _Chevron U.S.A. Inc._____

ADDRESS: ___1400 Smith Street, Room 38074 Houston, TX 77002_____

CONTACT PARTY: __Jerry Piritz_____PHONE: __713-471-0560___

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes _____**X**____No
If yes, give the Division order number authorizing the project:

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
See attached Figures 1a, 1b, 2a, and 2b

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
See attached Tables 1 and 2

VII. Attach data on the proposed operation, including:
See attached Supplemental Information sheet

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
See attached Supplemental Information sheet

IX. Describe the proposed stimulation program, if any.
NA

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
All well logs have previously been submitted to the Division.

*XI. Attach a chemical analysis of fresh water from two or more freshwater wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
See attached Tables 3 and 4 and Figures 3 and 4

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
NA

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
NA

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: __Jerry Piritz_____TITLE: Environmental Manager, Chevron Mid-Continent Business Unit_____

SIGNATURE: Jerry B. Piritz DATE: Nov 7, 2022

E-MAIL ADDRESS: __jpkx@chevron.com_____

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: ___**See Supplemental Information, Attached**_____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
Please see Figure 5, attached to this form

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
Entire Wellbore Casing size: 6-inch.
Depth: Ranging from approximately 65 to 127' bgs for both North and South Eunice sites.
Grout: Portland with 5% bentonite slurry from top of secondary sand to surface.
Hole size: 9 7/8 inches.

(3) A description of the tubing to be used including its size, lining material, and setting depth.
Not Applicable

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.
Not Applicable

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.
Ogallala Formation.

(2) The injection interval and whether it is perforated or open-hole.
Schedule 80 Polyvinyl Chloride (PVC) 0.020" slotted screen ranging from approximately 65 to 127' bgs for both North and South Eunice sites

(3) State if the well was drilled for injection or, if not, the original purpose of the well.
For injection of treated groundwater

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
NA

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.
No oil or gas zones are above the Ogallala formation. The first oil or gas zone is encountered approximately 3,992 feet below ground surface within a mix of the Grayburg and San Andres formations.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR: _____Chevron U.S.A. Inc._____

WELL NAME & NUMBER: **North: N-IW-1, N-IW-2, N-IW-3, N-IW-4, N-IW-5, N-IW-6, N-IW-7, N-IW-8, N-IW-9, N-IW-10, N-IW-11, N-IW-12, N-IW-13, N-IW-14, N-IW-15, N-IW-16, N-IW-17, N-IW-18, N-IW-19, N-IW-20, N-IW-21, N-IW-22, N-IW-23, N-IW-24, N-IW-25. South: S-IW-1, S-IW-2, S-IW-3, S-IW-4, S-IW-5, S-IW-6, S-IW-7, S-IW-8, S-IW-9, S-IW-10, S-IW-11, S-IW-12, S-IW-13, S-IW-14.**

WELL LOCATION: _____ **For list of well coordinates and well completion data, see Figure 5: Injection Well Figure.**

FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC **NA**

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: _____**NA**_____ Casing Size:_____**NA**_____

Cemented with: _____**NA**_____ sx. ***or*** _____**NA**_____ ft^3

Top of Cement: _____**NA**_____ Method Determined: ____**NA**_____

Intermediate Casing

Hole Size: _____**NA**_____ Casing Size:___**NA**_____

Cemented with: _____**NA**_____ sx. ***or*** _____**NA**_____ ft^3

Top of Cement: _____**NA**_____ Method Determined: _____**NA**_____

Production Casing

Hole Size: _____**9 7/8**_____ Casing Size:_____**6”**_____

Cemented with: **Portland with 5% Grout Mixture** ***or*** _____**NA**_____ ft^3

Top of Cement: __**Ground Surface**_____ Method Determined: __**Tremie**____

Total Depth: **See Injection Well Figure for Injection Well Depths.**

Injection Interval

Ranging from Approximately 40 feet To **122 feet.** **Perforated/Slotted**

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: _____**NA**_____Lining Material: _____**NA**_____

Type of Packer: _____**NA**_____

Packer Setting Depth: _____**NA**_____

Other Type of Tubing/Casing Seal (if applicable): _____**NA**_____

Additional Data

1. Is this a new well drilled for injection? ___**X**___Yes _____No

   If no, for what purpose was the well originally drilled? _____

   _____

2. Name of the Injection Formation: _____ **Ogallala Formation** _____

3. Name of Field or Pool (if applicable): _____**NA**_____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____**No**_____

   _____

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____**NA**_____

   _____

   _____

   _____

Supplemental Information
Form C-108

VII. Proposed Operation

Response

1.Proposed average and maximum daily rate and volume of fluids to be injected;

Average: 16 gpm per injection well
Maximum: 30 gpm per injection well

2.Whether the system is open or closed;

Closed

3.Proposed average and maximum injection pressure;

Injection wells were not designed to be pressurized and will have pressure equivalent to ambient atmosphere. Injection wells will hold at atmospheric ambient pressures under normal conditions up to 15 psi.
Average: Atmospheric
Maximum: 15 psi

4.Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water;

Source of injection fluid is recovered water from the Ogallala Formation approximately 37 to 73' bgs. All extraction and injection fluid will originate and be injected back into the Ogallala Formation. Groundwater will be extracted from a network of 42 extraction wells from the North and South Eunice treatment sites. The groundwater will then be treated through multi-media filtration, ion exchange, liquid phase granular activated Carbon, and electrodialysis reversal (EDR) processes. This process will create two streams, a concentrated brine waste stream and a clean water injection stream. The clean water injection stream will be pumped from the groundwater treatment plant via HDPE conveyance lines for reinjection at both the North and South Eunice sites through a series of 39 injection wells. Approximately 90 % of the extracted groundwater volume will be reinjected back into the Ogallala Formation. The anticipated treatment goals are based on values for site COCs taken from New Mexico Code R. Section 20.6.2.3103, which is referenced in the existing Eunice North and Eunice South discharge permits (20.6.2.3103 NMAC).

5. If injection is for disposal purposes into a zone not productive of oil or gas or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.)

NA

6. Describe the kinds of treatment (if any) that the fluids go through before disposal. Examples of treatment are: grease trap, package plant, oil/water separator, catch basin, metal recovery unit, sand filter, grit cleanser, etc.

   Response
   Prior to reinjection, the groundwater will be treated through multi-media filtration, ion exchange, liquid phase granular activated carbon, and electrodialysis reversal (EDR) processes.

7. Select the status of the underground discharge system and include the date the system was constructed. If the status is "Existing" but it is not being used, is unusable, will not be used, or is temporarily abandoned, mark the box for "Unused/Abandoned". If state or local government approval was given for construction of the system, or a permit was issued for the system, please provide the name of the approving authority. Provide an estimated date of construction if the actual date is unknown.

   Response
   The system is under construction.

FOR SAMPLE USE ONLY – COMPARABLE FORMAT ACCEPTABLE

UNDERGROUND DISCHARGE SYSTEM (CLASS V) INVENTORY SHEET

(see instructions on back)

1. Name of facility: Former North Eunice Gas Plant

   Address of facility: 2306 Main Street

   City/Town: Eunice State: New Mexico Zip Code: 88231

   County: Lea Location: NE/4, SE/4, Section: 28, Township: 21, Range: 37 East

   Contact Person: Jerry Piritz Phone Number: (713) 471-0560

2. Name of Owner or Operator: Chevron U.S.A. Inc.

   Address of Owner or Operator: 1400 Smith Street, Room 38074

   City/Town: Houston State: Texas Zip Code: 77002

3. Type & number of system(s): ____Drywell(s) ____Septic System(s) 39 Other(describe): GW Remediation Injection Wells
   Attach a schematic of the system. Attach a map or sketch of the location of the system at the facility.

4. Source of discharge into system: Two streams of groundwater will be extracted from the Former North Eunice Gas Plant and Former South Eunice Gas Plant sites and treated at a central treatment plant located at the Former North Eunice Gas Plant site. The treated groundwater will be re-injected into the Ogallala aquifer.

5. Fluids discharged: Treated groundwater

6. Treatment before discharge: The groundwater treatment plant utilizes multi-media filtration (MMF), ion exchange (IEX), liquid-phase granular activated carbon (LGAC), and electrodialysis reversal (EDR) to achieve the discharge standards.

7. Status of underground discharge system: ☐ Existing ☐ Unused/Abandoned ☒ Under Construction ☐ Proposed

   Approved/Permitted by: NA Date constructed: NA

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

Signature: Jerry B. Piritz Date: Nov 7, 2022

Name (printed): Jerry Piritz

Official Title: Environmental Manager, Chevron Mid-Continent Business Unit

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

UNDERGROUND DISCHARGE SYSTEM (CLASS V) INVENTORY SHEET INSTRUCTIONS

Complete one sheet for each different kind of underground discharge or drainage system (Class V well) at your facility or location. For example, several storm water drainage wells of a similar construction can all go on one sheet. Another example could be a business with a single septic system (septic tank with drainfield) that accepts fluids from a paint shop sink in one area, their vehicle maintenance garage floor drains in another area and also serves the employee kitchenette and washroom: this can all go on one form.

The numbers below correspond to the numbers on the front of the sheet.

1. Supply the name and street address of the facility where the Class V well(s) is located. Please be sure to include the County name. If available, provide the Latitude/Longitude of the discharge system. If there is no street address for the discharge system(s), provide a description of the location and show the location on a map. Include the name and phone number of a person to contact if there are any questions regarding the underground discharge system(s) and/or the wastewaters discharged at the facility.

2. Provide the name and mailing address of the owner of the facility or if the facility is operated by lease, the operator of the facility.

3. Provide the number of underground discharge systems at the facility (or location) for the type of system that is described on this sheet. Please use a separate sheet for each different type of system present. If the type of system is "Other", please describe (e.g., french drain, leachfield, improved sinkhole, cesspool, etc.).

   Provide a sketch, diagram or blueprints of the construction of the system including the depth below the ground surface that the fluids are released into the soil, sediment or formation. Also provide a map or sketch of the layout of the pluming or drainage system, including all the connections, and if applicable, indicate each fluid source connection (i.e., floor drains, shop sink, process tank discharge, restrooms, etc.) and any pre-treatment, etc.

4. Describe the kind of business practice that generates the fluids being discharged into the underground system (e.g., body shop, drycleaner, carwash, print shop, restaurant, etc.), and/or if more appropriate, the source of the fluids (e.g., employee & customer restrooms, parking lot drainage, etc.). If available, include the Standard Industrial Classification (SIC) Codes for this facility.

5. List the kinds of fluids that can enter the underground system (e.g., storm water run-off, sanitary waste, solvents, biodegradable soap wash & rinse water, snowmelt from trucks, photo developing fluids, ink, paint & thinner, non-contact cooling water, etc.). Please be as specific as you can about the kinds of fluids or products that can be drained into the system. Generally, good sources for this information are the Material Safety Data Sheets (MSDS) (copies of MSDS could be attached instead of listing all the products). If available, also attach a copy of any chemical analysis for the fluids discharged.

6. Describe the kinds of treatment (if any) that the fluids go through before disposal. Examples of treatment are: grease trap, package plant, oil/water separator, catch basin, metal recovery unit, sand filter, grit cleanser, etc.

7. Select the status of the underground discharge system and include the date the system was constructed. If the status is “Existing” but it is not being used, is unusable, will not be used, or is temporarily abandoned, mark the box for “Unused/Abandoned”. If state or local government approval was given for construction of the system, or a permit was issued for the system, please provide the name of the approving authority. Provide an estimated date of construction if the actual date is unknown.

The person signing the submittal should read the certification statement before signing and dating the sheet.

If you have any questions about whether or not you may have an EPA regulated system, or about how to complete this sheet, please call (312) 886-1492. You may also try our website at www.epa.gov/r5water/uic/uic.htm for information.

Please send completed sheets to: U.S. EPA Region 5
Underground Injection Control Branch
ATTN: Lisa Perenchio (WU-16J)
77 W. Jackson Blvd.
Chicago, IL 60604

8/02

Supplemental Information

Underground Discharge System (Class V) Inventory Sheet

North Eunice GWTP

The numbers below correspond to the numbers on the second page of the Underground Discharge System (Class V) Inventory Sheet.

1. Supply the name and street address of the facility where the Class V well(s) is located. Please be sure to include the County name. If available, provide the Latitude/Longitude of the discharge system. If there is no street address for the discharge system(s), provide a description of the location and show the location on a map. Include the name and phone number of a person to contact if there are any questions regarding the underground discharge system(s) and/or the wastewaters discharged at the facility.

   Response
   2306 Main Street, Eunice, New Mexico 88231
   Lea County

   Maps providing the location of injection wells are included as Figures 1a, 1b, 2a, and 2b. Proposed injection well coordinates are provided in Figure 5, GWTP location is provided in Figure 6.

2. Provide the name and mailing address of the owner of the facility or if the facility is operated by lease, the operator of the facility.

   Response
   Owner: Chevron U.S.A. Inc.

   Contact: Jerry Piritz, Environmental Manager, Chevron Mid-Continent Business Unit

   1400 Smith Street, Room 38074, Houston, TX 77002

   (713) 471-0560

3. Provide the number of underground discharge systems at the facility (or location) for the type of system that is described on this sheet. Please use a separate sheet for each different type of system present. If the type of system is "Other", please describe (e.g., french drain, leachfield, improved sinkhole, cesspool, etc.).

   Provide a sketch, diagram or blueprints of the construction of the system including the depth below the ground surface that the fluids are released into the soil, sediment or formation. Also provide a map or sketch of the layout of the plumbing or drainage system, including all the connections, and if applicable, indicate each fluid source connection (i.e., floor drains, shop sink, process tank discharge, restrooms, etc.) and any pre-treatment, etc.

Response

One discharge system is at the facility.

The source of injection fluid is recovered water from the Ogallala Formation approximately 37 to 73' bgs. All extraction and injection fluid will originate and be injected back into the Ogallala Formation. Groundwater will be extracted from a network of 42 extraction wells from the North and South Eunice treatment sites. The groundwater will then be treated through multi-media filtration, ion exchange, liquid phase granular activated Carbon, and electrodialysis reversal (EDR) processes. This process will create two streams, a concentrated brine waste stream and a clean water injection stream. The clean water injection stream will be pumped from the groundwater treatment plant via HDPE conveyance lines for reinjection at both the North and South Eunice sites through a series of 39 injection wells. Approximately 90 % of the extracted groundwater volume will be reinjected back into the Ogallala Formation. The anticipated treatment goals are based on values for site COCs taken from New Mexico Code R. Section 20.6.2.3103, which is referenced in the existing Eunice North and Eunice South discharge permits (20.6.2.3103 NMAC).

Proposed injection well construction details are provided in Figure 5.

4. Describe the kind of business practice that generates the fluids being discharged into the underground system (e.g., body shop, drycleaner, carwash, print shop, restaurant, etc.), and/or if more appropriate, the source of the fluids (e.g., employee & customer restrooms, parking lot drainage, etc.). If available, include the Standard Industrial Classification (SIC) Codes for this facility.

Response

The facility is a groundwater treatment plant, intended solely for the purpose of groundwater remediation of impacted groundwater as a result of historical gas plant operations at the Former North and South Eunice gas plants.

5. List the kinds of fluids that can enter the underground system (e.g., storm water run-off, sanitary waste, solvents, biodegradable soap wash & rinse water, snowmelt from trucks, photo developing fluids, ink, paint & thinner, non-contact cooling water, etc.). Please be as specific as you can about the kinds of fluids or products that can be drained into the system. Generally, good sources for this information are the Material Safety Data Sheets (MSDS) (copies of MSDS could be attached instead of listing all the products). If available, also attach a copy of any chemical analysis for the fluids discharged.

Response

The only fluid which will be injected in this system is extracted groundwater treated to the groundwater standards set forth in NMAC 20.6.2.3103.

6. Describe the kinds of treatment (if any) that the fluids go through before disposal. Examples of treatment are: grease trap, package plant, oil/water separator, catch basin, metal recovery unit, sand filter, grit cleanser, etc.

   Response
   Prior to reinjection, the groundwater will be treated through multi-media filtration, ion exchange, liquid phase granular activated carbon, and electrodialysis reversal (EDR) processes.

7. Select the status of the underground discharge system and include the date the system was constructed. If the status is "Existing" but it is not being used, is unusable, will not be used, or is temporarily abandoned, mark the box for "Unused/Abandoned". If state or local government approval was given for construction of the system, or a permit was issued for the system, please provide the name of the approving authority. Provide an estimated date of construction if the actual date is unknown.

   Response
   The system is under construction.

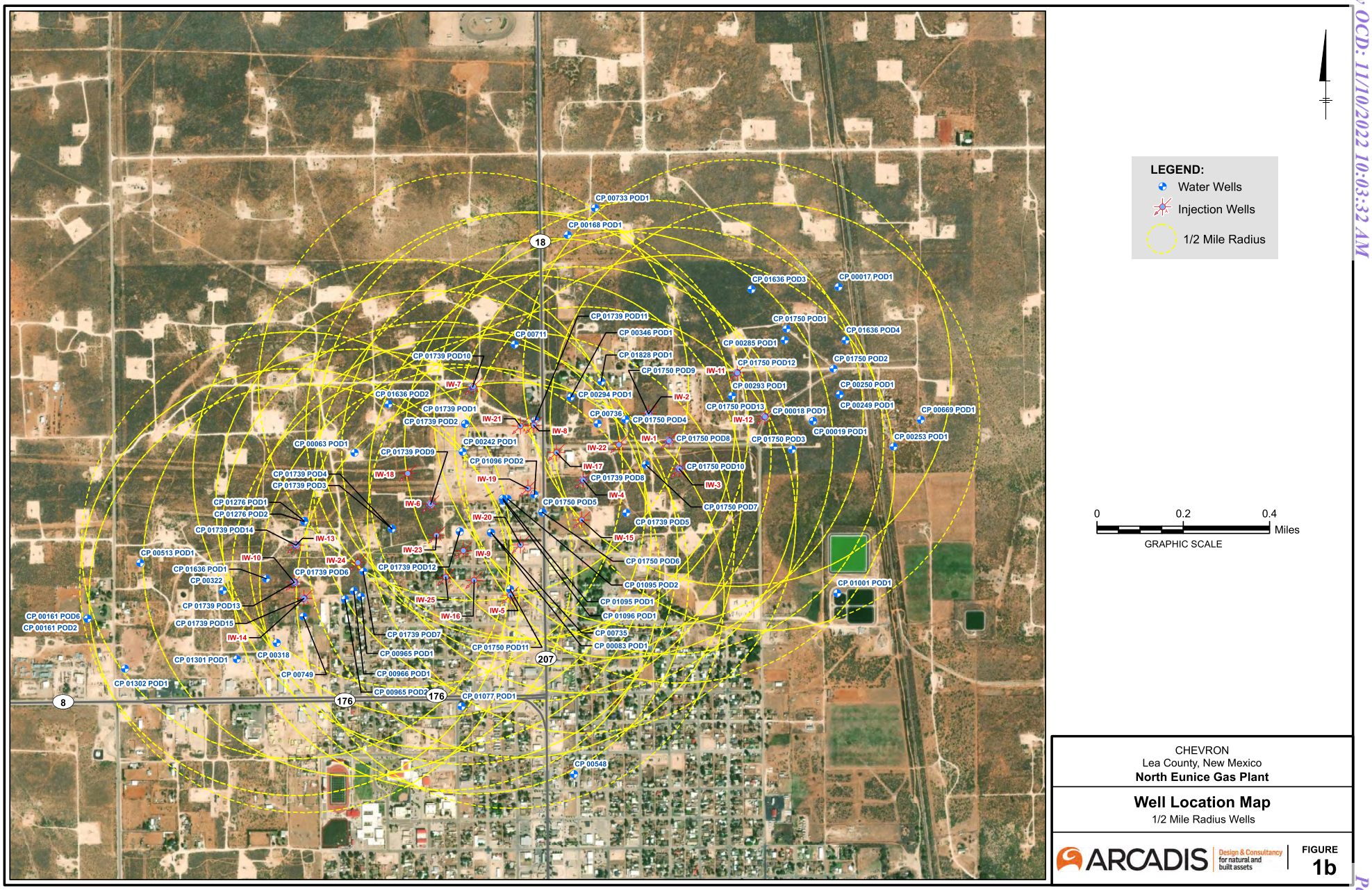
CHEVRON
Lea County, New Mexico
North Eunice Gas Plant

Well Location Map
2 Mile Radius Wells

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1a

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: wberry ; Client (Project #)
D:_Arcadis\Land Services\Chevron\Eunice_NM\GIS\Eunice_North_1a.mxd 3/31/2022 3:08:39 PM



LEGEND:
- Water Wells
- Injection Wells
- 1/2 Mile Radius

0 0.2 0.4 Miles

GRAPHIC SCALE

CHEVRON
Lea County, New Mexico
North Eunice Gas Plant

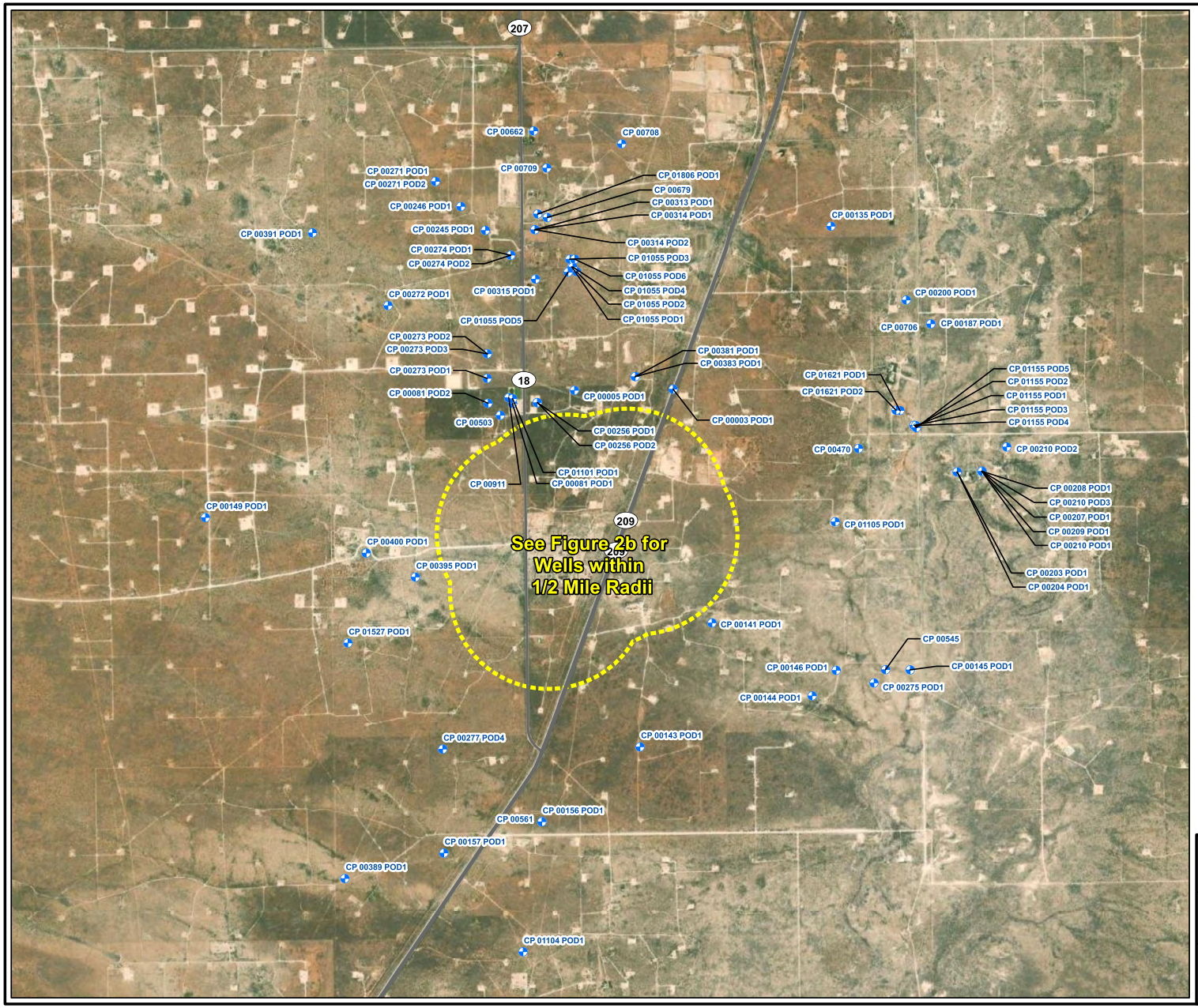
Well Location Map

1/2 Mile Radius Wells

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1b

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: wberry ; Client (Project #)
D:_Arcadis\Land Services\Chevron\Eunice_NM\GIS\Eunice_North_1b.mxd 3/31/2022 2:53:10 PM



LEGEND:

- Water Wells

0 0.5 1 Miles

GRAPHIC SCALE

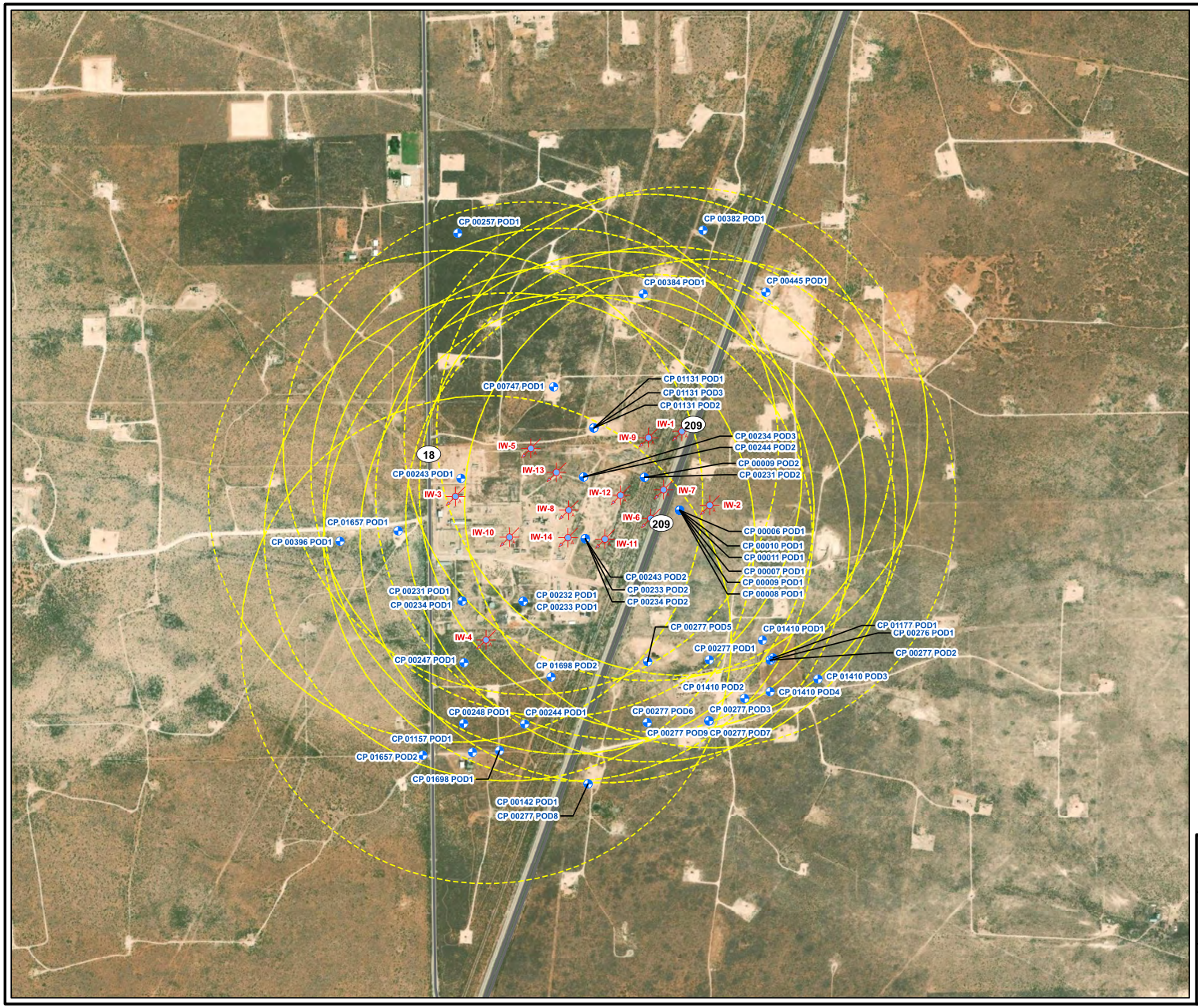
CHEVRON
Lea County, New Mexico
South Eunice Gas Plant

Well Location Map
2 Mile Radius Wells

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2a

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: wberry ; Client (Project #)
D:_Arcadis\Land Services\Chevron\Eunice_NM\GIS\Eunice_South_2a.mxd 3/31/2022 3:06:39 PM



LEGEND:

- Water Wells
- Injection Wells
- 1/2 Mile Radius

0 0.2 0.4 Miles

GRAPHIC SCALE

CHEVRON
Lea County, New Mexico
South Eunice Gas Plant

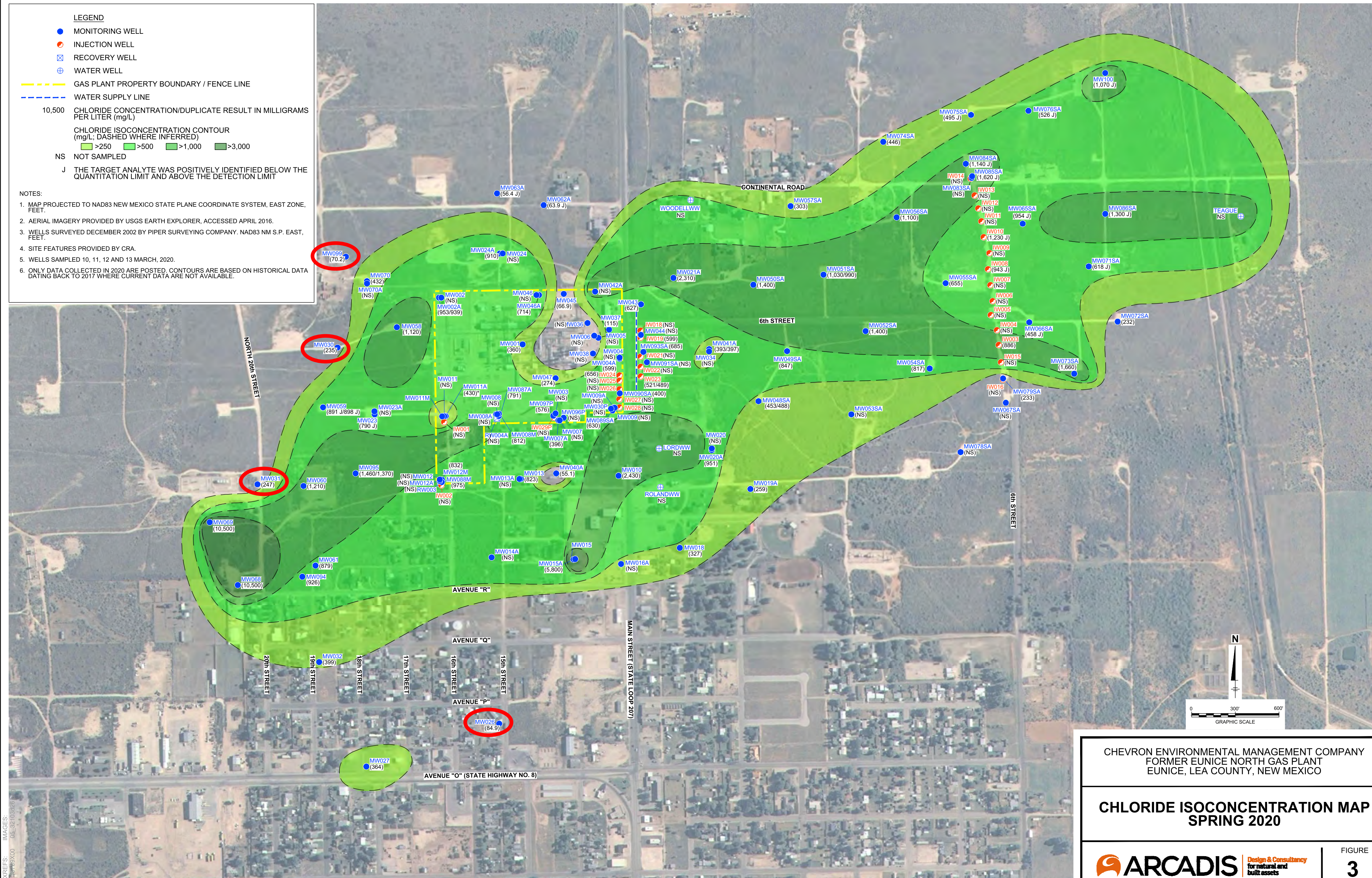
Well Location Map

1/2 Mile Radius Wells

ARCADIS Design & Consultancy for natural and built assets

FIGURE **2b**

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: wberry ; Client (Project #)
D:_Arcadis\Land Services\Chevron\Eunice_NM\GIS\Eunice_South_2b.mxd 3/31/2022 3:27:23 PM



LEGEND

- MONITORING WELL
- INJECTION WELL
- RECOVERY WELL
- WATER WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE

10,500 CHLORIDE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)

CHLORIDE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)
>250 >500 >1,000 >3,000

NS NOT SAMPLED

J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT

NOTES:

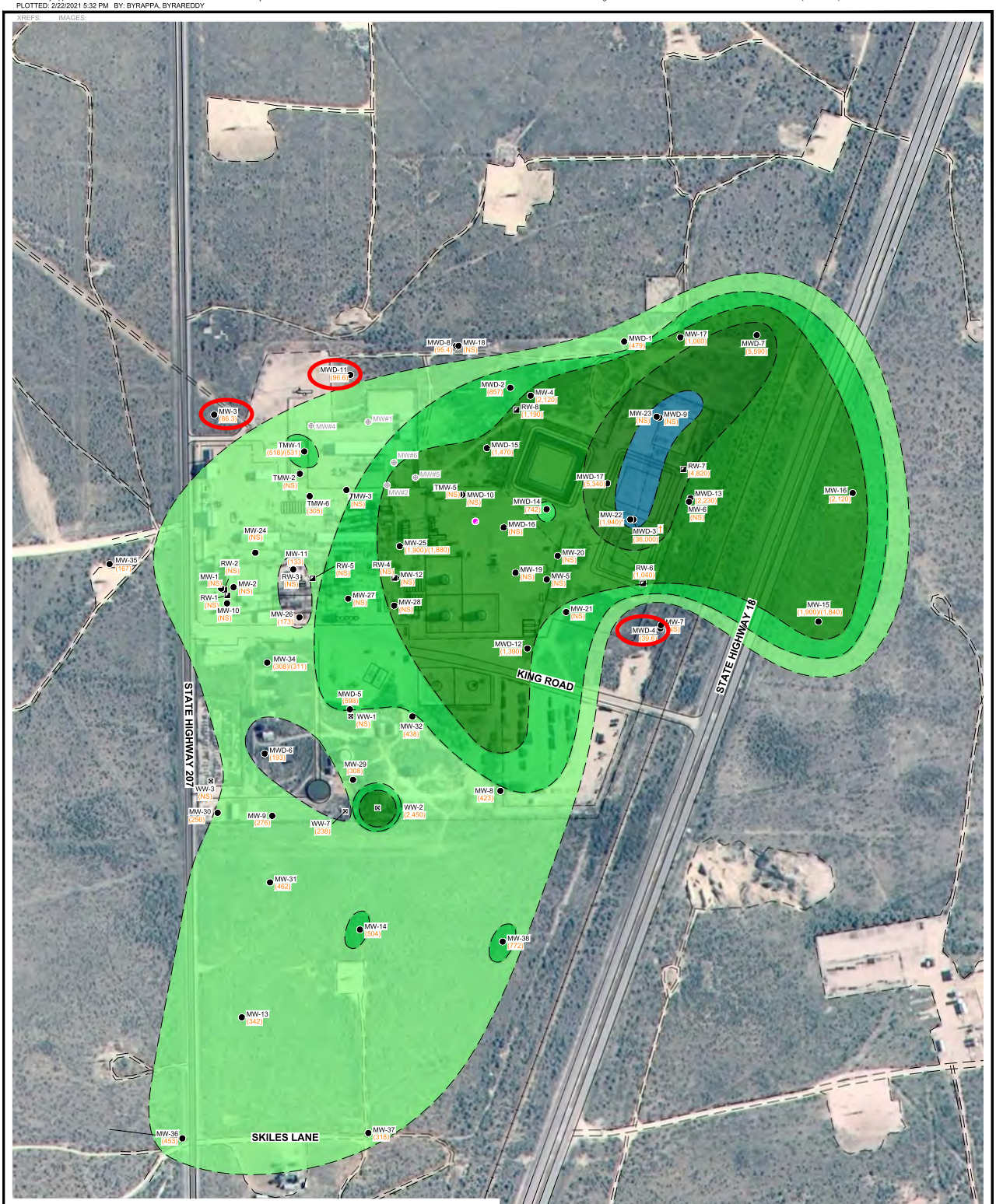
1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED 10, 11, 12 AND 13 MARCH, 2020.
6. ONLY DATA COLLECTED IN 2020 ARE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2017 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

CHLORIDE ISOCONCENTRATION MAP SPRING 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3



LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 36,000 CHLORIDE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- NS NOT SAMPLED
- <0.002 NOT DETECTED ABOVE REPORTING LIMIT
- **LNAPL** LIGHT NON-AQUEOUS PHASE LIQUID PRESENT
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- D CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS
- † PUMPING WELL

CHLORIDE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)

- >250
- >500
- >1,000
- >3,000
- >10,000

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED MARCH 2020
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE.

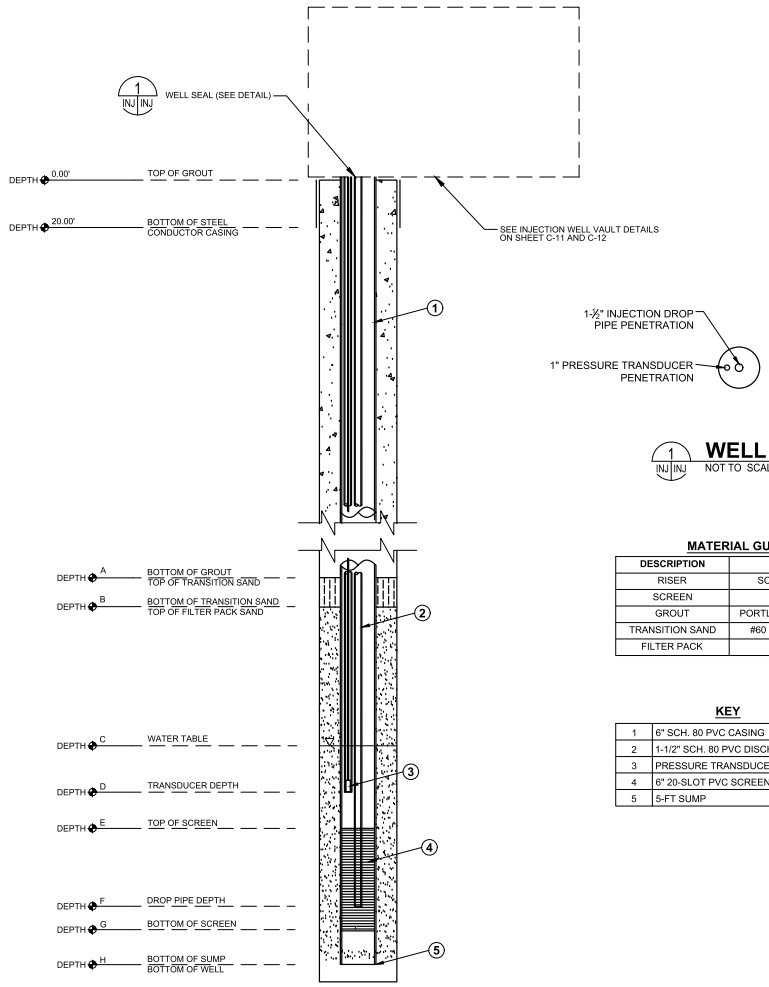
0 200' 400'
GRAPHIC SCALE

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

CHLORIDE ISOCONCENTRATION MAP SPRING 2020

ARCADIS

FIGURE 4



1 INJ INJ **WELL SEAL DETAILS**
NOT TO SCALE

1 X-X X-X **NEW INJECTION WELL INSTALLATION DETAIL**
NOT TO SCALE

MATERIAL GUIDE

DESCRIPTION	MATERIAL
RISER	SCHEDULE 80 PVC
SCREEN	20 SLOT, PVC
GROUT	PORTLAND NEAT CEMENT
TRANSITION SAND	#60 FINE GRAIN SAND
FILTER PACK	8/16

KEY

1	6" SCH. 80 PVC CASING
2	1-1/2" SCH. 80 PVC DISCHARGE
3	PRESSURE TRANSDUCER AND CABLE
4	6" 20-SLOT PVC SCREEN
5	5-FT SUMP

WELL CONSTRUCTION SCHEDULE

	WELL ID	EASTING (x)	NORTHING (y)	A	B	C	D	E	F	G	H
NORTH	N-IW-1	904993.70	529838.65	10.1	15.1	39.3	39.8	20.1	40.3	70.1	75.1
	N-IW-2	904743.63	530167.95	10.7	15.7	39.3	39.8	20.7	40.3	70.7	75.7
	N-IW-3	905119.57	529493.83	10.4	15.4	39.5	40.0	20.4	40.5	70.4	75.4
	N-IW-4	903943.14	529356.64	27.6	32.6	40.6	41.1	37.6	41.6	87.6	92.6
	N-IW-5	903048.66	527946.84	42.0	47.0	43.7	44.2	52.0	44.7	102.0	107.0
	N-IW-6	902075.78	529063.09	42.0	47.0	51.2	51.7	52.0	52.2	102.0	107.0
	N-IW-7	902599.57	530501.22	44.0	49.0	51.3	51.8	54.0	52.3	104.0	109.0
	N-IW-8	903337.58	530027.37	36.2	41.2	46.0	46.5	46.2	47.0	96.2	101.2
	N-IW-9	902475.95	528493.51	49.5	54.5	46.2	46.7	59.5	47.2	109.5	114.5
	N-IW-10	900405.86	528107.51	60.9	65.9	63.8	64.3	70.9	64.8	120.9	125.9
	N-IW-11	905828.38	530667.78	7.1	12.1	50.2	50.7	17.1	51.2	67.1	72.1
	N-IW-12	906166.88	530131.03	4.8	9.8	49.2	49.7	14.8	50.2	64.8	69.8
	N-IW-13	900427.59	528560.47	59.3	64.3	61.4	61.9	69.3	62.4	119.3	124.3
	N-IW-14	900524.32	527907.69	61.7	66.7	65.7	66.2	71.7	66.7	121.7	126.7
	N-IW-15	903923.97	528869.29	23.3	28.3	40.9	41.4	33.3	41.9	83.3	88.3
	N-IW-16	902607.25	528129.41	46.6	51.6	45.8	46.3	56.6	46.8	106.6	111.6
	N-IW-17	903614.74	529694.43	33.3	38.3	42.7	43.2	43.3	43.7	93.3	98.3
	N-IW-18	901795.68	529437.88	56.6	61.6	54.7	55.2	66.6	55.7	116.6	121.6
	N-IW-19	903265.84	529254.79	41.3	46.3	44.5	45.0	51.3	45.5	101.3	106.3
	N-IW-20	903176.00	528565.31	40.0	45.0	40.4	40.9	50.0	41.4	100.0	105.0
	N-IW-21	903174.39	530017.83	41.2	46.2	47.3	47.8	51.2	48.3	101.2	106.2
	N-IW-22	904379.16	529789.54	18.4	23.4	41.4	41.9	28.4	42.4	78.4	83.4
	N-IW-23	902147.68	528683.02	50.9	55.9	48.2	48.7	60.9	49.2	110.9	115.9
	N-IW-24	901183.99	528346.94	53.4	58.4	55.9	56.4	63.4	56.9	113.4	118.4
	N-IW-25	902261.26	528169.49	47.9	52.9	47.3	47.8	57.9	48.3	107.9	112.9
SOUTH	S-IW-10	904671.72	497420.75	36.7	41.7	52.1	52.6	46.7	53.1	96.7	101.7
	S-IW-11	905700.54	497398.37	32.5	37.5	48.6	49.1	42.5	49.6	92.5	97.5
	S-IW-12	905867.53	497870.27	33.0	38.0	49.3	49.8	43.0	50.3	93.0	98.0
	S-IW-13	905177.47	498116.12	35.4	40.4	51.4	51.9	45.4	52.4	95.4	100.4
	S-IW-14	905302.52	497414.73	33.6	38.6	48.7	49.2	43.6	49.7	93.6	98.6
	S-IW-1	906527.04	498558.67	32.5	37.5	48.6	49.1	42.5	49.6	92.5	97.5
	S-IW-2	906826.76	497763.58	31.0	36.0	48.1	48.6	41.0	49.1	91.0	96.0
	S-IW-3	904092.02	497858.86	37.9	42.9	55.9	56.4	47.9	56.9	97.9	102.9
	S-IW-4	904420.37	496315.44	36.3	41.3	50.2	50.7	46.3	51.2	96.3	101.3
	S-IW-5	904902.22	498375.00	35.9	40.9	53.0	53.5	45.9	54.0	95.9	100.9
	S-IW-6	906190.26	497623.00	31.0	36.0	49.1	49.6	41.0	50.1	91.0	96.0
	S-IW-7	906329.36	497929.72	31.3	36.3	48.9	49.4	41.3	49.9	91.3	96.3
	S-IW-8	905309.74	497710.15	34.0	39.0	49.3	49.8	44.0	50.3	94.0	99.0
	S-IW-9	906168.64	498489.14	33.5	38.5	49.4	49.9	43.5	50.4	93.5	98.5

NOTES:
1. INJECTION WELL SHALL HAVE A 10" BOREHOLE DIAMETER.
2. DRILLING CONTRACTOR TO INSTALL TRANSDUCER, DROP PIPE, REMOVE WELL PLUG AND INSTALL WELL SEAL, AND PERMANENT VAULTS AT A LATER DATE CONFIRMED BY THE ENGINEER. ALL MATERIALS TO BE PROVIDED BY OTHERS.
3. CONTRACTOR TO PROVIDE A SANITARY WELL SEAL OF STEEL CONSTRUCTION WITH A RUBBER GASKET. PENETRATIONS TO BE INSTALLED BY CONTRACTOR UPON VALIDATION OF THE PENETRATION LAYOUT WITH THE ENGINEER.
4. EACH WELL WILL BE EQUIPPED WITH A 5 FT. LONG, 6" SUMP.
5. SEE CONTRACT SPECIFICATIONS FOR PIPE, SCREEN, AND VAULT REQUIREMENTS.
6. SEE CONTRACT SPECIFICATIONS FOR DEVELOPMENT REQUIREMENTS.
7. ACTUAL DEPTHS AND WELL LOCATIONS TO BE DETERMINED AT TIME OF WELL INSTALLATION. ALL DEPTHS ARE IN FEET BELOW GROUND SURFACE.
8. EXTRACTION WELLS THAT WILL BE CONVERTED TO INJECTION WELLS IN THE FUTURE ARE NOT INCLUDED IN THIS INJECTION WELL CONSTRUCTION SCHEDULE. SEE DRAWING C-3 FOR FUTURE WELL CONVERSIONS.

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XREFS: 487890X00_civil

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: STZ | Drawn by: JLH | Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

INJECTION WELL CONSTRUCTION DETAIL

CIVIL

ARCADIS Project No.: B0048789.0002.0005A
Date: JANUARY 2018

ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

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EXTRACTION WELL SCHEDULE			
Header	Header Tag No.	Well	Well Tag No.
1	201	N-EW-1	101
		N-EW-2	102
		N-EW-3	103
		N-EW-4	104
		N-EW-13S	105
		N-EW-13D	106
2	202	N-EW-8	107
		N-EW-9	108
3	203	N-EW-6S	109
		N-EW-6D	110
		N-EW-7S	111
		N-EW-7D	112
		N-EW-10S	113
		N-EW-10D	114
		N-EW-12S	115
		N-EW-12D	116
		N-EW-14S	117
		N-EW-14D	118
4	204	N-EW-5S	119
		N-EW-5D	120
		N-EW-11S	121
		N-EW-11D	122
		N-EW-15S	123
		N-EW-15D	124

INJECTION WELL SCHEDULE			
Header	Header Tag No.	Well	Well Tag No.
1	801	N-IW-1	901
		N-IW-2	902
		N-IW-11	903
		N-IW-12	904
		N-IW-22	905
2	802	N-IW-3	906
		N-IW-4	907
		N-IW-15	908
3	803	N-IW-6	909
		N-IW-7	910
		N-IW-8	911
		N-IW-10	912
		N-IW-13	913
		N-IW-14	914
		N-IW-16	915
		N-IW-17	916
		N-IW-18	917
		N-IW-21	918
		N-IW-23	919
		N-IW-24	920
		N-IW-25	921
4	804	N-IW-5	922
		N-IW-9	923
		N-IW-19	924
		N-IW-20	925

TABLE NOTE:
1. OUT OF SCOPE (FUTURE) WELLS ARE SHOWN IN GREY.

LEGEND
- EXISTING PAVED ROAD
- EXISTING UNPAVED OR UNDEVELOPED ROAD
- EXISTING RAILROAD TRACKS
- EXISTING WATER SUPPLY LINE
- EUNICE NORTH PLANT - TARGA PROPERTY BOUNDARY
- PARCEL BOUNDARY
- CHEVRON PROPERTY
- PARCEL OWNER / ASSESSOR'S PARCEL NUMBER
- PROPOSED ABOVE GRADE INJECTION WELL
- PROPOSED BELOW GRADE INJECTION WELL
- PROPOSED ABOVE GRADE EXTRACTION WELL
- PROPOSED BELOW GRADE EXTRACTION WELL
- ◊ INSTALLED YEAR 2017
- * INSTALLED YEAR 2024 (SHOWN IN GRAY)
- ** INSTALLED YEAR 2029 (SHOWN IN GRAY)

NOTES:
1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. PARCEL BOUNDARIES PROVIDED BY LEA COUNTY, NEW MEXICO ASSESSOR'S OFFICE MARCH 2017.
3. SITE FEATURES PROVIDED BY GHD AND PIPER SURVEYING COMPANY.

300' 0 300' 600'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
4	05/2018	CONSTRUCTION SET	JLH	JWS
3	02/2018	NORTH PERMITTING PLAN SET	JLH	JWS
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REUSED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: JLP | Drawn by: JLH | Checked by: MJH

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
NORTH CONSTRUCTION PLAN SET

NORTH SITE PLAN PROPOSED FORCEMAINS

CIVIL

ARCADIS Project No. B0048789.CON1.0005A
Date MAY 2018

ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

6

CITY: SAN RAFAEL, CA DIV/GROUP: ENV/CAD DB: J. HARRIS
C:\Users\jlharris\OneDrive - ARCADIS\BIM 360 Docs\CHEVRON CORPORATION\Eunice North Gas Plant-Remedial Design\2018\B0048789.CON1\01-DWG\Well Installation C-1.dwg LAYOUT: C-1 SAVED: 6/18/2018 4:59 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 6/19/2018 9:51 PM BY: HARRIS, JESS
XREFs: Construction-Title Block 48788X01 Parcel Data 48788X03

TABLE 1
C-108 TABULATION OF WELLS
NORTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
IW001	Injection	8/1/2002	4	40 to 90	Stick-up	Ogallala	902200.4389	529103.3452
IW002	Injection	9/19/2002	4	40 to 90	Stick-up	Ogallala	902181.9559	528670.1752
IW003	Injection	--	4	35 to 55	Stick-up	Ogallala	906004.0610	529631.9730
IW004	Injection	--	4	35 to 50	Stick-up	Ogallala	905991.6504	529733.1821
IW005	Injection	--	4	36 to 46	Stick-up	Ogallala	905949.2929	529837.1172
IW006	Injection	--	4	35 to 50	Stick-up	Ogallala	905962.0633	529932.5280
IW007	Injection	--	4	36 to 46	Stick-up	Ogallala	905946.7294	530042.1982
IW008	Injection	--	4	35 to 50	Stick-up	Ogallala	905930.3737	530151.1474
IW009	Injection	--	4	35 to 45	Stick-up	Ogallala	905940.3918	530261.3421
IW010	Injection	--	4	33 to 58	Stick-up	Ogallala	905900.2782	530370.6280
IW011	Injection	--	4	43 to 63	Stick-up	Ogallala	905885.0311	530479.8022
IW012	Injection	--	4	43 to 53	Stick-up	Ogallala	905863.9109	530567.7410
IW013	Injection	--	4	45 to 60	Stick-up	Ogallala	905838.7478	530656.7283
IW014	Injection	--	4	33 to 73	Stick-up	Ogallala	905810.7286	530772.8846
IW015	Injection	--	4	34 to 49	Stick-up	Ogallala	906019.3218	529513.4898
IW016	Injection	--	4	29 to 69	Stick-up	Ogallala	906032.7389	529394.6239
IW018	Injection	--	4	31 to 96	--	Ogallala	903546.0429	529730.0672
IW019	Injection	--	4	31 to 96	--	Ogallala	903547.1029	529682.2072
IW021	Injection	--	4	32 to 97	--	Ogallala	903547.6129	529552.4272
IW022	Injection	--	4	32 to 97	--	Ogallala	903548.0629	529482.0972
IW023	Injection	--	4	34 to 98	--	Ogallala	903548.8629	529415.8772
IW024	Injection	--	4	41 to 101	--	Ogallala	903402.3329	529422.8172
IW025	Injection	--	4	44 to 101	--	Ogallala	903402.6429	529387.1272
IW026	Injection	--	4	37 to 102	--	Ogallala	903403.0729	529328.3972
IW027	Injection	--	4	39.5 to 99.5	--	Ogallala	903401.8929	529259.7972
IW028	Injection	--	4	35 to 105	--	Ogallala	903402.0129	529203.8572
IW029P	Injection	--	4	--	--	Ogallala	902953.4500	529134.0600
IW-1	Injection	11/30/2018	6	20.11 to 70.11	Stick-up	Ogallala	904993.7	529838.65
IW-2	Injection	11/29/2018	6	20.72 to 70.72	Stick-up	Ogallala	904743.63	530167.95
IW-3	Injection	12/3/2018	6	20.40 to 70.40	Stick-up	Ogallala	905119.57	529493.83
IW-4	Injection	10/12/2018	6	37.62 to 87.62	Stick-up	Ogallala	903943.14	529356.65
IW-5	Injection	2017	6	52.01 to 102.01	Flush	Ogallala	903051.16	528020.05
IW-6	Injection	10/10/2018	6	51.96 to 101.96	Stick-up	Ogallala	902075.78	529063.08
IW-7	Injection	10/11/2018	6	53.99 to 103.99	Stick-up	Ogallala	902589.83	530496.27
IW-8	Injection	10/11/2018	6	46.22 to 96.22	Stick-up	Ogallala	903355.14	530090.88
IW-9	Injection	10/9/2018	6	59.50 to 109.50	Stick-up	Ogallala	902432.62	528728.04
IW-10	Injection	10/4/2018	6	70.92 to 120.92	Stick-up	Ogallala	900405.86	528107.51
IW-11	Injection	11/28/2018	6	17.07 to 67.07	Stick-up	Ogallala	905828.38	530667.78
IW-12	Injection	11/28/2018	6	14.8 to 64.80	Stick-up	Ogallala	906166.88	530131.03
IW-13	Injection	10/11/2018	6	69.26 to 119.26	Stick-up	Ogallala	900427.59	528560.47
IW-14	Injection	10/5/2018	6	71.72 to 121.72	Stick-up	Ogallala	900524.32	527907.69
IW-15	Injection	Not installed yet	6	33.33 to 83.33	Flush	Ogallala	903923.97	528869.29
IW-16	Injection	Not installed yet	6	56.63 to 106.63	Flush	Ogallala	902607.25	528129.41
IW-17	Injection	Not installed yet	6	434.34 to 93.34	Stick-up	Ogallala	903614.74	529694.43
IW-18	Injection	Not installed yet	6	66.65 to 116.65	Stick-up	Ogallala	901795.68	529437.88
IW-19	Injection	Not installed yet	6	51.32 to 101.32	Flush	Ogallala	903265.84	529254.79
IW-20	Injection	Not installed yet	6	50.03 to 100.03	Flush	Ogallala	903176	528565.31
IW-21	Injection	Not installed yet	6	51.25 to 101.25	Stick-up	Ogallala	903174.39	530017.83
IW-22	Injection	Not installed yet	6	28.40 to 78.40	Stick-up	Ogallala	904379.16	529789.54
IW-23	Injection	Not installed yet	6	60.87 to 110.87	Flush	Ogallala	902147.68	528683.02
IW-24	Injection	Not installed yet	6	63.42 to 113.42	Stick-up	Ogallala	901183.99	528346.94
IW-25	Injection	Not installed yet	6	57.93 to 107.93	Flush	Ogallala	902261.26	528169.49
EW-1	Extraction	11/29/2018	6	52.31 to 92.31	Stick-up	Ogallala	906433.19	531206.16
EW-2	Extraction	11/27/2018	6	53.17 to 93.17	Stick-up	Ogallala	907006.76	530718.5
EW-3	Extraction	11/28/2018	6	34.54 to 74.54	Stick-up	Ogallala	906500.27	529732.57
EW-4	Extraction	12/3/2018	6	36.24 to 76.24	Stick-up	Ogallala	904460.12	530097.19
EW-5 deep	Extraction	12/5/2018	6	82.59 to 97.59	Flush	Ogallala	903444.01	528963.28
EW-5 shallow	Extraction	12/4/2018	6	72.59 to 87.59	Flush	Ogallala	903444.01	528963.28
EW-6 deep	Extraction	10/10/2018	6	93.66 to 108.66	Stick-up	Ogallala	902501.58	530043.74
EW-6 shallow	Extraction	10/10/2018	6	83.66 to 98.66	Stick-up	Ogallala	902501.58	530043.74
EW-7 deep	Extraction	10/8/2018	6	83.50 to 98.50	Stick-up	Ogallala	901601.7	528761.97

TABLE 1
C-108 TABULATION OF WELLS
NORTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
EW-7 shallow	Extraction	10/9/2018	6	73.50 to 88.50	Stick-up	Ogallala	901601.7	528761.97
EW-8	Extraction	10/12/2018	6	38.11 to 78.11	Stick-up	Ogallala	904470.3	528957.06
EW-9	Extraction	12/4/2018	6	39.77 to 79.77	Stick-up	Ogallala	904708.63	529545.34
EW-10 deep	Extraction	10/8/2018	6	99.02 to 114.02	Stick-up	Ogallala	901252.97	528205.96
EW-10 shallow	Extraction	10/8/2018	6	89.02 to 104.02	Stick-up	Ogallala	901252.97	528205.96
EW-11 deep	Extraction	Not installed yet	6	107.60 to 112.60	Flush	Ogallala	902968.11	529252.28
EW-11 shallow	Extraction	Not installed yet	6	97.60 to 102.60	Flush	Ogallala	902968.11	529252.28
EW-12 deep	Extraction	Not installed yet	6	104.00 to 109.00	Flush	Ogallala	901853.26	528508.23
EW-12 shallow	Extraction	Not installed yet	6	94.00 to 99.00	Flush	Ogallala	901853.26	528508.23
EW-13 deep	Extraction	Not installed yet	6	79.40 to 84.40	Flush	Ogallala	904163.53	530152.35
EW-13 shallow	Extraction	Not installed yet	6	69.40 to 74.40	Flush	Ogallala	904163.53	530152.35
EW-14 deep	Extraction	Not installed yet	6	111.30 to 116.30	Flush	Ogallala	902546.42	529825.71
EW-14 shallow	Extraction	Not installed yet	6	101.30 to 106.30	Flush	Ogallala	902546.42	529825.71
EW-15 deep	Extraction	Not installed yet	6	88.60 to 93.60	Stick-up	Ogallala	903919.32	529446.21
EW-15 shallow	Extraction	Not installed yet	6	78.60 to 83.60	Stick-up	Ogallala	903919.32	529446.21
MW001	Monitor	7/22/1996	4	48 to 68	Flush	Ogallala	902738.4400	529636.2800
MW002	Monitor	3/31/1997	4	48 to 68	Flush	Ogallala	902180.8924	529956.3348
MW002A	Monitor	12/4/2002	4	103 to 123	Flush	Ogallala	902165.1600	529956.3900
MW003	Monitor	4/1/1997	4	48 to 68	Stick-up	Ogallala	902964.3828	529163.0664
MW004	Monitor	4/1/1997	4	46.5 to 66.5	Flush	Ogallala	903403.6370	529545.7076
MW004A	Monitor	10/21/1997	4	94.2 to 104.2	Flush	Ogallala	903403.5372	529538.6036
MW005	Monitor	4/2/1997	4	48 to 68	Flush	Ogallala	903258.5163	529680.8561
MW006	Monitor	4/2/1997	4	48 to 68	Stick-up	Ogallala	903229.7771	529695.9377
MW007	Monitor	8/18/1997	4	46.29 to 66.29	Stick-up	Ogallala	902993.2039	529115.3057
MW007A	Monitor	10/13/1997	4	94.31 to 104.31	Stick-up	Ogallala	902983.6937	529115.8635
MW008	Monitor	8/18/1997	4	46.62 to 66.62	Stick-up	Ogallala	902564.5100	529157.0673
MW008A	Monitor	10/14/1997	4	105.5 to 113.4	Stick-up	Ogallala	902556.8565	529157.2966
MW008M	Monitor	8/20/2001	4	75 to 85	Stick-up	Ogallala	902574.8800	529145.2600
MW009	Monitor	8/19/1997	4	46.66 to 66.66	Stick-up	Ogallala	903370.1411	529201.6619
MW009A	Monitor	10/20/1997	4	93 to 100.6	Stick-up	Ogallala	903363.9400	529203.8027
MW010	Monitor	9/11/1997	4	44.75 to 65.1	Flush	Ogallala	903396.5751	528735.8619
MW011	Monitor	1/6/1999	4	46.5 to 66.5	Stick-up	Ogallala	902201.0700	529143.9400
MW011A	Monitor	10/15/1997	4	107.5 to 115	Stick-up	Ogallala	902211.1000	529144.4400
MW011M	Monitor	8/21/2001	4	80 to 90	Stick-up	Ogallala	902186.8200	529142.4500
MW012	Monitor	2/11/1999	4	46.5 to 66.5	Stick-up	Ogallala	902170.5701	528709.2016
MW012A	Monitor	10/16/1997	4	106.1 to 113.6	Stick-up	Ogallala	902169.8955	528699.9740
MW012M	Monitor	11/13/2001	4	80 to 90	Stick-up	Ogallala	902186.1400	528707.1200
MW013	Monitor	12/3/1997	4	40 to 60.2	Flush	Ogallala	902726.3880	528713.4770
MW013A	Monitor	10/23/1997	4	96.3 to 106.44	Flush	Ogallala	902716.8307	528713.6000
MW014	Monitor	5/6/1999	4	41.19 to 61.19	Flush	Ogallala	902525.7240	528182.7840
MW014A	Monitor	10/27/1999	4	95.15 to 105.15	Flush	Ogallala	902525.8290	528175.9050
MW015	Monitor	1/6/1999	4	35 to 55	Flush	Ogallala	903099.2510	528164.1346
MW015A	Monitor	10/28/1997	4	92.2 to 102.3	Flush	Ogallala	903087.8086	528162.2005
MW016A	Monitor	10/29/1997	4	81.51 to 91.6	Stick-up	Ogallala	903413.7898	528130.3700
MW017A	Monitor	10/30/1997	4	93.5 to 103.6	Flush	Ogallala	--	--
MW018	Monitor	5/6/1999	4	35 to 55	Flush	Ogallala	903816.5378	528241.1847
MW018A	Monitor	11/3/1997	4	71.38 to 81.55	Flush	Ogallala	--	--
MW019A	Monitor	11/6/1997	4	62.2 to 72.4	Flush	Ogallala	904300.9328	528644.8814
MW020	Monitor	1/5/1999	4	35 to 55	Stick-up	Ogallala	904036.1213	528922.3375
MW020A	Monitor	1/5/1999	4	71 to 81	Stick-up	Ogallala	904035.9305	528911.4406
MW021	Monitor	1/7/1999	4	40 to 60	Stick-up	Ogallala	--	--
MW021A	Monitor	1/6/1999	4	75.49 to 85.49	Stick-up	Ogallala	903773.2335	530092.1504
MW022A	Monitor	1/6/1999	4	90.4 to 100.4	Stick-up	Ogallala	--	--
MW023	Monitor	6/16/1999	4	44.64 to 66.04	Stick-up	Ogallala	901723.7952	529155.8536
MW023A	Monitor	1/2/2003	4	110 to 120	Stick-up	Ogallala	901722.3700	529177.1400
MW024	Monitor	12/31/2002	4	36 to 86	Stick-up	Ogallala	902601.8100	530259.9000
MW024A	Monitor	6/16/1999	4	89.46 to 99.46	Stick-up	Ogallala	902582.4206	530259.1923
MW025	Monitor	5/7/1999	4	46.45 to 66.45	Flush	Ogallala	--	--
MW026	Monitor	10/27/1999	4	43.33 to 63.33	Flush	Ogallala	902578.0674	527035.8587
MW027	Monitor	10/27/1999	4	51.39 to 70.43	Flush	Ogallala	901666.8072	526741.7647
MW028	Monitor	11/2/1999	4	63.29 to 82.33	Stick-up	Ogallala	--	--

TABLE 1
C-108 TABULATION OF WELLS
NORTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
MW029	Monitor	11/11/1999	4	59.89 to 78.54	Stick-up	Ogallala	--	--
MW030	Monitor	4/18/2002	4	55 to 75	Stick-up	Ogallala	901469.4120	529614.3470
MW030P	Monitor	--	4	--	--	Ogallala	903344.6600	529195.2000
MW031	Monitor	4/17/2002	4	54 to 74	Stick-up	Ogallala	900920.2640	528676.8290
MW032	Monitor	3/12/2002	4	49.73 to 69.73	Flush	Ogallala	901342.9100	527458.3500
MW033	Monitor	3/13/2002	4	33.7 to 63.7	Flush	Ogallala	--	--
MW034	Monitor	3/18/2002	4	43.58 to 63.58	Flush	Ogallala	904017.5800	529588.1000
MW035	Monitor	8/9/2001	4	43.13 to 63.13	Stick-up	Ogallala	--	--
MW036	Monitor	8/9/2001	4	42 to 62	Flush	Ogallala	903183.6500	529782.7200
MW037	Monitor	7/31/2001	4	42 to 62	Flush	Ogallala	903331.8100	529737.6500
MW038	Monitor	8/1/2001	4	42 to 62	Flush	Ogallala	903221.3223	529573.8800
MW039A	Monitor	8/10/2001	4	107 to 117	Stick-up	Ogallala	902174.8100	529675.0400
MW040A	Monitor	3/20/2002	4	100 to 110	Flush	Ogallala	902969.0000	528751.6500
MW041A	Monitor	4/15/2002	4	78 to 88	Stick-up	Ogallala	904018.3700	529603.8030
MW042A	Monitor	8/9/2001	4	89.86 to 99.86	Flush	Ogallala	903236.1800	529998.4400
MW043	Monitor	4/17/2002	4	42 to 62	Stick-up	Ogallala	903550.3070	529910.6480
MW044	Monitor	3/18/2002	4	41.9 to 61.9	Flush	Ogallala	903549.7700	529701.5000
MW045	Monitor	3/14/2002	4	46 to 66	Stick-up	Ogallala	903020.9530	529982.4330
MW046	Monitor	3/15/2002	4	47.43 to 67.43	Stick-up	Ogallala	902833.5670	529974.8270
MW046A	Monitor	12/5/2002	4	87 to 107	Flush	Ogallala	902850.9600	529974.9400
MW047	Monitor	3/31/2002	4	46 to 66	Flush	Ogallala	902965.0500	529404.0700
MW048SA	Monitor	7/23/2002	4	27 to 82	Stick-up	Ogallala	904356.4900	529246.7600
MW049SA	Monitor	7/23/2002	4	37 to 82	Stick-up	Ogallala	904552.6000	529589.6500
MW050SA	Monitor	7/22/2002	4	38 to 78	Stick-up	Ogallala	904320.6700	530045.1300
MW051SA	Monitor	10/3/2002	4	33 to 63	Stick-up	Ogallala	904802.3200	530114.1900
MW052SA	Monitor	10/2/2002	4	33 to 63	Stick-up	Ogallala	905090.7200	529727.3100
MW053SA	Monitor	9/10/2002	4	35 to 65	Stick-up	Ogallala	904993.2900	529156.4500
MW054SA	Monitor	1/20/2003	4	32 to 57	Stick-up	Ogallala	905530.4500	529470.7300
MW055SA	Monitor	12/23/2002	4	30 to 50	Stick-up	Ogallala	905639.8700	530055.9400
MW056SA	Monitor	12/26/2002	4	32 to 52	Stick-up	Ogallala	905303.6400	530507.2300
MW057SA	Monitor	1/21/2003	4	33 to 68	Stick-up	Ogallala	904576.5200	530584.1300
MW058	Monitor	1/22/2003	4	49 to 109	Stick-up	Ogallala	901875.9400	529753.7900
MW059	Monitor	1/23/2003	4	45 to 105	Stick-up	Ogallala	901369.7300	529204.4200
MW060	Monitor	12/30/2002	4	40 to 100	Stick-up	Ogallala	901235.6000	528665.4200
MW061	Monitor	12/27/2002	4	48.5 to 108.5	Stick-up	Ogallala	901318.2100	528119.7900
MW062A	Monitor	1/6/2003	4	98 to 108	Stick-up	Ogallala	902883.0100	530591.0300
MW063A	Monitor	1/7/2003	4	96 to 106	Stick-up	Ogallala	902562.6900	530671.2400
MW064SA	Monitor	2/18/2003	4	35 to 75	Stick-up	Ogallala	--	--
MW065SA	Monitor	2/25/2003	4	40 to 80	Stick-up	Ogallala	906168.4700	530463.8800
MW066SA	Monitor	2/26/2003	4	41 to 66	Stick-up	Ogallala	906213.5500	529787.8500
MW067SA	Monitor	2/27/2003	4	43 to 83	Stick-up	Ogallala	906052.6800	529235.9900
MW068	Monitor	2/28/2003	4	45 to 110	Stick-up	Ogallala	900785.2400	527986.0500
MW069	Monitor	3/3/2003	4	45 to 110	Stick-up	Ogallala	900592.3900	528417.0900
MW070	Monitor	3/4/2003	4	48 to 93	Stick-up	Ogallala	901671.2557	530069.7734
MW070A	Monitor	2/27/2003	4	112 to 127	Stick-up	Ogallala	901671.2839	530053.3276
MW071SA	Monitor	5/1/2003	4	29 to 89	Stick-up	Ogallala	906621.4300	530170.7100
MW072SA	Monitor	4/30/2003	4	31 to 91	Stick-up	Ogallala	906819.6700	529792.2200
MW073SA	Monitor	4/29/2003	4	26 to 66	Stick-up	Ogallala	906522.1200	529435.1700
MW074SA	Monitor	2/2/2004	4	39 to 64	Stick-up	Ogallala	905212.0641	531025.1236
MW075SA	Monitor	1/30/2004	4	43 to 63	Stick-up	Ogallala	905814.3859	531209.9041
MW076SA	Monitor	1/29/2004	4	38 to 93	Stick-up	Ogallala	906208.0143	531237.9922
MW77SA	Monitor	1/28/2004	4	42 to 92	Stick-up	Ogallala	--	--
MW078SA	Monitor	3/18/2004	4	36 to 66	Stick-up	Ogallala	905742.4800	528897.5600
MW079SA	Monitor	3/17/2004	4	37 to 67	Stick-up	Ogallala	906034.2677	529402.6211
MW080SA	Monitor	3/15/2004	4	39 to 69	Stick-up	Ogallala	906039.2748	529397.5161
MW81SA	Monitor	3/23/2004	4	40 to 70	Stick-up	Ogallala	--	--
MW82SA	Monitor	3/22/2004	4	45 to 75	Stick-up	Ogallala	--	--
MW083SA	Monitor	3/22/2004	4	45 to 75	Stick-up	Ogallala	905817.7902	530778.1085
MW084SA	Monitor	3/18/2004	4	45 to 75	Stick-up	Ogallala	905778.3811	530874.5169
MW085SA	Monitor	3/19/2004	4	45 to 75	Stick-up	Ogallala	905821.7157	530788.9359
MW086SA	Monitor	9/9/2004	4	50 to 90	Stick-up	Ogallala	906734.8100	530531.1300

TABLE 1
C-108 TABULATION OF WELLS
NORTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
MW087A	Monitor	9/9/2004	4	90 to 110	Stick-up	Ogallala	902575.3215	529160.3983
MW088M	Monitor	9/10/2004	4	50 to 90	Stick-up	Ogallala	902184.2500	528692.2700
MW089SA	Monitor	9/15/2005	4	39 to 99	Stick-up	Ogallala	903355.1300	529183.0200
MW090SA	Monitor	9/16/2005	4	36 to 101	Stick-up	Ogallala	903404.8200	529300.5300
MW091SA	Monitor	9/22/2005	4	31 to 96	Stick-up	Ogallala	903590.7500	529513.8700
MW093SA	Monitor	9/26/2005	4	31 to 96	Stick-up	Ogallala	903567.0500	529584.4700
MW094	Monitor	11/10/2011	4	40.5 to 100.5	--	Ogallala	901227.6351	528043.2947
MW095	Monitor	11/11/2011	4	40 to 90	--	Ogallala	901593.2139	528751.7630
MW096P	Monitor	6/18/2012	4	98 to 108	Stick-up	Ogallala	903020.2100	529133.0900
MW097P	Monitor	6/18/2012	4	98 to 108	Stick-up	Ogallala	902949.2100	529146.8500
MW099	Monitor	12/12/2016	2	93 to 108	Stick-up	Ogallala	901559.161	530287.131
MW100	Monitor	12/12/2016	2	81 to 96	Stick-up	Ogallala	906002.604	531691.458
RW001	Recovery	1/13/1999	6	44.01 to 104.01	Stick-up	Ogallala	--	--
RW002	Recovery	10/1/2001	6	49.89 to 69.89	Stick-up	Ogallala	--	--
RW003	Recovery	1/21/2002	4	45 to 65	Stick-up	Ogallala	902173.8930	528685.1377
RW004A	Recovery	8/23/2001	6	95 to 115	Stick-up	Ogallala	902562.4300	529128.4672
LordWW	Water	3/7/1963	6	TD: 93.00'	Stick-up	Ogallala	903674.6937	528922.1029
RolandWW	Water	--	6	TD: 65.54	Stick-up	Ogallala	903682.9747	528657.3750
WoodellWW	Water	--	4	77 to 97	--	Ogallala	903890.8350	530625.0740

TABLE 2
C-108 TABULATION OF WELLS
SOUTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
S-IW-1	Injection	Not Installed Yet	6	42.52 to 92.52	Flush	Ogallala	906527.04	498558.67
S-IW-2	Injection	Not Installed Yet	6	40.96 to 90.96	Stick-up	Ogallala	906826.76	497763.58
S-IW-3	Injection	Not Installed Yet	6	47.93 97.93	Flush	Ogallala	904092.02	497858.86
S-IW-4	Injection	Not Installed Yet	6	46.32 to 96.32	Stick-up	Ogallala	904420.37	496315.44
S-IW-5	Injection	Not Installed Yet	6	45.94 to 95.94	Stick-up	Ogallala	904902.22	498375
S-IW-6	Injection	Not Installed Yet	6	40.98 to 90.98	Flush	Ogallala	906190.26	497623
S-IW-7	Injection	Not Installed Yet	6	41.27 to 91.27	Flush	Ogallala	906329.36	497929.72
S-IW-8	Injection	Not Installed Yet	6	43.97 to 93.97	Flush	Ogallala	905309.74	497710.15
S-IW-9	Injection	Not Installed Yet	6	43.45 to 93.45	Flush	Ogallala	906168.64	498489.14
S-IW-10	Injection	Not Installed Yet	6	46.67 to 96.67	Flush	Ogallala	904671.72	497420.75
S-IW-11	Injection	Not Installed Yet	6	42.53 to 92.53	Stick-up	Ogallala	905700.54	497398.37
S-IW-12	Injection	Not Installed Yet	6	42.97 to 92.97	Stick-up	Ogallala	905867.53	497870.27
S-IW-13	Injection	Not Installed Yet	6	45.38 to 95.38	Stick-up	Ogallala	905177.47	498116.12
S-IW-14	Injection	Not Installed Yet	6	43.57 to 93.57	Stick-up	Ogallala	905302.52	497414.73
S-EW-8 deep	Extraction	Not Installed Yet	6	73.21 to 93.21	Stick-up	Ogallala	905660.78	497661.54
S-EW-8 shallow	Extraction	Not Installed Yet	6	58.21 to 78.21	Stick-up	Ogallala	905660.78	497661.54
S-EW-9 deep	Extraction	Not Installed Yet	6	73.75 to 93.75	Stick-up	Ogallala	905768.36	498084.93
S-EW-9 shallow	Extraction	Not Installed Yet	6	58.75 to 78.75	Stick-up	Ogallala	905768.36	498084.93
S-EW-1 deep	Extraction	Not Installed Yet	6	74.25 to 89.25	Stick-up	Ogallala	906507.05	497260.3
S-EW-1 shallow	Extraction	Not Installed Yet	6	64.25 to 79.25	Stick-up	Ogallala	906507.05	497260.3
S-EW-2 deep	Extraction	Not Installed Yet	6	80.80 to 95.80	Stick-up	Ogallala	904888.2	496871.66
S-EW-2 shallow	Extraction	Not Installed Yet	6	70.80 to 85.80	Stick-up	Ogallala	904888.2	496871.66
S-EW-3 deep	Extraction	Not Installed Yet	6	89.34 to 104.34	Stick-up	Ogallala	904020.34	495618.87
S-EW-3 shallow	Extraction	Not Installed Yet	6	79.34 to 94.34	Stick-up	Ogallala	904020.34	495618.87
S-EW-4 deep	Extraction	Not Installed Yet	6	77.54 to 92.54	Flush	Ogallala	906008.5	498168.48
S-EW-4 shallow	Extraction	Not Installed Yet	6	67.54 to 82.54	Flush	Ogallala	906008.5	498168.48
S-EW-5 deep	Extraction	Not Installed Yet	6	79.47 to 94.47	Flush	Ogallala	905549.75	497949.26
S-EW-5 shallow	Extraction	Not Installed Yet	6	69.47 to 84.47	Flush	Ogallala	905549.75	497949.26
S-EW-6 deep	Extraction	Not Installed Yet	6	75.35 to 90.35	Stick-up	Ogallala	906471.03	497731
S-EW-6 shallow	Extraction	Not Installed Yet	6	65.35 to 80.35	Stick-up	Ogallala	906471.03	497731
S-EW-7 deep	Extraction	Not Installed Yet	6	80.31 to 95.31	Flush	Ogallala	905029.55	497408.68
S-EW-7 shallow	Extraction	Not Installed Yet	6	70.31 to 85.31	Flush	Ogallala	905029.55	497408.68
MW-1	Monitor	--	2	45 to 60	Flush	Ogallala	904563.0842	498066.1360
MW-2	Monitor	--	2	46 to 61	Stick-up	Ogallala	904641.5136	497804.1540
MW-3	Monitor	--	4	46.4 to 66.4	Stick-up	Ogallala	903926.4820	498096.3992
MW-4	Monitor	--	4	46.7 to 66.7	Flush	Ogallala	904328.0989	498050.1254
MW-5	Monitor	--	4	46.5 to 66.5	Stick-up	Ogallala	904759.1462	497836.1849
MW-6	Monitor	--	4	46.6 to 66.60	Stick-up	Ogallala	904670.0787	497897.9821
MW-7	Monitor	--	4	46.7 to 66.7	Stick-up	Ogallala	905775.1471	497224.9480
MW-8	Monitor	--	4	46.7 to 66.7	Stick-up	Ogallala	905110.7987	496539.0493
MW-9	Monitor	--	4	46.8 to 66.8	Stick-up	Ogallala	904166.6309	496435.7975
MW-10	Monitor	--	4	46.4 to 66.4	Stick-up	Ogallala	903979.1931	497315.3088
MW-11	Monitor	--	4	46.7 to 66.7	Flush	Ogallala	904253.4678	497455.6087
MW-12	Monitor	--	4	47.1 to 67.1	Flush	Ogallala	904678.1381	497419.5113
MW-13	Monitor	--	4	48 to 68	Stick-up	Ogallala	904040.4663	495601.8646
MW-14	Monitor	--	4	45 to 65	Stick-up	Ogallala	904529.5788	495964.7578
MW-15	Monitor	--	4	46 to 68	Stick-up	Ogallala	906426.3595	497239.5009
MW-16	Monitor	--	4	46.5 to 68	Stick-up	Ogallala	906567.8088	497771.8904
MW-17	Monitor	--	4	47.1 to 68.1	Stick-up	Ogallala	905855.4380	498416.5376
MW-18	Monitor	--	4	45.6 to 68	Stick-up	Ogallala	904937.5524	498381.2697
MW-19	Monitor	--	4	46 to 66	Stick-up	Ogallala	905173.2303	497441.9490
MW-20	Monitor	--	4	46 to 66	Stick-up	Ogallala	905347.6194	497512.1325
MW-21	Monitor	--	4	46 to 66	Stick-up	Ogallala	905382.3903	497279.3931
MW-22	Monitor	--	4	45 to 65	Stick-up	Ogallala	905648.4292	497663.0238
MW-23	Monitor	--	4	45 to 65	Stick-up	Ogallala	905756.6712	498088.0897
MW-24	Monitor	--	4	45 to 65	Stick-up	Ogallala	904096.5373	497524.9924
MW-25	Monitor	--	4	45 to 65	Stick-up	Ogallala	904694.1073	497551.7677
MW-26	Monitor	--	4	45 to 65	Flush	Ogallala	904278.8946	497257.8150
MW-27	Monitor	--	4	45 to 65	Stick-up	Ogallala	904480.6580	497334.9938
MW-28	Monitor	--	4	45 to 65	Stick-up	Ogallala	904671.0958	497306.1131
MW-29	Monitor	--	4	45 to 65	--	Ogallala	904500.7640	496585.0443
MW-30	Monitor	--	4	45 to 65	--	Ogallala	903940.4168	496448.5877

TABLE 2
C-108 TABULATION OF WELLS
SOUTH EUNICE GAS PLANT

Well ID	Well Type	Installation Date	Well Diameter (inches)	Screened Interval (feet below ground surface)	Surface Finish	Water Bearing Zone	NAD New Mexico S.P. East Zone, feet	
							X	Y
MW-31	Monitor	--	4	45 to 65	--	Ogallala	904157.4393	496160.4287
MW-32	Monitor	--	4	50 to 65	Stick-up	Ogallala	904745.8357	496846.9080
MW-34	Monitor	--	4	42 to 57	Stick-up	Ogallala	904145.7466	497070.3696
MW-35	Monitor	4/11/2017	4	108 to 123	Stick-up	Ogallala	903475.336	497489.265
MW-36	Monitor	4/12/2017	4	60 to 75	Stick-up	Ogallala	903739.45	495073.467
MW-37	Monitor	1/9/2018	4	44 to 64	Stick-up	Ogallala	904564.225	495122.949
MW-38	Monitor	1/9/2018	4	41 to 61	Stick-up	Ogallala	905120.014	495915.415
MWD-1	Monitor	--	4	45 to 95	Stick-up	Ogallala	905622.9415	498399.0669
MWD-2	Monitor	--	4	45 to 85	Stick-up	Ogallala	905151.6490	498207.5580
MWD-3	Monitor	--	4	42 to 92	Stick-up	Ogallala	905660.7772	497661.5372
MWD-4	Monitor	--	4	45 to 85	Stick-up	Ogallala	905772.7173	497211.7439
MWD-5	Monitor	--	4	45 to 95	Stick-up	Ogallala	904487.5462	496876.9265
MWD-6	Monitor	--	4	55 to 105	Stick-up	Ogallala	904135.4656	496693.5090
MWD-7	Monitor	--	4	45 to 85	Stick-up	Ogallala	906171.0817	498425.2109
MWD-8	Monitor	--	4	45 to 85	Stick-up	Ogallala	904926.9713	498381.2779
MWD-9	Monitor	--	4	50 to 90	Stick-up	Ogallala	905768.3802	498084.4492
MWD-10	Monitor	--	4	45 to 85	Stick-up	Ogallala	904953.5103	497765.0565
MWD-11	Monitor	--	4	44 to 94	Stick-up	Ogallala	904489.3840	498260.8551
MWD-12	Monitor	--	4	38 to 88	Stick-up	Ogallala	905222.0807	497128.7893
MWD-13	Monitor	--	4	40 to 90	Stick-up	Ogallala	905897.1761	497750.6593
MWD-14	Monitor	--	4	40 to 90	Stick-up	Ogallala	905301.8262	497705.0445
MWD-15	Monitor	--	4	40 to 90	--	Ogallala	905054.4620	497957.8264
MWD-16	Monitor	--	4	45 to 95	--	Ogallala	905124.5160	497629.2512
MWD-17	Monitor	--	4	45 to 95	--	Ogallala	905552.5408	497811.9091
RW-1	Recovery	--	6	50 to 110	--	Ogallala	903980.7349	497348.0842
RW-2	Recovery	--	6	44.5 to 74.5	Stick-up	Ogallala	903968.0692	497372.0503
RW-3	Recovery	--	6	45 to 75	Stick-up	Ogallala	904247.6625	497455.0600
RW-4	Recovery	--	6	45 to 75	Stick-up	Ogallala	904671.7244	497420.7534
RW-5	Recovery	--	6	42 to 62	Stick-up	Ogallala	904333.5446	497418.7460
RW-6	Recovery	--	4	52 to 92	Stick-up	Ogallala	905700.5444	497398.3684
RW-7	Recovery	--	4	52 to 92	Stick-up	Ogallala	905867.5303	497870.2702
RW-8	Recovery	--	4	52 to 82	Stick-up	Ogallala	905177.4692	498116.1157
TMW-1	Temporary	--	4	--	Stick-up	Ogallala	904298.8108	497944.0581
TMW-2	Temporary	--	4	--	Stick-up	Ogallala	904280.7584	497851.7056
TMW-3	Temporary	--	4	--	--	Ogallala	904247.6625	497455.0600
TMW-5	Temporary	--	4	--	--	Ogallala	904941.3378	497766.0088
TMW-6	Temporary	--	4	--	--	Ogallala	904321.3216	497758.7170
WW-1	Water	--	--	--	--	Ogallala	904491.1669	496847.6624
WW-2	Water	--	--	--	--	Ogallala	904602.6566	496468.8208
WW-3	Water	--	--	--	--	Ogallala	903912.5771	496579.6067
WW-4	Water	--	--	--	--	Ogallala	903993.4660	495228.9213
WW-5	Water	--	--	--	--	Ogallala	904024.3050	496085.1222
WW-6	Water	--	--	--	--	Ogallala	904838.6135	495505.3411
WW-7	Water	--	--	--	--	Ogallala	904468.4061	496454.8405

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
NORTH EUNICE GAS PLANT

		Parameter Name	Arsenic	Chromium	Chromium, Hexavalent	Iron	Barium	Manganese	Benzene
		Report Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		NMWQCC Standard	0.01	0.05	0.05	1.0	2.0	0.2	0.005
Location ID	Date Sampled	Sample Purpose							
MW026	9/22/2017	REG	0.00716	< 0.00400 U	< 0.0100 U	< 0.100 U	--	< 0.00200 U	--
MW026	4/5/2018	REG	0.00716	0.00255 J	< 0.0100 U	< 0.100 U	--	< 0.00200 U	--
MW026	9/13/2018	REG	0.00774 J	< 0.0200 U	< 0.0100 U	< 0.500 U	--	0.00160 J	--
MW026	4/16/2019	REG	0.00768	< 0.00400 U	< 0.0100 UJ	< 0.100 U	--	0.000977 J	--
MW026	10/11/2019	REG	0.00801	< 0.00400 U	< 0.0100 U	< 0.100 U	--	0.000348 J	--
MW026	3/12/2020	REG	0.00908	< 0.00400 U	< 0.0100 U	0.0749 J	--	0.00186 J	--
MW030	5/11/2017	REG	0.0144	0.00256 J	< 0.0100 U	0.0300 J	--	0.00120 J	--
MW030	9/21/2017	REG	0.0194	0.00147 J	< 0.0100 U	0.0315 J	--	0.000561 J	--
MW030	3/29/2018	REG	0.0179	0.00135 J	< 0.0100 U	< 0.100 U	--	0.000316 J	--
MW030	9/13/2018	REG	0.0189 J	< 0.0200 U	< 0.0100 U	< 0.500 U	--	0.00159 J	--
MW030	4/12/2019	REG	0.0197	0.00126 J	< 0.0100 U	< 0.100 U	--	0.000594 J	--
MW030	10/8/2019	REG	0.0204	0.00156 J	< 0.0100 U	0.0382 J	--	0.000554 J	--
MW030	3/11/2020	REG	0.0198	0.00163 J	< 0.0100 U	< 0.100 U	--	0.000266 J	--
MW031	5/11/2017	REG	0.0144	0.00175 J	< 0.0100 U	0.00590 J	--	0.000627 J	--
MW031	9/21/2017	REG	0.0227	< 0.00400 U	< 0.0100 U	0.0475 J	--	0.815	--
MW031	3/29/2018	REG	0.0511	< 0.00400 U	< 0.0100 U	0.538	--	1.36	--
MW031	9/13/2018	REG	0.102	< 0.0200 U	< 0.0100 U	4.17	--	1.02	--
MW031	4/15/2019	REG	0.0847	< 0.00400 U	< 0.0100 U	3.36	--	0.866	--
MW031	10/9/2019	REG	0.0962 J	< 0.00400 U	0.00570 J	4.93 J	--	0.833	--
MW031	10/9/2019	FD	0.0550 J	< 0.00400 U	< 0.0100 U	2.08 J	--	0.818	--
MW031	3/11/2020	REG	0.0436	< 0.00400 U	< 0.0100 U	1.52	--	0.892	--
MW099	5/11/2017	REG	0.0375	0.00134 J	< 0.0100 U	0.0509 J	--	0.387	--
MW099	9/21/2017	REG	0.0297	< 0.00400 U	< 0.0100 U	0.0705 J	--	0.322	--
MW099	3/29/2018	REG	0.0124	< 0.00400 U	< 0.0100 U	0.0835	--	0.262	--
MW099	3/29/2018	FD	0.012	< 0.00400 U	< 0.0100 U	0.0661	--	0.252	--
MW099	9/13/2018	REG	0.00898 J	< 0.0200 U	< 0.0100 U	< 0.500 U	--	0.219	--
MW099	4/12/2019	REG	0.00744	< 0.00400 U	< 0.0100 U	0.0423 J	--	0.18	--
MW099	10/9/2019	REG	0.01	< 0.00400 U	< 0.0100 U	0.0626 J	--	0.195	--
MW099	3/11/2020	REG	0.0124	< 0.00400 U	< 0.0100 U	0.146	--	0.207	--

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
NORTH EUNICE GAS PLANT

		Parameter Name	Toluene	Ethylbenzene	Xylene (total)	GRO (C6-C10)	DRO (C10-C28)	Chloride	TDS
		Report Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		NMWQCC Standard	1.0	0.7	0.62	--	--	250	1000
Location ID	Date Sampled	Sample Purpose							
MW026	9/22/2017	REG	--	--	--	--	--	108	890
MW026	4/5/2018	REG	--	--	--	--	--	229	1,180
MW026	9/13/2018	REG	--	--	--	--	--	129	860
MW026	4/16/2019	REG	--	--	--	--	--	104	696
MW026	10/11/2019	REG	--	--	--	--	--	105	741
MW026	3/12/2020	REG	--	--	--	--	--	84.9	670
MW030	5/11/2017	REG	--	--	--	--	--	249	588
MW030	9/21/2017	REG	--	--	--	--	--	202	778
MW030	3/29/2018	REG	--	--	--	--	--	241	662
MW030	9/13/2018	REG	--	--	--	--	--	245	726
MW030	4/12/2019	REG	--	--	--	--	--	220	694
MW030	10/8/2019	REG	--	--	--	--	--	190	715
MW030	3/11/2020	REG	--	--	--	--	--	235	701
MW031	5/11/2017	REG	--	--	--	--	--	138	780
MW031	9/21/2017	REG	--	--	--	--	--	166	854
MW031	3/29/2018	REG	--	--	--	--	--	228	840
MW031	9/13/2018	REG	--	--	--	--	--	233	832
MW031	4/15/2019	REG	--	--	--	--	--	263	874
MW031	10/9/2019	REG	--	--	--	--	--	230	876
MW031	10/9/2019	FD	--	--	--	--	--	243	866
MW031	3/11/2020	REG	--	--	--	--	--	247	852
MW099	5/11/2017	REG	--	--	--	--	--	74	336
MW099	9/21/2017	REG	--	--	--	--	--	66.9	496
MW099	3/29/2018	REG	--	--	--	--	--	64.8	429
MW099	3/29/2018	FD	--	--	--	--	--	67.2	447
MW099	9/13/2018	REG	--	--	--	--	--	64.6	496
MW099	4/12/2019	REG	--	--	--	--	--	72.8	453
MW099	10/9/2019	REG	--	--	--	--	--	67.1	486
MW099	3/11/2020	REG	--	--	--	--	--	70.2	502

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
SOUTH EUNICE GAS PLANT

		Parameter Name	Arsenic	Chromium	Chromium, Hexavalent	Iron	Barium	Manganese
		Report Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		NMWQCC Domestic	0.01	0.05	0.05	1.0	2.0	0.2
Location ID	Date Sampled	Sample Purpose						
MW-3	4/5/2017	REG	< 0.0500 U	< 0.0500 U	< 0.0100 U	< 1.00 U	--	< 0.100 U
MW-3	4/5/2017	FD	< 0.0500 U	< 0.0500 U	< 0.0100 U	0.0738 J	--	< 0.100 U
MW-3	9/13/2017	REG	0.0141	0.000680 J	< 0.0100 U	--	0.0619	--
MW-3	3/15/2018	REG	0.0146	0.000668 J	< 0.0100 U	--	0.0584	--
MW-3	9/25/2018	REG	0.017	0.00122 J	< 0.0100 U	--	0.0528	--
MW-3	4/5/2019	REG	0.016	0.00111 J	< 0.0100 U	--	0.0562	--
MW-3	10/4/2019	REG	0.0164	0.00113 J	< 0.0100 U	--	0.0512	--
MW-3	3/18/2020	REG	0.0174	0.00114 J	< 0.0100 U	--	0.0497	--
MWD-11	4/5/2017	REG	< 0.0500 U	< 0.0500 U	< 0.0100 U	< 1.00 U	--	< 0.100 U
MWD-11	9/15/2017	REG	0.0157 J	0.00142 J	0.00580 J	--	0.0520 J	--
MWD-11	9/15/2017	FD	0.0276 J	< 0.00400 U	< 0.0100 U	--	0.155 J	--
MWD-11	3/15/2018	REG	0.0142	0.00121 J	< 0.0100 U	--	0.0632	--
MWD-11	9/25/2018	REG	0.0184	0.00107 J	< 0.0100 U	--	0.0667	--
MWD-11	4/5/2019	REG	0.0198	0.00113 J	< 0.0100 U	--	0.0466	--
MWD-11	10/4/2019	REG	0.016	0.00135 J	0.00550 J	--	0.0486	--
MWD-11	3/18/2020	REG	0.0169	0.00151 J	< 0.0100 U	--	0.0488	--
MWD-4	4/4/2017	REG	< 0.0500 U	< 0.0500 U	< 0.0100 U	0.105 J	--	0.608
MWD-4	9/12/2017	REG	0.00158 J	< 0.00400 U	0.00390 J	--	0.0522	--
MWD-4	3/15/2018	REG	0.00147 J	< 0.00400 U	< 0.0100 U	--	0.0573	--
MWD-4	9/27/2018	REG	0.00152 J	< 0.00400 U	< 0.0100 U	--	0.0698	--
MWD-4	4/3/2019	REG	0.00154 J	< 0.00400 U	< 0.0100 U	--	0.0655	--
MWD-4	4/3/2019	FD	0.00147 J	< 0.00400 U	< 0.0100 U	--	0.0655	--
MWD-4	10/3/2019	REG	0.00139 J	< 0.00400 U	< 0.0100 U	--	0.0593	--
MWD-4	3/19/2020	REG	0.00127 J	< 0.00400 U	< 0.0100 U	--	0.0554	--

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
SOUTH EUNICE GAS PLANT

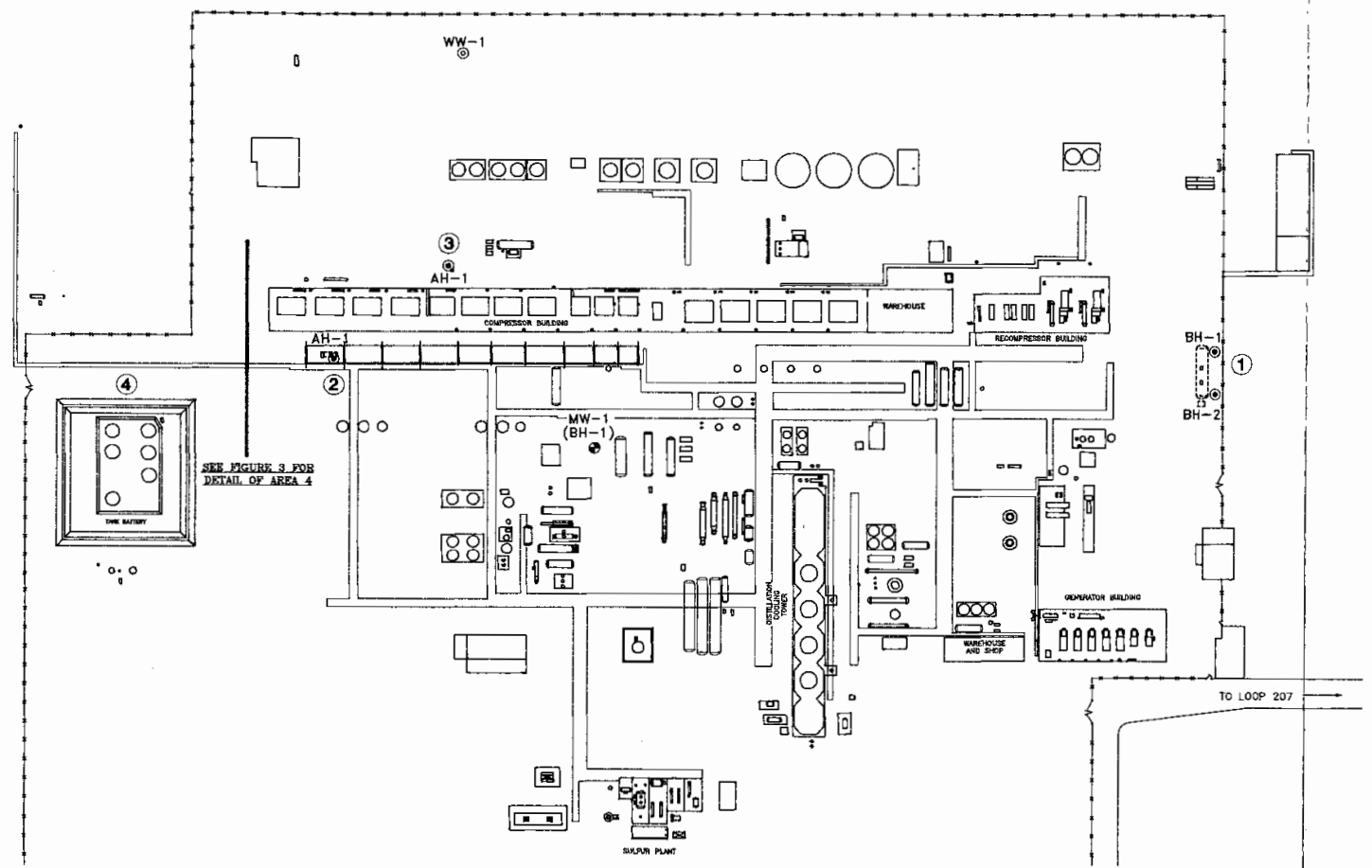
		Parameter Name	Benzene	Toluene	Ethylbenzene	Xylene (total)	Petroleum Hydrocarbons (C6-C10)-GRO	Petroleum Hydrocarbons (C10-C28)-DRO
		Report Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		NMWQCC Domestic	0.005	1	0.7	0.62	--	--
Location ID	Date Sampled	Sample Purpose						
MW-3	4/5/2017	REG	< 0.00200 U	< 0.00150 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	4/5/2017	FD	< 0.00200 U	< 0.00150 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	9/13/2017	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	3/15/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	9/25/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	4/5/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MW-3	10/4/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.39 U	< 1.39 U
MW-3	3/18/2020	REG	**0.000460 J**	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 2.31 U	< 2.31 U
MWD-11	4/5/2017	REG	< 0.00200 U	< 0.00150 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	9/15/2017	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	9/15/2017	FD	< 0.00200 U	**0.00335**	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	3/15/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	9/25/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	4/5/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-11	10/4/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.38 U	< 1.38 U
MWD-11	3/18/2020	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 2.31 U	< 2.31 U
MWD-4	4/4/2017	REG	< 0.00200 U	< 0.00150 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	9/12/2017	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	3/15/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	9/27/2018	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	4/3/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	4/3/2019	FD	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.50 U	< 1.50 U
MWD-4	10/3/2019	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 1.38 U	< 1.38 U
MWD-4	3/19/2020	REG	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 0.00200 U	< 2.14 U	< 2.14 U

TABLE 4
GROUNDWATER ANALYTICAL RESULTS
SOUTH EUNICE GAS PLANT

		Parameter Name	C6-C35 Petroleum Hydrocarbon Summary	Chloride	Total Dissolved Solids
		Report Units	mg/L	mg/L	mg/L
		NMWQCC Domestic	--	250	1000
Location ID	Date Sampled	Sample Purpose			
MW-3	4/5/2017	REG	< 1.50 U	83.7	706
MW-3	4/5/2017	FD	< 1.50 U	91.7	664
MW-3	9/13/2017	REG	< 1.50 U	74.1	806
MW-3	3/15/2018	REG	< 1.50 U	61.4	732
MW-3	9/25/2018	REG	< 1.50 U	130	656
MW-3	4/5/2019	REG	< 1.50 U	67.7	344
MW-3	10/4/2019	REG	< 1.39 U	84	723
MW-3	3/18/2020	REG	< 2.31 U	86.3	709
MWD-11	4/5/2017	REG	< 1.50 U	91.6	722
MWD-11	9/15/2017	REG	< 1.50 U	101 J	758 J
MWD-11	9/15/2017	FD	< 1.50 U	1,190 J	2,560 J
MWD-11	3/15/2018	REG	< 1.50 U	121	937
MWD-11	9/25/2018	REG	< 1.50 U	145	981
MWD-11	4/5/2019	REG	< 1.50 U	80.2	736
MWD-11	10/4/2019	REG	< 1.38 U	112	801
MWD-11	3/18/2020	REG	< 2.31 U	96.6	753
MWD-4	4/4/2017	REG	< 1.50 U	45.5	872
MWD-4	9/12/2017	REG	< 1.50 U	48.4	1,290
MWD-4	3/15/2018	REG	< 1.50 U	29.4	1,110
MWD-4	9/27/2018	REG	< 1.50 U	56.3	992
MWD-4	4/3/2019	REG	< 1.50 U	57.1	1,360 J
MWD-4	4/3/2019	FD	< 1.50 U	59.9	5,610 J
MWD-4	10/3/2019	REG	< 1.38 U	49.5	1,220
MWD-4	3/19/2020	REG	< 2.14 U	39.6	1260

Appendix C

Former North and South Eunice Gas Plant Site Layout Maps



ENVIRONMENTAL INVESTIGATION AREAS

1. NORTH SUMP
2. SUMP SOUTH OF ENGINE ROOM
3. SUMP NORTH OF ENGINE ROOM
4. WASTE OIL & WATER STORAGE AREA
5. TRASH PIT

LEGEND

- BH-1 — BOREHOLE LOCATION
- MW-1 — MONITOR WELL LOCATION
- WW-1 — WATER WELL LOCATION

SCALE
(IN FEET)
25 0 50 100

DATE: 9/18/96
DWN. BY: R.C.P.
FILE: C:\787\NTH-SITE

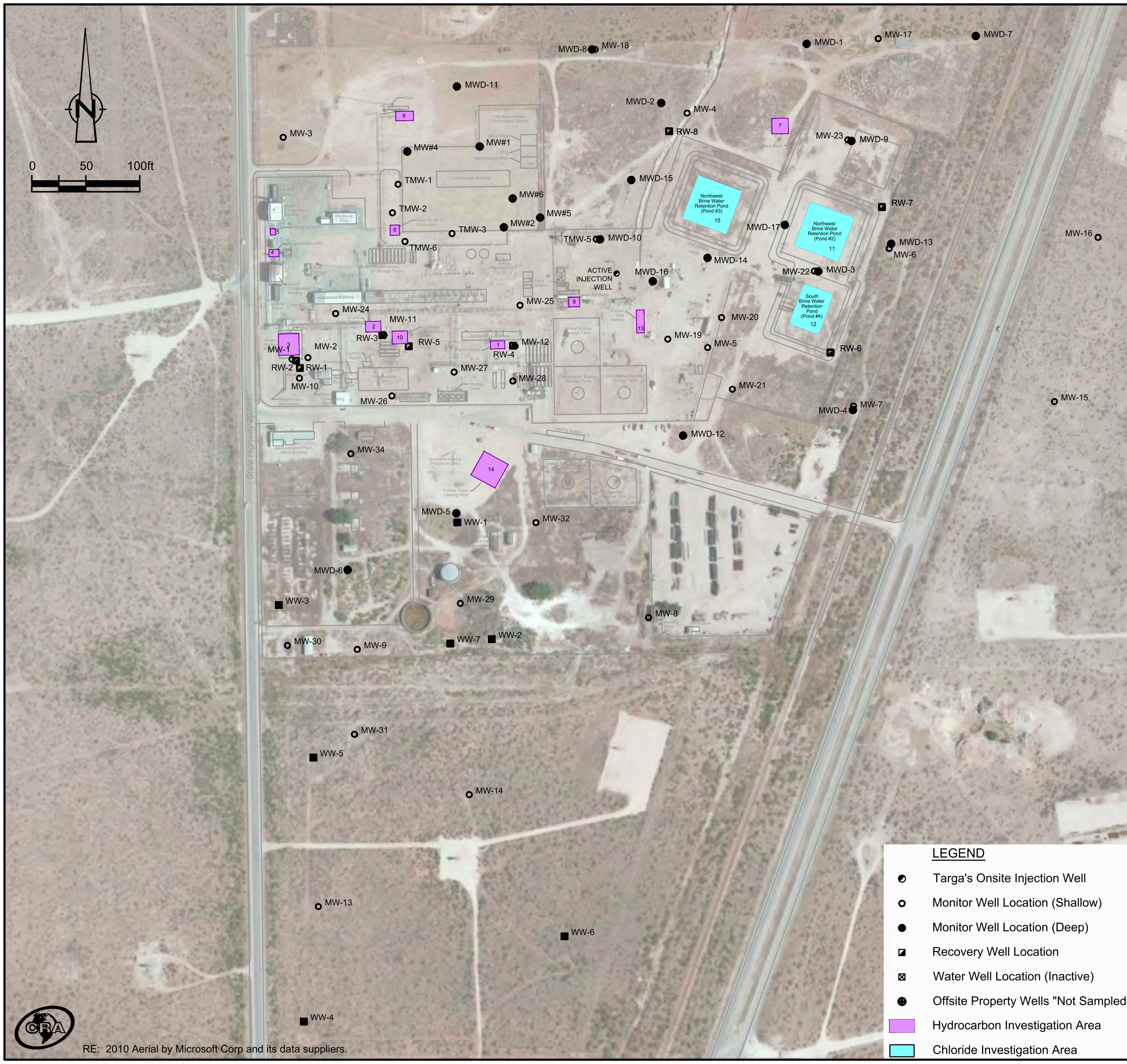
FIGURE NO. 2

LEA COUNTY, NEW MEXICO

TEXACO
EXPLORATION & PRODUCTION, INC.

EUNICE #2 (NORTH) GAS PLANT)
SITE MAP

HIGHLANDER ENVIRONMENTAL
MIDLAND, TEXAS



1. A subsurface investigation was performed in the direct vicinity of the slop oil sump in July 1996. The investigation included the installation of a single soil boring due south of the sump to a total depth of 57 feet BGS. Analytical results indicated hydrocarbon impacts at depth and light non-aqueous hydrocarbons (LNAPL) was encountered on the groundwater. Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996. Remedial activities for the slop oil sump included removal of the sump in September 2000. The excavation area measured 20' x 20' x 15'. Confirmation samples from the excavation at depth (15') indicated hydrocarbon impacts in the soils. Remedial activities are detailed in the 2000 annual summary of investigation & remediation generated by Highlander Environmental Corp. in 2001.

2. A subsurface investigation was performed in the direct vicinity of the oil & water sump in August 1996. The investigation included the installation of a single soil boring due south of the sump to a total depth of 57 feet BGS. Analytical results indicated hydrocarbon impacts in the intermediate soils at 17 feet BGS and LNAPL was encountered on the groundwater. Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996. Remedial activities for the slop oil sump included removal of the sump in September 2000. The excavation area measured 20' x 20' x 10'. Confirmation samples from the excavation at depth (10') indicated hydrocarbon impacts in the soils. Remedial activities are detailed in the 2000 annual summary of investigation & remediation generated by Highlander Environmental Corp. in 2001.

3. A subsurface investigation was performed in the direct vicinity of the jet turbine skid in August 1996. The investigation included the installation of 3 borings ranging in TDS from 52 and 57 feet BGS. Analytical results indicated hydrocarbon impacts to both the soils and groundwater in all 3 borings. Two of the three borings were converted to monitor wells (MW-1 & MW-2). Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996.

4. Two separate shallow subsurface investigations were conducted in the vicinity of engine sump #30 in August 1996 and June 1997. The August 1996 investigation included the installation of a single shallow soil boring directly north of the engine sump #30 to a total depth of 10 feet BGS. Results at total depth indicated hydrocarbon impacts at depth. The June 1997 investigation included the installation of three additional shallow borings (east, west & south of the sump) to a maximum depth of 4 feet BGS. No hydrocarbon were detected in any of the three borings at depth (4 feet). Investigation activities are summarized in the final investigation report generated by Highlander Environmental Corp. dated July 1997.

5. A shallow subsurface investigation was performed in the vicinity of engine sump #31 in A ugust 1996. This investigation included the installation of a single boring due south of the sump to a total depth of 6 feet BGS. No hydrocarbons impacts were detected at depth. Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996.

6. A shallow subsurface investigation was conducted on the southwest corner of the emergency flare sump in August 1996. The investigation included a shallow trench (test pit) that was excavated to 5 feet BGS. Confirmation samples at depth (5 feet BGS) were below laboratory detection limits. Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996.

7. An intermediate subsurface investigation was performed in the vicinity of the H2S flare sump in August 1996. The investigation included the installation of a single soil boring to a total depth of 27 feet BGS. Hydrocarbon impacts were detected in the shallow (1.5-2 feet) soils near the H2S flare sump. Analytical results at the 27 feet BGS interval were below laboratory detection limits. Investigation activities are summarized in the subsurface environmental assessment generated by Highlander Environmental Corp. dated September 1996.

8. A subsurface investigation was performed in the direct vicinity of field oil pit “d” in November 1996. The investigation included the installation of a single soil boring to a total depth of forty-eight (48) feet below ground surface (BGS). Analytical results indicated hydrocarbon impacts ext ended to 40 feet BGS. Groundwater was not encountered during the installation of the boring. Investigation activities are summarized in the final investigation report generated by Highlander Environmental Corp. dated July 1997. Remedial activities for the field oil pit “d” included over-excavation activities that were performed in February 2000. A total of 312 cubic yards of soil were removed. Remedial activities are detailed in the 2000 annual summary of investigation & remediation generated by Highlander Environmental Corp. in 2001.

9. The east sump was constructed of concreted and measured 5' x 5' x5'. The east sump was removed in September 2000 and the area was over-excavated to approximately 9' x 13' x 10'. Confirmation samples from the excavation at depth (5') indicated hydrocarbon impacts in the soils. Remedial activities are detailed in the 2000 annual summary of investigation & remediation generated by Highlander Environmental Corp. in 2001.

10. A subsurface investigation was performed in the direct vicinity of the concrete drain sump in September 2000. The investigation included the installation of a single soil boring to a total depth of 51 feet BGS. Analytical results indicated hydrocarbon impacts at depth. Remedial activities for the concrete drain sump included removal of the sump in September 2000. The excavation area measured 9' x 13' x 9'. Confirmation samples from the excavation at depth (9') indicated hydrocarbon impacts in the soils. Both investigation and remediation activities are summarized in the 2000 annual summary of investigation & remediation generated by Highlander Environmental Corp. in 2001.

11. The north brine water retention pond (pond #2) measured approximately 243' x 243' x 15' and had a designed capacity of 75,000 barrels (BBLS). Usage of this pond was discontinued in early 1998. This north brine water retention pond was capped and crowned with a clay cap in late 2000.

12. The south brine water retention pond (pond #4) measured approximately 190' x 240' x 16' and had a designed capacity of 52,000 barrels (BBLS). Usage of this pond was discontinued in mid 1998. This south brine water retention pond was capped and crowned with a clay cap in late 2000.

13. The former tank battery location was struck by lightning in May 2005. This former tank battery location was used for fluid (LNAPL and produced water) storage by the groundwater remediation systems located on the east side of the plant. Approximately 350 BBLS of fluids were released and 330 BBLS were recovered. Demolition of the former tank battery is summarized in a transmittal letter of a semi-annual groundwater monitoring report for the Eunice south gas plant generated by Secor International inc. dated March 3, 2006.

14. A subsurface investigation was conducted in the vicinity of the former truck loading area located south of the plant in November 2005. The investigation included the installation of 3 borings to groundwater. Hydrocarbon impacts were detected in the shallow (5-6 feet BGS) and in the intermediate (25-26 BGS) in at least one boring. Two of the three wells were converted into monitor wells (MW-32 & MW-34). Investigation activities are summarized in the 2006 annual summary of investigation and remediation generated by Secor International Inc. in July 2008.

15. The northwest brine water retention pond (pond #3) was capped in July 2007. Demolition activities of the southwest brine water retention pond (pond #3) are summarized in the 2007 annual summary of investigation and remediation generated by Secor International in March 7, 2007.

Figure 2

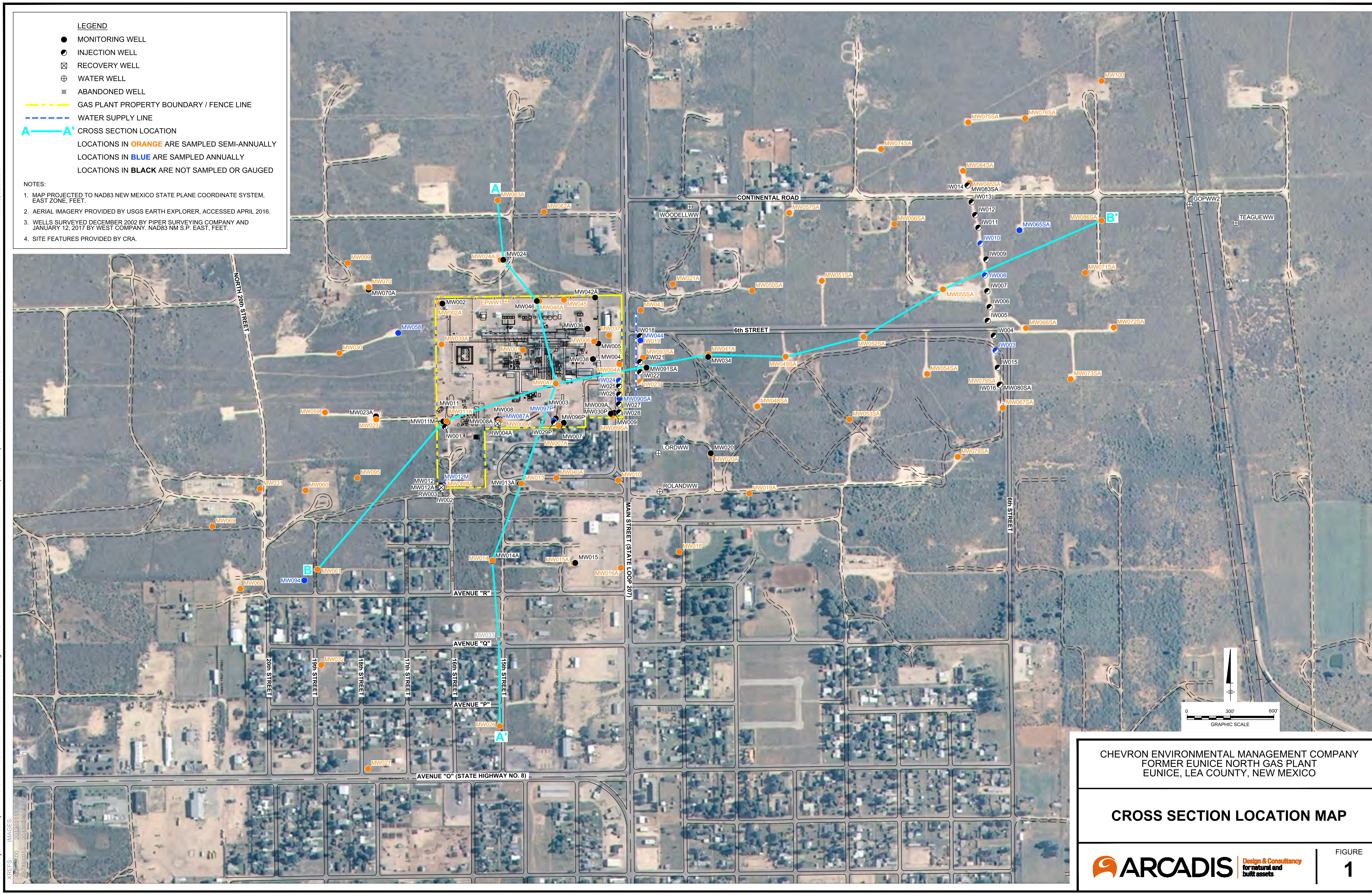
SITE DETAILS MAP
FORMER EUNICE SOUTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

Chevron Environmental Management Company

055271-00(010)GN-DL001 DEC 17/2014

Appendix D

North and South Eunice Geologic Cross Sections



LEGEND

- MONITORING WELL
- INJECTION WELL
- RECOVERY WELL
- WATER WELL
- ABANDONED WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE
- A—A' CROSS SECTION LOCATION
- LOCATIONS IN ORANGE ARE SAMPLED SEMI-ANNUALLY
- LOCATIONS IN BLUE ARE SAMPLED ANNUALLY
- LOCATIONS IN BLACK ARE NOT SAMPLED OR GAUGED

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY AND JANUARY 12, 2017 BY WEST COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.

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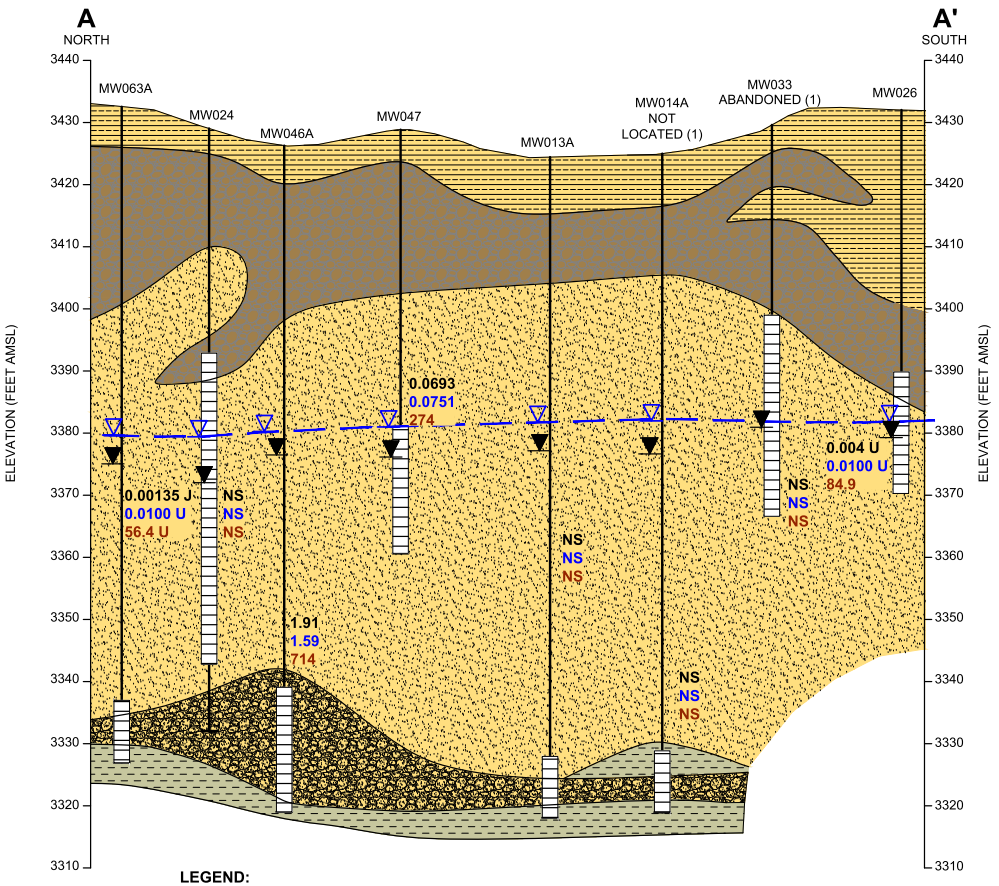
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

CROSS SECTION LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1



LEGEND:

MW063A WELL/BORING ID

APPROXIMATE GROUND SURFACE

LITHOLOGIC CONTACT

WATER LEVEL (SPRING 2020)

WATER LEVEL ENCOUNTERED AFTER DRILLING

WELL SCREEN

WELL/BORING BOTTOM

CLAY

CALICHE

INTERBEDDED SAND AND SANDSTONE

SILTY, CLAYEY SAND

SANDY GRAVEL

1.49 SPRING 2020 DISSOLVED TOTAL CHROMIUM CONCENTRATION (mg/L)
1.73 SPRING 2020 DISSOLVED HEXAVALENT CHROMIUM CONCENTRATION (mg/L)
745 SPRING 2020 CHLORIDE CONCENTRATION (mg/L)

NS NOT SAMPLED IN 2020

J ESTIMATED VALUE

U NON-DETECT

(1) WATER LEVEL IS ESTIMATED

0 20' 40'
APPROXIMATE VERTICAL SCALE

0 600' 1,200'
APPROXIMATE HORIZONTAL SCALE

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

GEOLOGIC CROSS-SECTION A-A'

ARCADIS

FIGURE
A-A'

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB:(B.ALTOM) LD:(C.SMITH) PIC:(M.FLESCHNER) PM:(L.MINER) TM:(J.PRZZELL)
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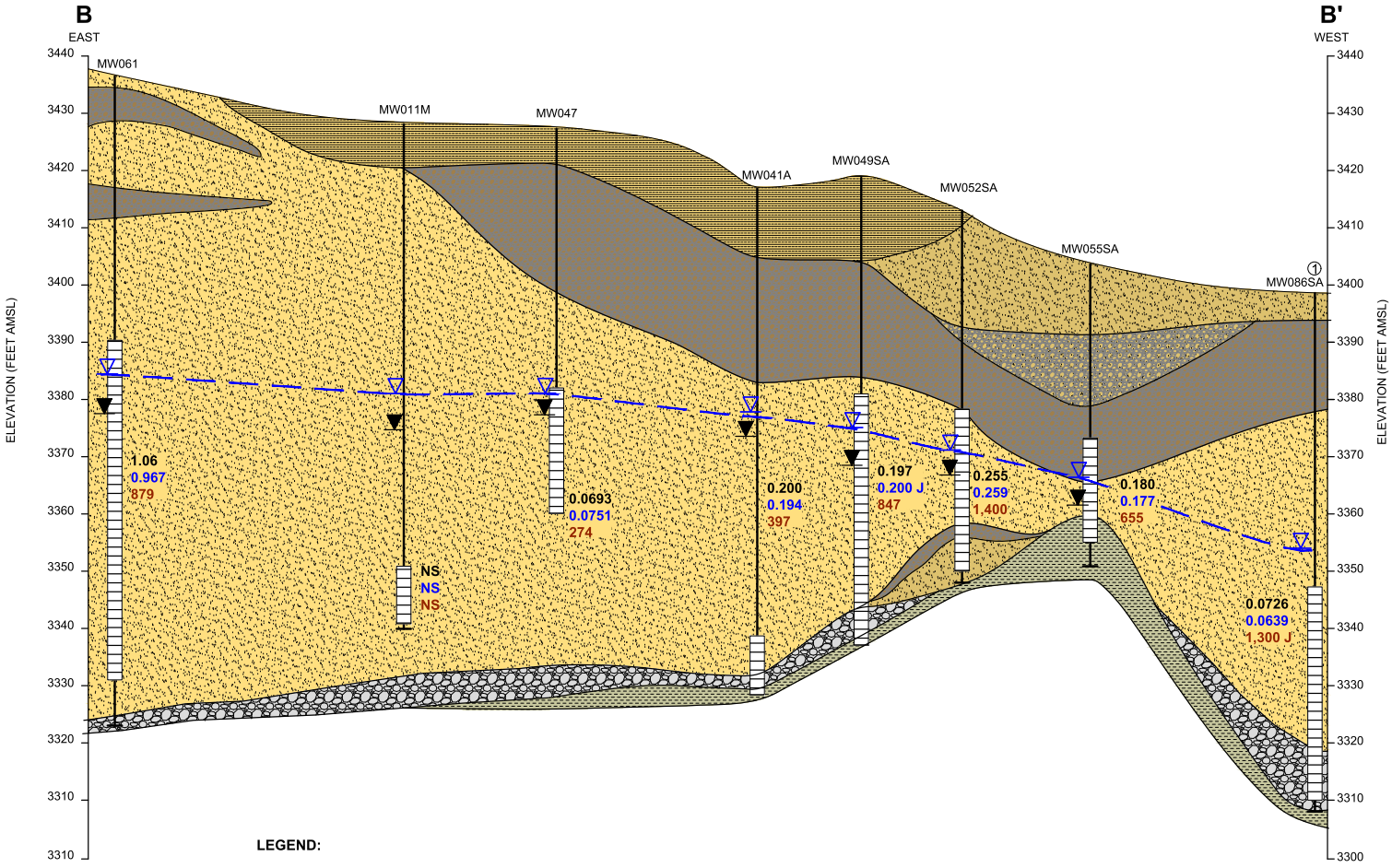


LEGEND:

MW063A WELL/BORING ID

APPROXIMATE GROUND SURFACE

LITHOLOGIC CONTACT

WATER LEVEL (SPRING 2020)

WATER LEVEL ENCOUNTERED AFTER DRILLING

WELL SCREEN

WELL/BORING BOTTOM

CALICHE

CLAY

SAND

INTERBEDDED SAND AND SANDSTONE

CLAYEY SAND

GRAVEL

SAND WITH CALICHE

0.206 SPRING 2020 DISSOLVED TOTAL CHROMIUM CONCENTRATION (mg/L)
0.184 SPRING 2020 DISSOLVED HEXAVALENT CHROMIUM CONCENTRATION (mg/L)
390 SPRING 2020 CHLORIDE CONCENTRATION (mg/L)

NS NOT SAMPLED IN 2016

J ESTIMATED VALUE

U NON-DETECT

① ESTIMATED GROUND SURFACE ELEVATION

0 20' 40'
APPROXIMATE VERTICAL SCALE

0 600' 1,200'
APPROXIMATE HORIZONTAL SCALE

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

GEOLOGIC CROSS-SECTION B-B'

ARCADIS

FIGURE
B-B

LEGEND

- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- A —— A' CROSS SECTION LOCATION
- LOCATIONS IN ORANGE ARE SAMPLED SEMI-ANNUALLY
- LOCATIONS IN BLUE ARE SAMPLED ANNUALLY
- LOCATIONS IN PURPLE ARE ONLY GAUGED ANNUALLY
- LOCATIONS IN BLACK ARE NOT SAMPLED OR GAUGED

NOTES:

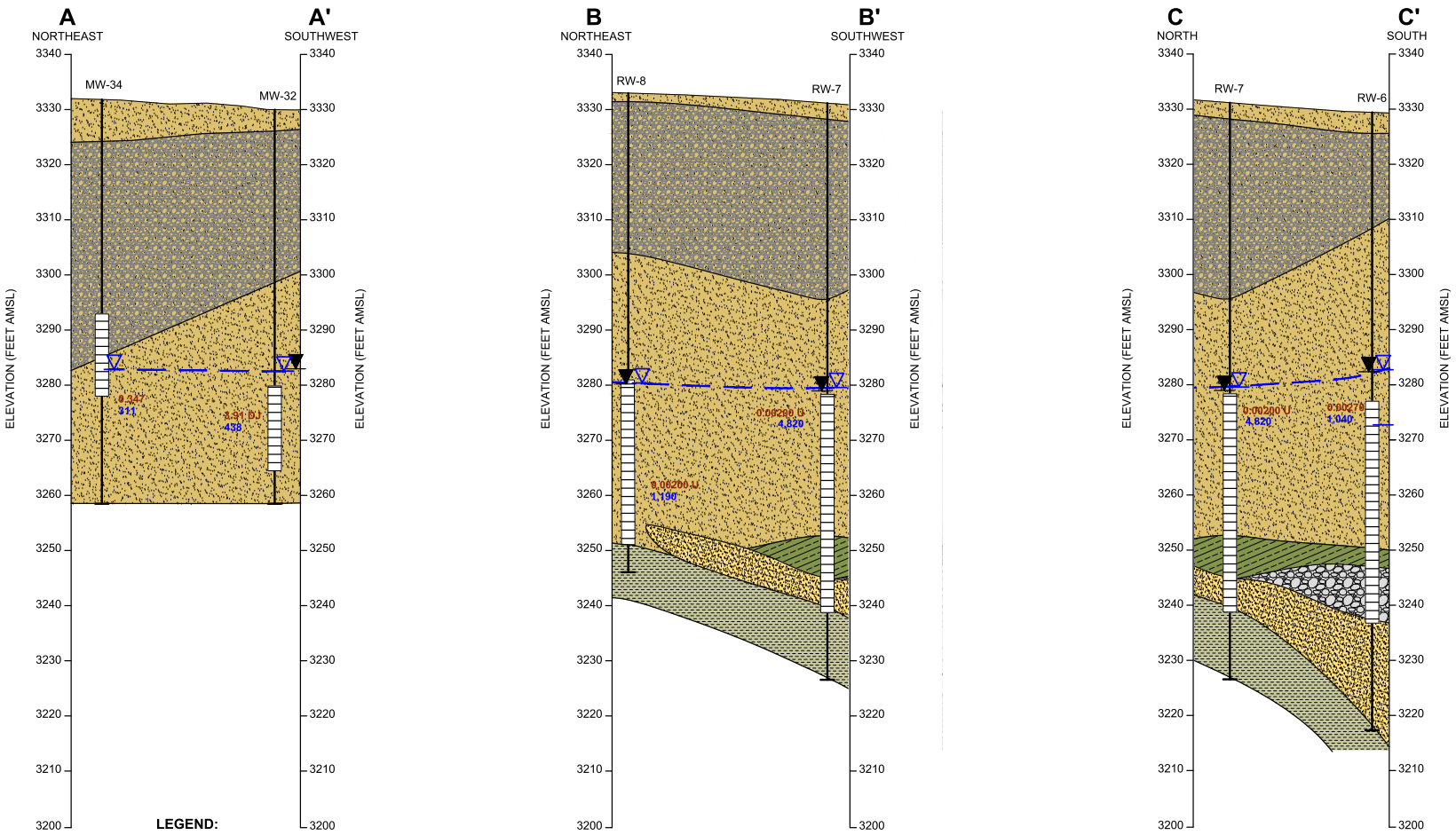
1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.

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

CROSS SECTION LOCATION MAP

ARCADIS

FIGURE
1



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

GEOLOGIC CROSS-SECTIONS

ARCADIS

FIGURE
2

Appendix E

North Eunice 2020 Annual Groundwater Monitoring Report
Tables and Figures

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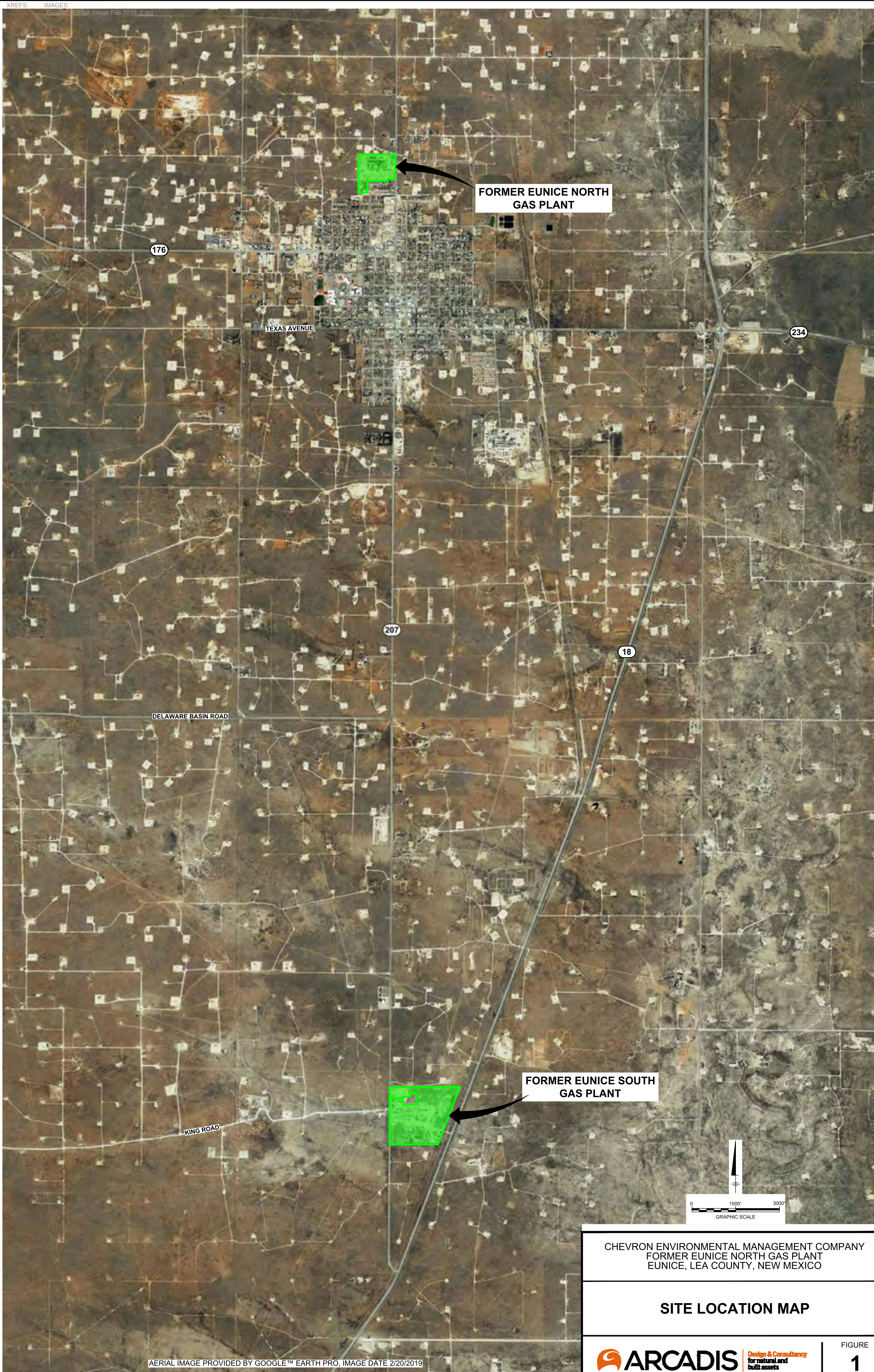
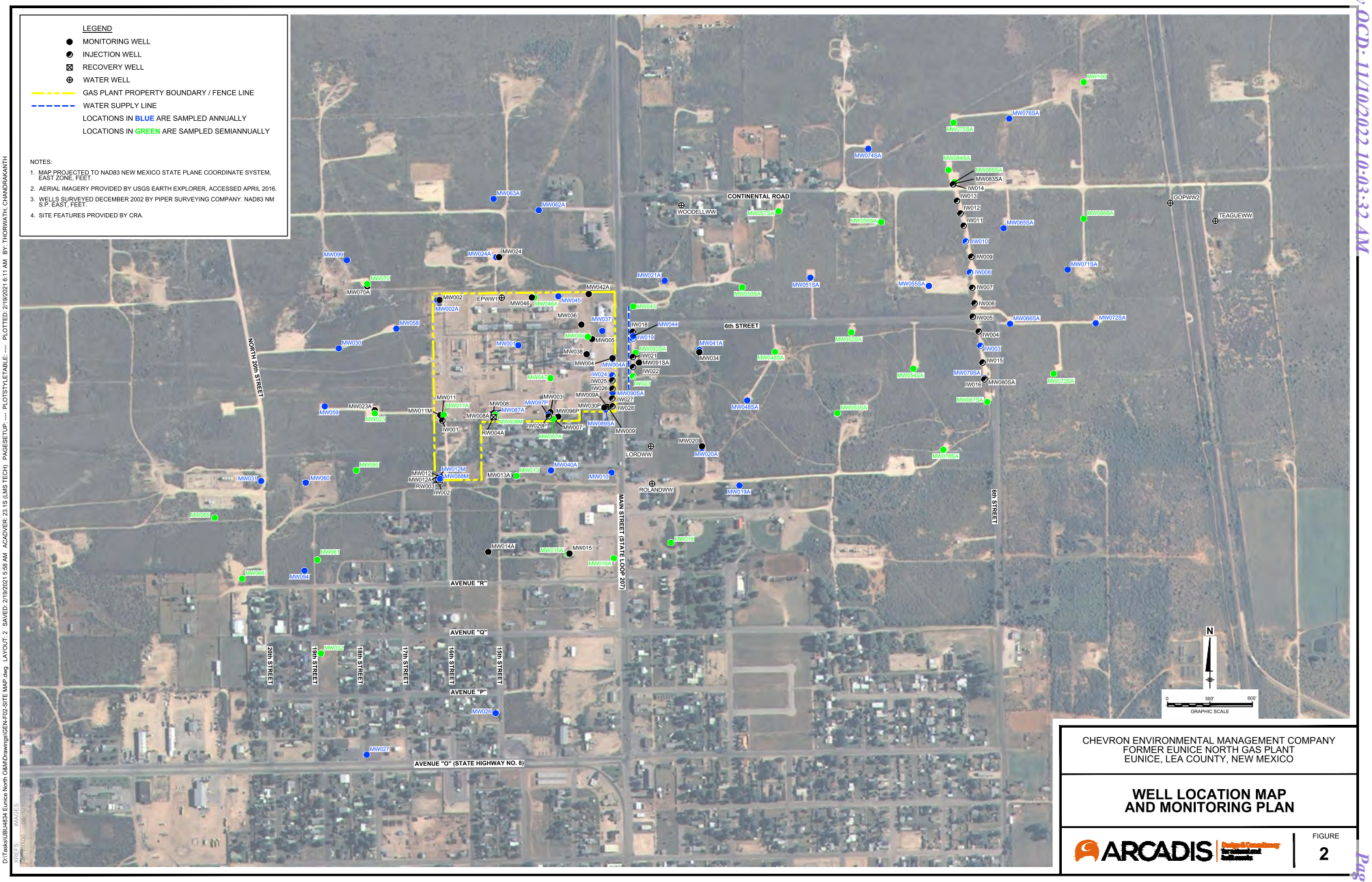


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

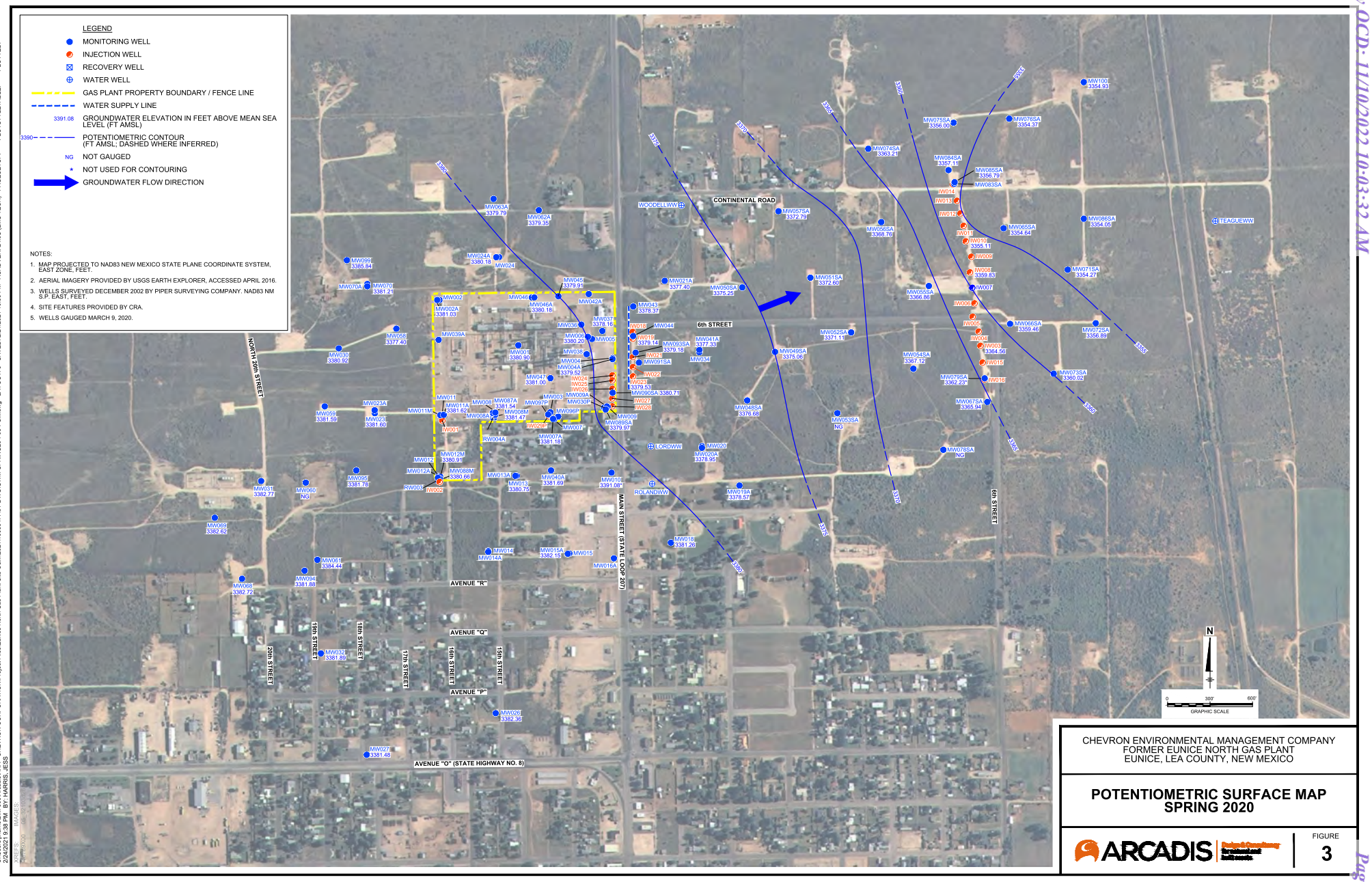


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

WELL LOCATION MAP AND MONITORING PLAN

ARCADIS

FIGURE 2



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

POTENTIOMETRIC SURFACE MAP
SPRING 2020

ARCADIS

FIGURE
3

DIV/GROUP: ENV/CAD
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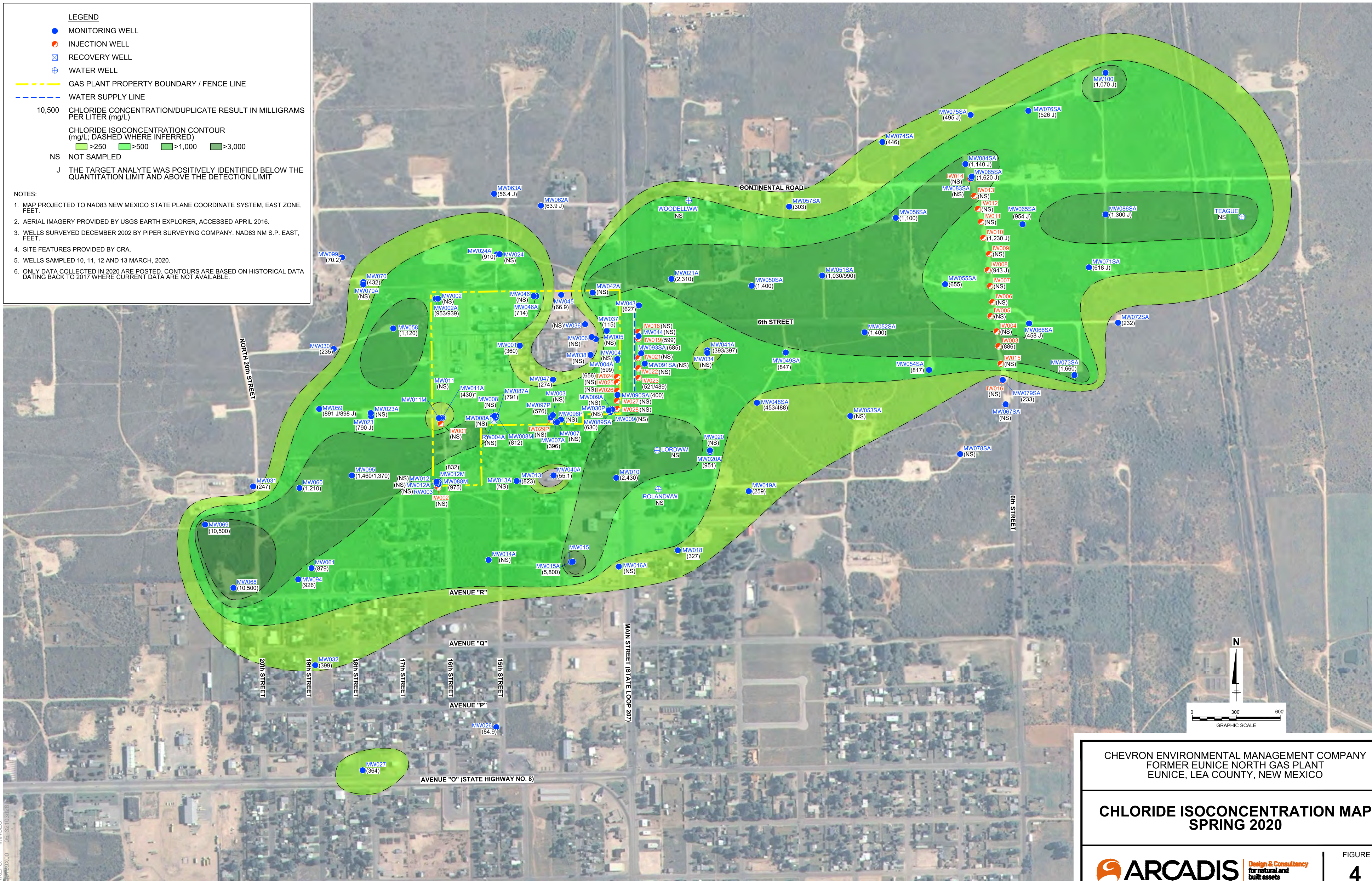

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

CHLORIDE ISOCONCENTRATION MAP
SPRING 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

DIV/GROUP: ENVCAD
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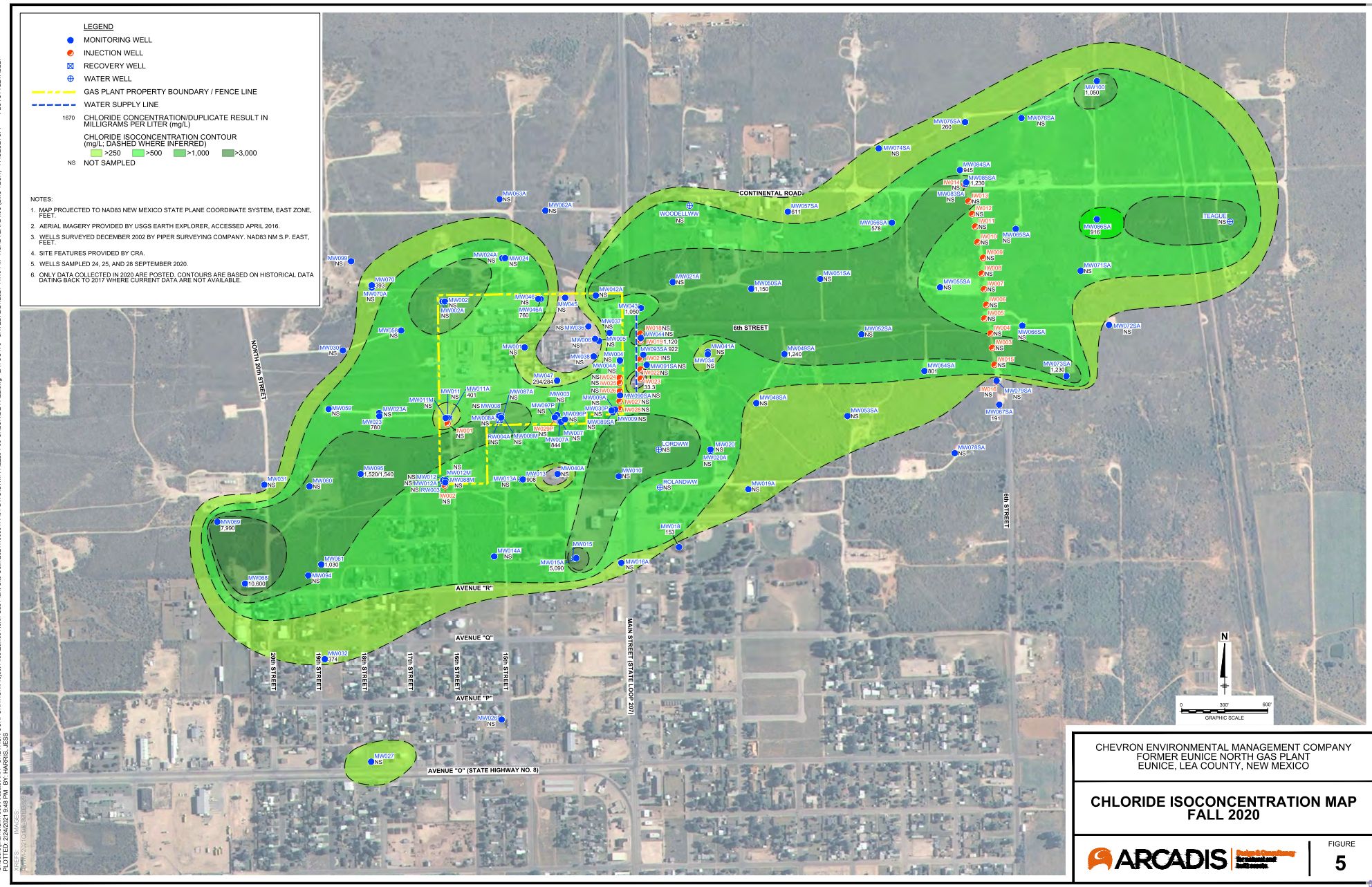

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

CHLORIDE ISOCONCENTRATION MAP
FALL 2020

ARCADIS

FIGURE
5

DIV/GROUP: ENV/CAD
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XREFS IMAGES
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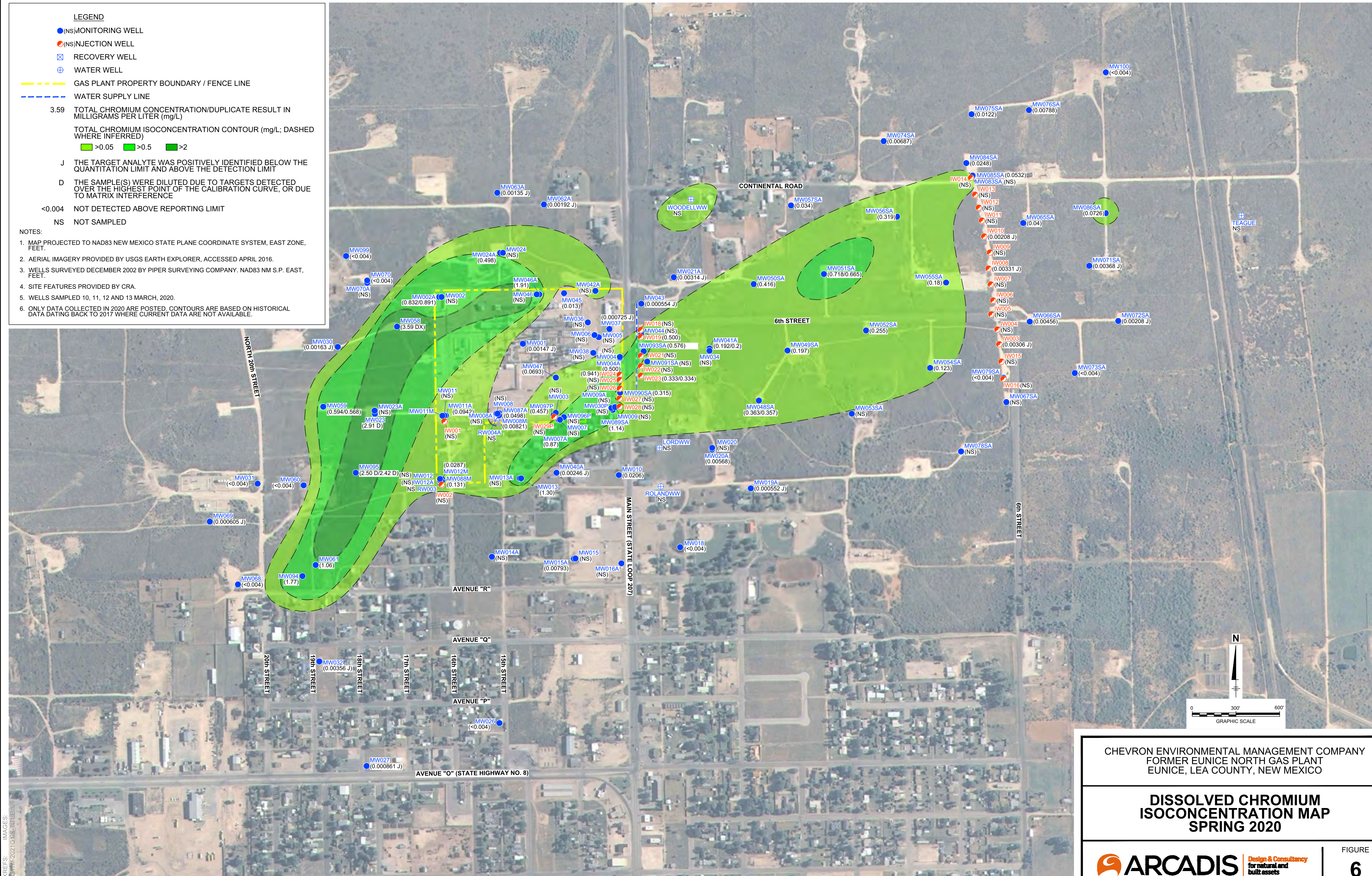


LEGEND

- (NS) MONITORING WELL
- (NS) INJECTION WELL
- RECOVERY WELL
- WATER WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE
- 3.59 TOTAL CHROMIUM CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- TOTAL CHROMIUM ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)
  - >0.05
  - >0.5
  - >2
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- D THE SAMPLE(S) WERE DILUTED DUE TO TARGETS DETECTED OVER THE HIGHEST POINT OF THE CALIBRATION CURVE, OR DUE TO MATRIX INTERFERENCE
- <0.004 NOT DETECTED ABOVE REPORTING LIMIT
- NS NOT SAMPLED

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED 10, 11, 12 AND 13 MARCH, 2020.
6. ONLY DATA COLLECTED IN 2020 ARE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2017 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

DISSOLVED CHROMIUM ISOCONCENTRATION MAP SPRING 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6

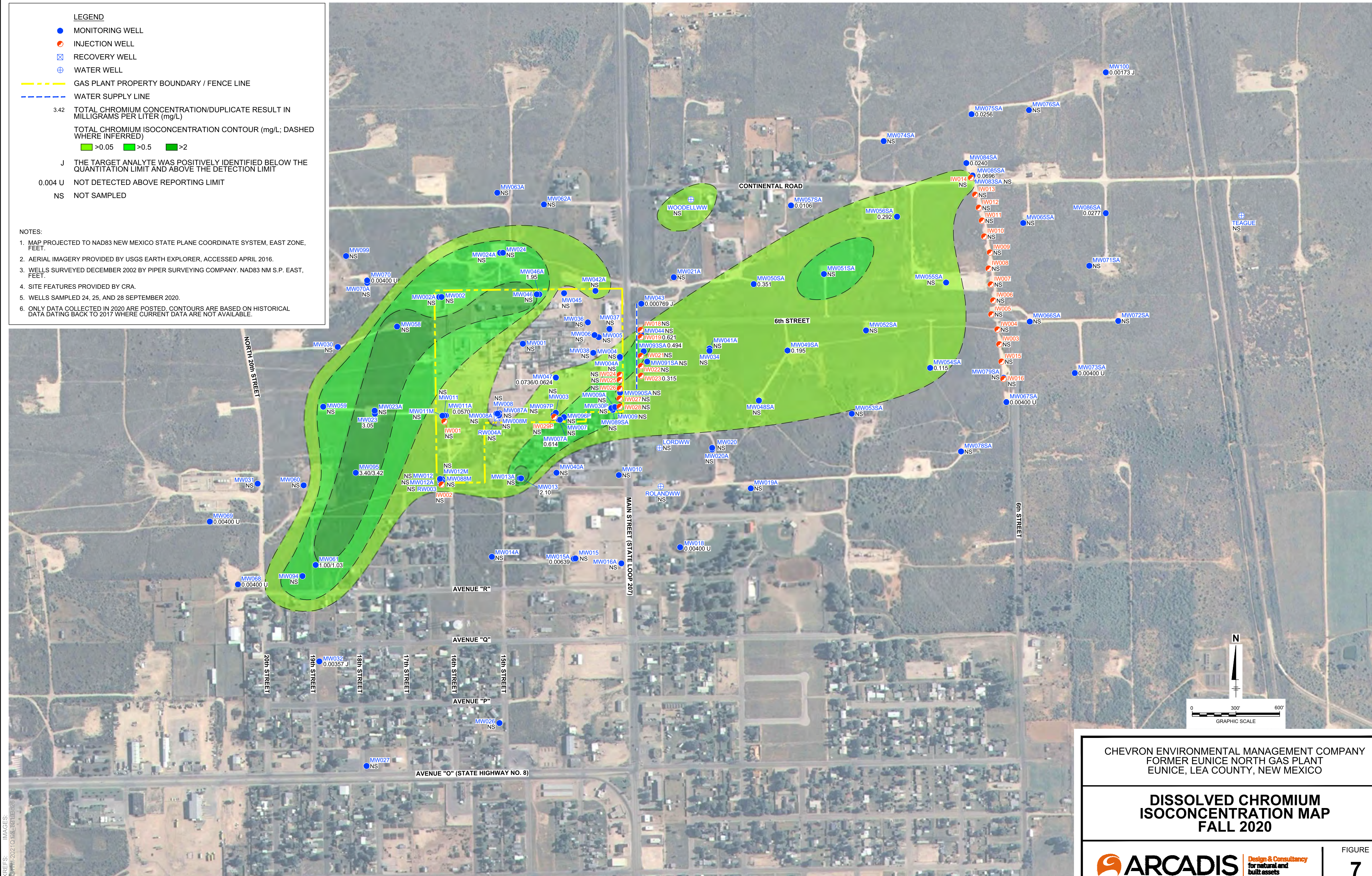
DIV/GROUP: ENVCAD LAYOUT: 6 SAVED: 2/19/2021 6:38 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2021 6:45 AM BY: THORWATH, CHANDRAKANTH
D:\Tasks\UBU4834 Eunice North O&M\Drawings\GWM-SPRING20-F06-DCIM SPRING.dwg
XREFS: IMAGES:

LEGEND

- ● MONITORING WELL
- INJECTION WELL
- ⊠ RECOVERY WELL
- ⊕ WATER WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE
- 3.42 TOTAL CHROMIUM CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- TOTAL CHROMIUM ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)
  - >0.05   >0.5   >2
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- 0.004 U NOT DETECTED ABOVE REPORTING LIMIT
- NS NOT SAMPLED

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED 24, 25, AND 28 SEPTEMBER 2020.
6. ONLY DATA COLLECTED IN 2020 ARE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2017 WHERE CURRENT DATA ARE NOT AVAILABLE.



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

DISSOLVED CHROMIUM ISOCONCENTRATION MAP FALL 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 7

DIV/GROUP: ENVCAD D:\Tasks\UBU4834 Eunice North O&M\Drawings\GWM-FALL20-F07-DCM FALL.dwg LAYOUT: 7 SAVED: 2/19/2021 6:38 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2021 6:43 AM BY: THORWATH, CHANDRAKANTH

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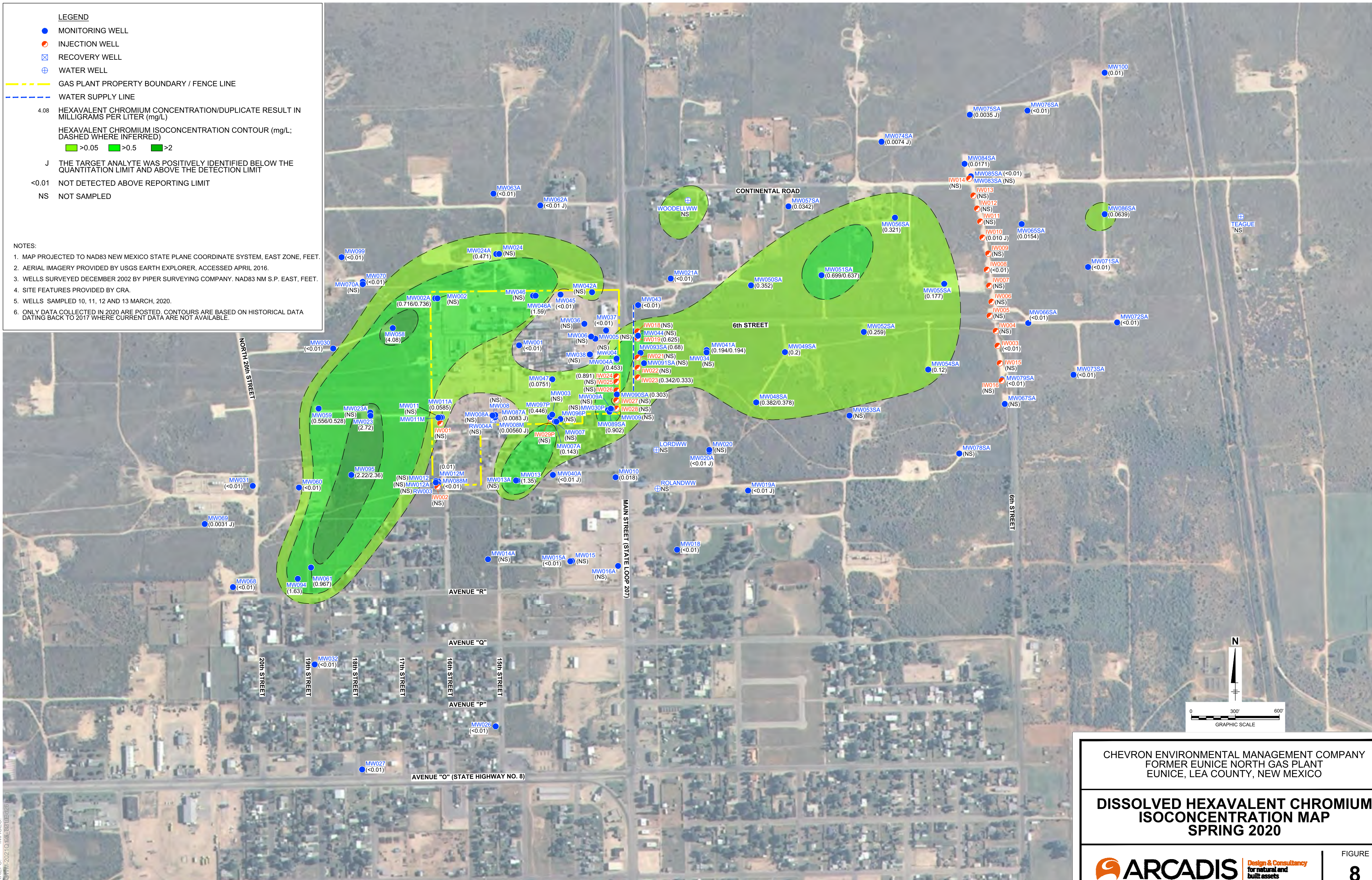


LEGEND

- MONITORING WELL
- INJECTION WELL
- RECOVERY WELL
- WATER WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE
- 4.08 HEXAVALENT CHROMIUM CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- HEXAVALENT CHROMIUM ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)
  - >0.05
  - >0.5
  - >2
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- <0.01 NOT DETECTED ABOVE REPORTING LIMIT
- NS NOT SAMPLED

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED 10, 11, 12 AND 13 MARCH, 2020.
6. ONLY DATA COLLECTED IN 2020 ARE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2017 WHERE CURRENT DATA ARE NOT AVAILABLE.

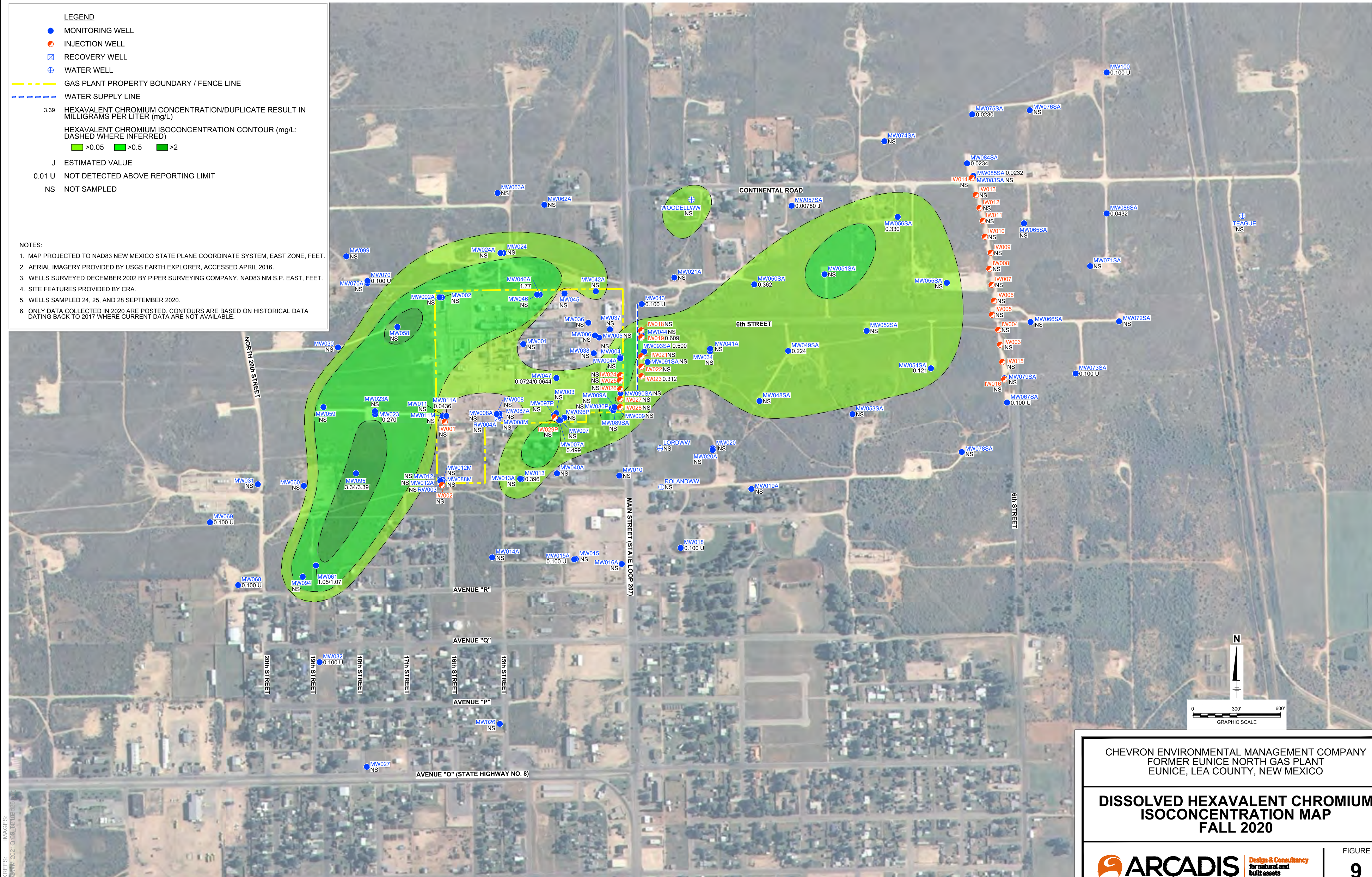
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE NORTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

DISSOLVED HEXAVALENT CHROMIUM ISOCONCENTRATION MAP SPRING 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 8

DIV/GROUP: ENVCAD
D:\Tasks\UBU4834 Eunice North O&M\Drawings\GWM-FALL20-F08-DHCIM SPRING.dwg LAYOUT: 8 SAVED: 2/19/2021 6:38 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2021 6:41 AM BY: THORWATH, CHANDRAKANTH



LEGEND

- MONITORING WELL
- INJECTION WELL
- RECOVERY WELL
- WATER WELL
- GAS PLANT PROPERTY BOUNDARY / FENCE LINE
- WATER SUPPLY LINE
- 3.39 HEXAVALENT CHROMIUM CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- HEXAVALENT CHROMIUM ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)
  - >0.05
  - >0.5
  - >2
- J ESTIMATED VALUE
- 0.01 U NOT DETECTED ABOVE REPORTING LIMIT
- NS NOT SAMPLED

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED DECEMBER 2002 BY PIPER SURVEYING COMPANY. NAD83 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED 24, 25, AND 28 SEPTEMBER 2020.
6. ONLY DATA COLLECTED IN 2020 ARE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2017 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

DISSOLVED HEXAVALENT CHROMIUM ISOCONCENTRATION MAP FALL 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 9

DIV/GROUP: ENVCAD LAYOUT: 9 SAVED: 2/19/2021 6:34 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/19/2021 6:37 AM BY: THORWATH, CHANDRAKANTH

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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
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Former Eunice North Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

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
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Former Eunice North Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

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:

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

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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

ARCADIS Design & Consultancy for natural and built assets

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 (1)		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 (1)		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 (1)		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	0.100	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	0.100	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	0.100	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.

Appendix F

South Eunice 2020 Annual Groundwater Monitoring Report Tables and Figures

DIV/GROUP: ENVCAD
C:\Users\byrappab8346\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice South Gas Plant-Site O&M\2021\30049612\01-DWG\GEN-F01-SITE LOCATION.dwg LAYOUT: 1 SAVED: 2/18/2021 6:54 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB
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CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE SOUTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

ARCADIS

FIGURE
1

LEGEND

- MONITORING WELLS
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)

LOCATIONS IN **BLUE** ARE SAMPLED ANNUALLY
LOCATIONS IN **GREEN** ARE SAMPLED SEMIANNUALLY
LOCATIONS IN **BLACK** ARE NOT SAMPLED AT THIS TIME

NOTES:

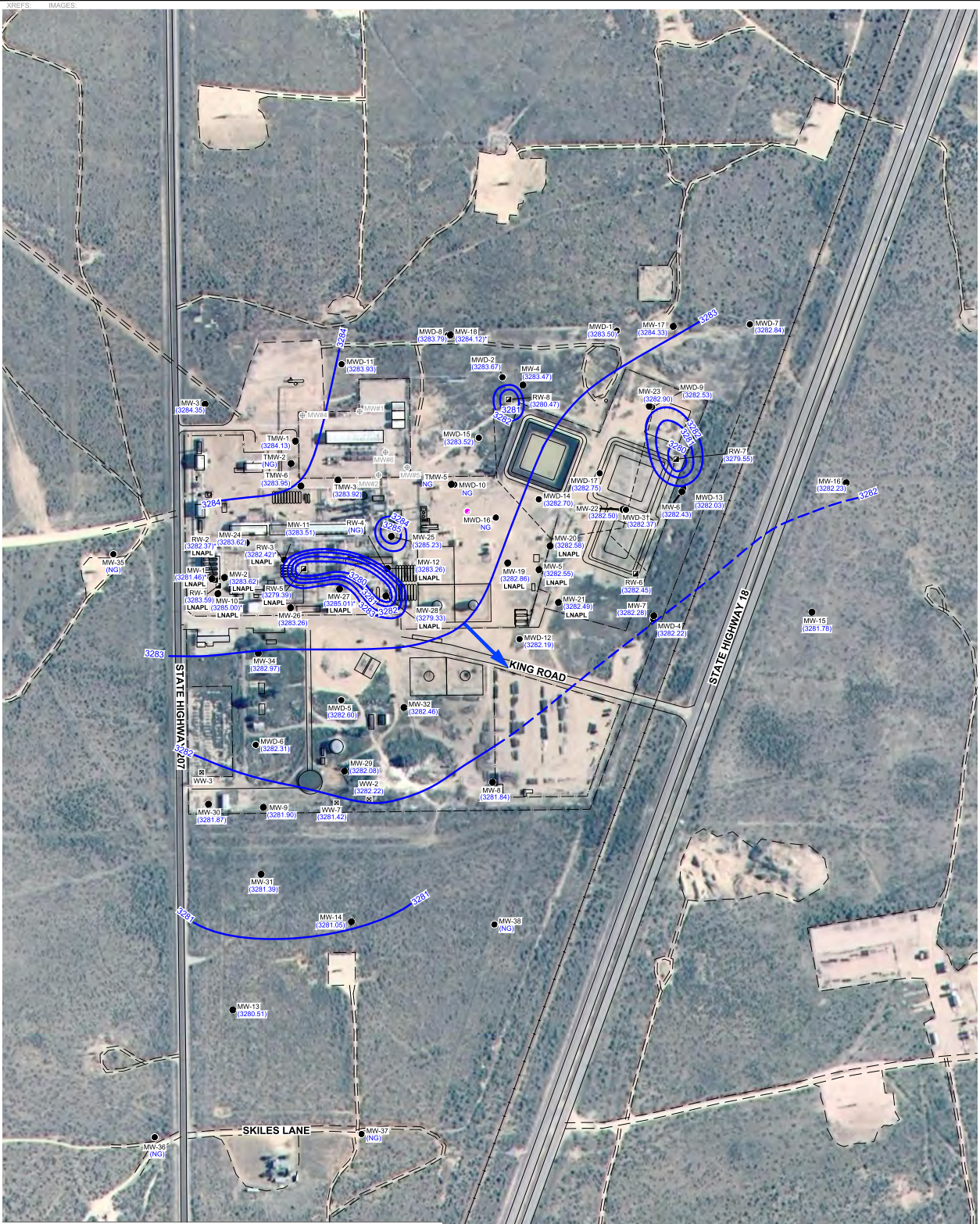
1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA

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

WELL LOCATION AND MONITORING PLAN MAP

ARCADIS

FIGURE
2



LEGEND

- MONITORING WELLS
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 3281.78 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (FT AMSL)
- 24 POTENTIOMETRIC CONTOUR (FT AMSL; DASHED WHERE INFERRED)
- NG NOT GAUGED THIS EVENT
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID PRESENT
- * NOT USED FOR CONTOURING
- † PUMPING WELL, DATA NOT USED
- GROUNDWATER FLOW DIRECTION

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NG S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS GAUGED MARCH 16-17, 2020.
6. WHERE LNAPL IS PRESENT, GROUNDWATER ELEVATION WAS CORRECTED BASED OFF ESTIMATED LNAPL SPECIFIC GRAVITY OF 0.72-0.82.

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

POTENTIOMETRIC SURFACE MAP SPRING 2020

ARCADIS

FIGURE 3

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS
C:\Users\byrappab8346\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice South Gas Plant-Site O&M\2021\30049612\01-DWG\GWM-2020SA2-F04-LNAPL SPRING.dwg LAYOUT: 4 SAVED: 2/4/2021 2:15 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ----
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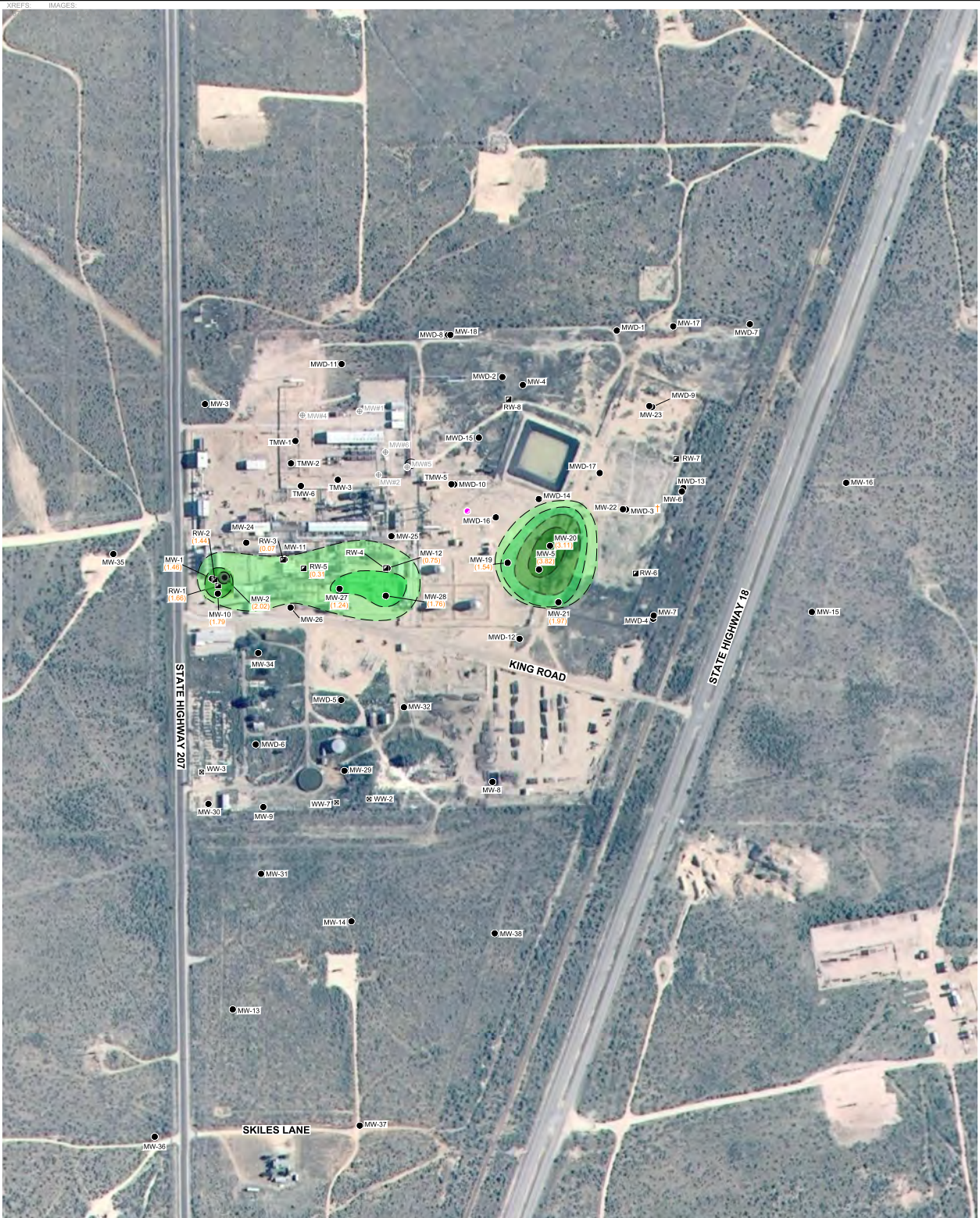

LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 3.82 LNAPL THICKNESS MARCH 2020 (FEET)
- † PUMPING WELL
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID
- NG WELL NOT GAUGED THIS EVENT
- NA WELL NOT ANALYZED THIS EVENT

LNAPL THICKNESS CONTOUR (FEET; DASHED WHERE INFERRED)

- >0
- >1
- >2
- >3

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NG S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA
5. WELLS GAUGED MARCH 2020.
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE

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

LNAPL DISTRIBUTION MAP SPRING 2020

ARCADIS

FIGURE 4

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS
C:\Users\byrappab8346\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice South Gas Plant-Site O&M\2021\30049612\01-DWG\GWM-2020SA2-F05-BENEZENE FALL.dwg LAYOUT: 5 SAVED: 2/18/2021 8:11 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ----
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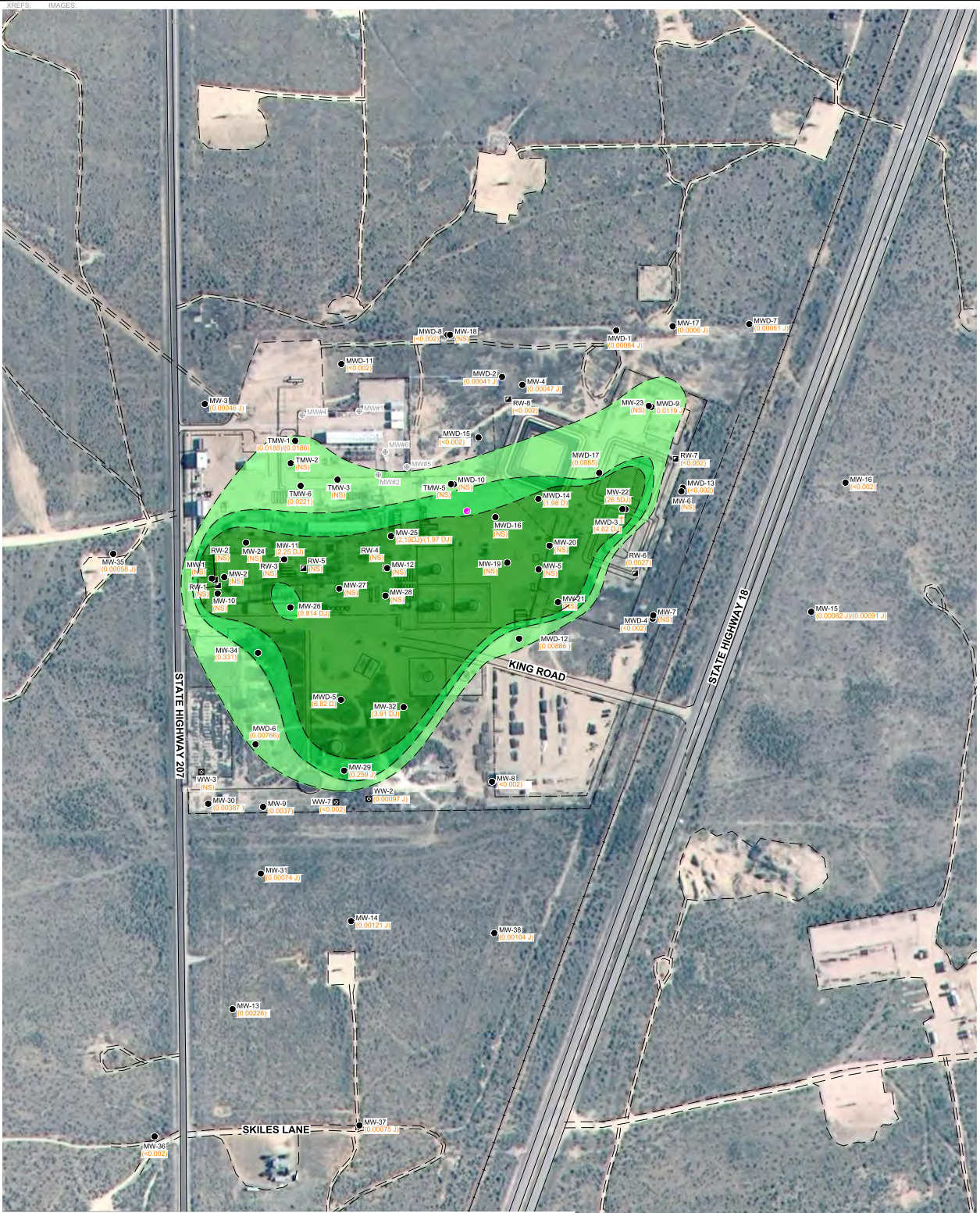

LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- (2.19)/(1.97) BENZENE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- (NS) NOT SAMPLED
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID
- <0.002 NOT DETECTED ABOVE REPORTING LIMIT
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- D CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS
- † PUMPING WELL

BENZENE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)

- >0.005
- >0.1
- >1.0

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA
5. WELLS SAMPLED MARCH 2020.
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE

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

BENZENE ISOCONCENTRATION MAP SPRING 2020

ARCADIS

FIGURE 5

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS
C:\Users\byrappab8346\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice South Gas Plant-Site O&M\2021\30049612\01-DWG\GWM-2020SA2-F06-BENEZENE FALL.dwg LAYOUT: 6 SAVED: 2/3/2021 7:06 PM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ----
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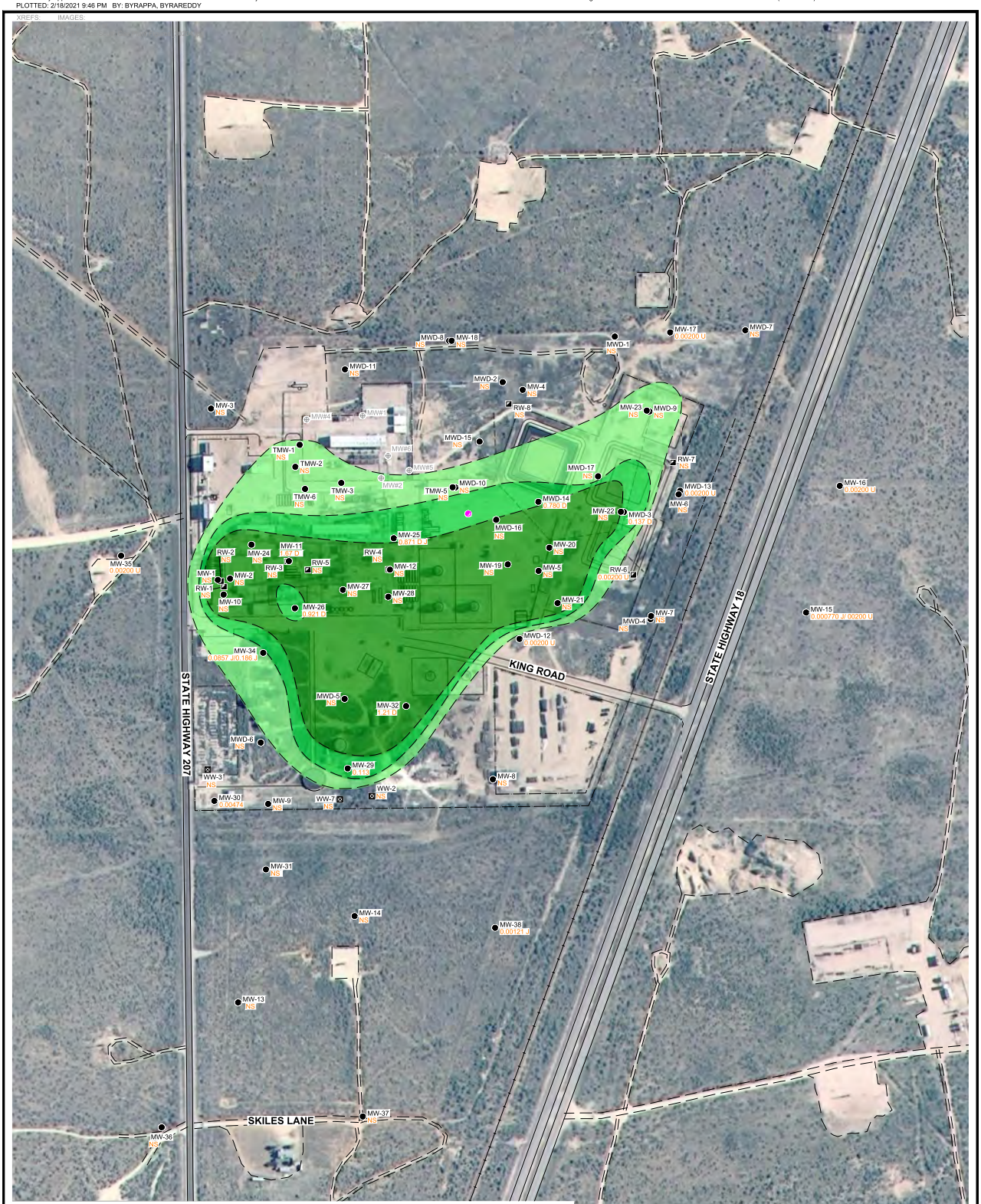


LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 1.67 BENZENE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- NS NOT SAMPLED
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID PRESENT
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- D SAMPLE WAS DILUTED
- U ANALYTE WAS NOT DETECTED

BENZENE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)

- >0.005
- >0.1
- >1.0

NOTES:

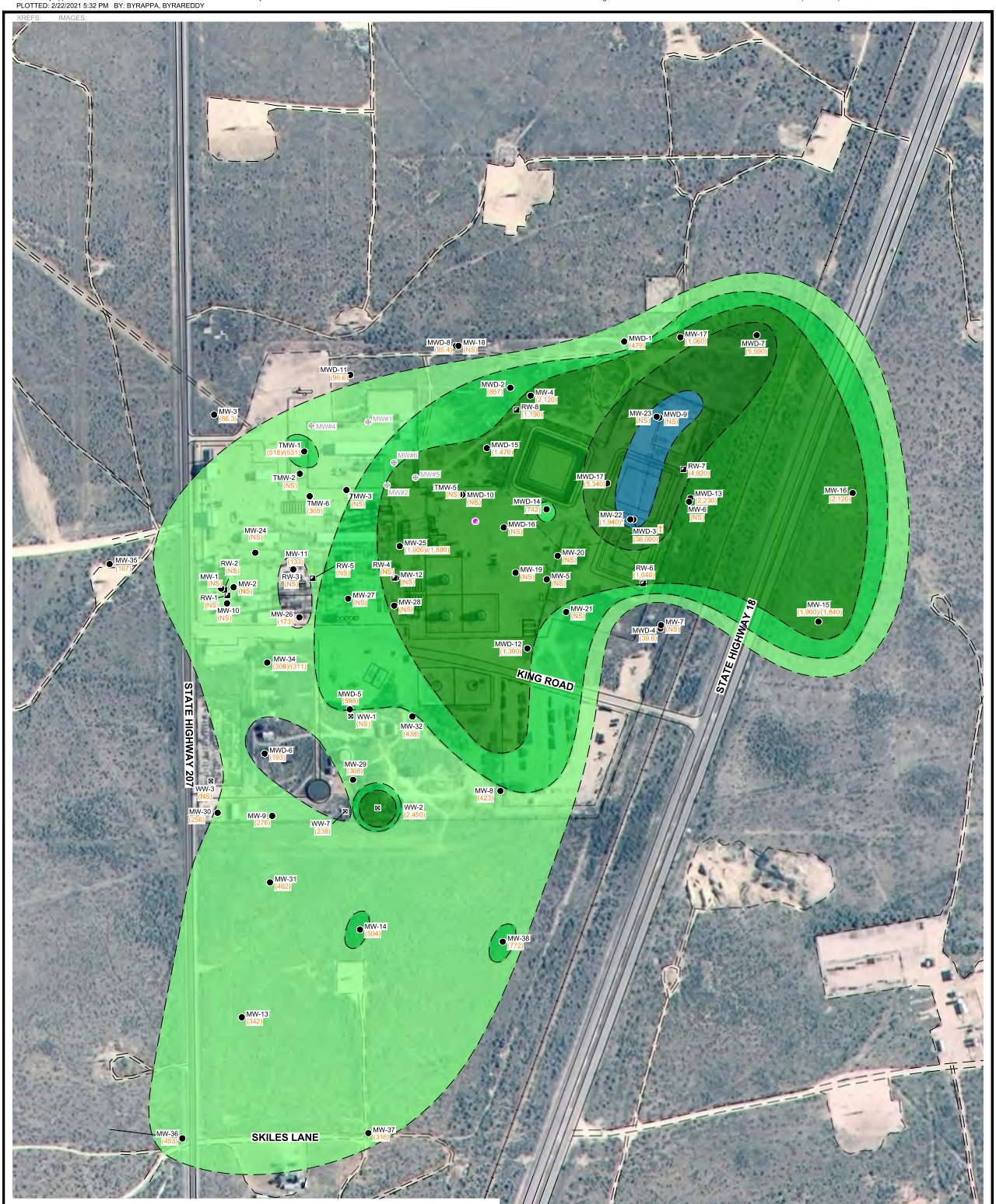
1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA
5. WELLS SAMPLED SEPTEMBER 2020.
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

BENZENE ISOCONCENTRATION MAP FALL 2020

ARCADIS

FIGURE 6



LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 36,000 CHLORIDE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- NS NOT SAMPLED
- <0.002 NOT DETECTED ABOVE REPORTING LIMIT
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID PRESENT
- J THE TARGET ANALYTE WAS POSITIVELY IDENTIFIED BELOW THE QUANTITATION LIMIT AND ABOVE THE DETECTION LIMIT
- D CONCENTRATION IS BASED ON A DILUTED SAMPLE ANALYSIS
- † PUMPING WELL

CHLORIDE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)

- >250
- >500
- >1,000
- >3,000
- >10,000

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED MARCH 2020
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

CHLORIDE ISOCONCENTRATION MAP SPRING 2020

ARCADIS

FIGURE 7

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS
C:\Users\byrappab8346\BIM 360\Arcadis\ANA - CHEVRON CORPORATION\Project Files\Eunice South Gas Plant-Site O&M\2021\30049612\01-DWG\GWM-2020SA2-F08-CHLORIDE FALL.dwg LAYOUT: 8 SAVED: 2/19/2021 10:11 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ----
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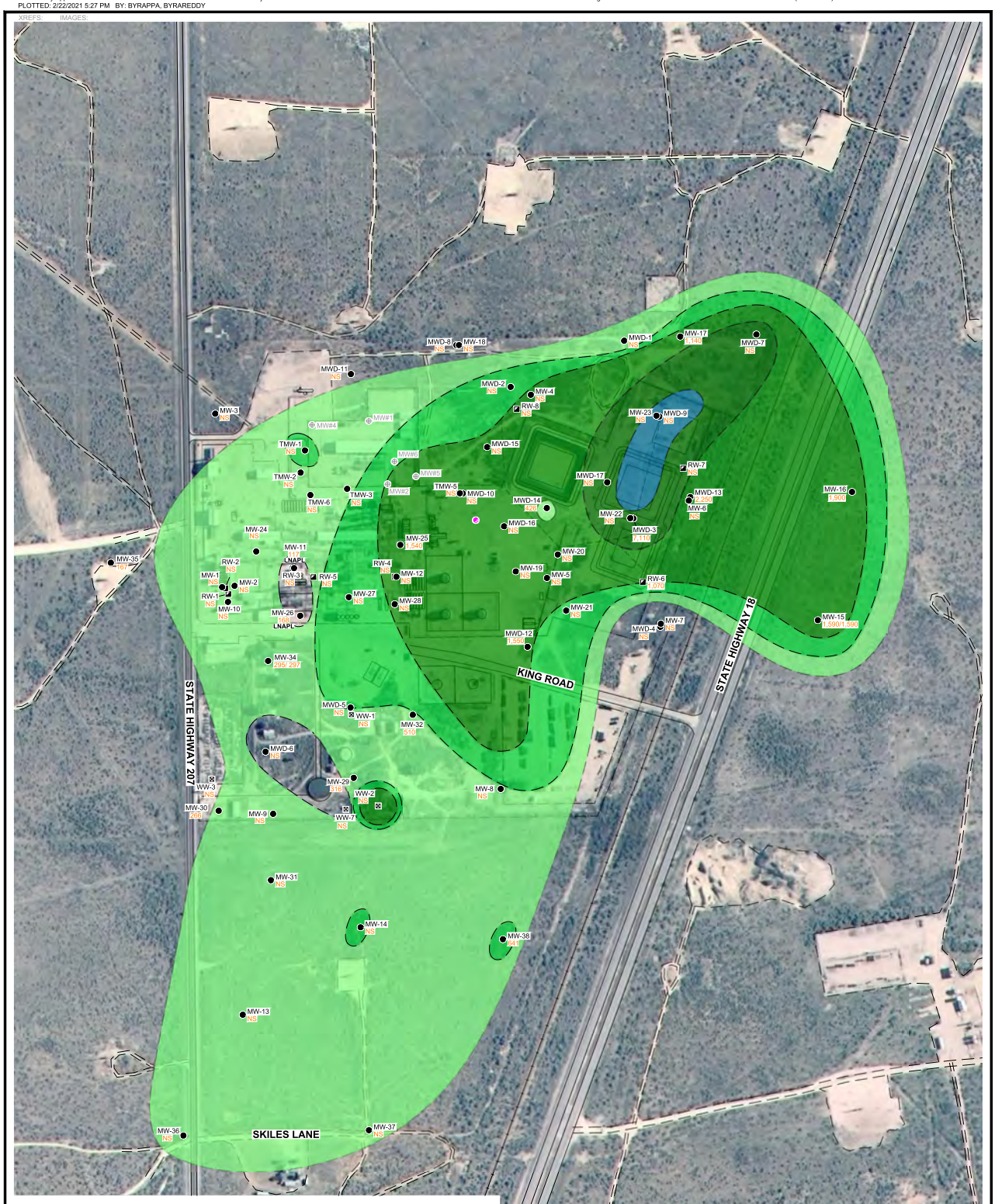

LEGEND

- MONITORING WELL
- TARGA'S ONSITE INJECTION WELL
- RECOVERY WELL
- INACTIVE WATER WELL
- OFFSITE PROPERTY WELL (NOT SAMPLED)
- 7,110 CHLORIDE CONCENTRATION/DUPLICATE RESULT IN MILLIGRAMS PER LITER (mg/L)
- NS NOT SAMPLED
- LNAPL LIGHT NON-AQUEOUS PHASE LIQUID PRESENT

CHLORIDE ISOCONCENTRATION CONTOUR (mg/L; DASHED WHERE INFERRED)

- >250
- >500
- >1,000
- >3,000
- >10,000

NOTES:

1. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
2. AERIAL IMAGERY PROVIDED BY USGS EARTH EXPLORER, ACCESSED APRIL 2016.
3. WELLS SURVEYED 1998, 2000, 2001, 2002, AND 2006 BY PIPER SURVEYING COMPANY. NAD27 NM S.P. EAST, FEET.
4. SITE FEATURES PROVIDED BY CRA.
5. WELLS SAMPLED SEPTEMBER 2020
6. ONLY DATA COLLECTED IN 2020 WERE POSTED. CONTOURS ARE BASED ON HISTORICAL DATA DATING BACK TO 2018 WHERE CURRENT DATA ARE NOT AVAILABLE.

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

CHLORIDE ISOCONCENTRATION MAP FALL 2020

ARCADIS

FIGURE 8

ARCADIS Design & Consultancy for natural and built assets

Table 1
Summary of 2020 Groundwater Monitoring Activities
2020 Annual Groundwater Monitoring Report
Former Eunice South 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 (300.0)	TDS (2540C)	Notes
MW-1	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-2	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-3	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-4	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-5	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-6	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-7	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-8	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-9	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-10	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-11	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-12	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-13	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-14	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-15	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-16	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-17	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-18	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-19	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-20	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-21	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-22	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-23	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
MW-24	x/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	--/Well dry
MW-25	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-26	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-27	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-28	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
MW-29	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-30	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-31	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-32	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-34	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-35	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MW-36	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-37	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MW-38	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MWD-1	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-2	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-3	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	

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Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Monitoring Well ID	Groundwater Elevation	Field Water Quality Parameters	BTEX (8021B)	GRO (8015B)	DRO (8015B)	Dissolved Metals (6020A)	Hexavalent Chromium (7196A)	Chloride (300.0)	TDS (2540C)	Notes
MWD-4	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-5	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-6	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-7	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-8	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-9	x/x	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	(x)/(x)	Well damaged due to excess sand in well.
MWD-11	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
MWD-12	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MWD-13	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MWD-14	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
MWD-15	x/x	x/(x)	x/(x)	x/(x)	x/(x)	x/(x)	x/(x)	x/(x)	x/(x)	Obstruction in well.
MWD-17	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
RW-1	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
RW-2	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
RW-3	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
RW-4	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
RW-5	x/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	LNAPL
RW-6	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	x/x	
RW-7	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
RW-8	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
TMW-1	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
TMW-2	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	(x)/--	Bailer was in fluid in well. Unable to gauge.
TMW-3	x/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	--/--	
TMW-6	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
WW-2	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	x/--	
WW-7	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 South Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	µS/cm	°C	NTU
MW-3	3/18/2020	2.11	102	7.49	1230	20.89	0.0
MW-4	3/19/2020	4.22	164	5.56	6170	20.26	0.0
MW-8	3/18/2020	0.00	-111	7.45	3790	19.99	0.0
MW-9	3/18/2020	0.00	-89	7.34	2620	20.19	0.0
MW-11	3/20/2020	0.00	-87	6.77	1800	15.08	19.6
MW-13	3/18/2020	0.65	42	7.66	2130	18.86	0.0
MW-14	3/18/2020	0.00	2	7.24	2950	19.38	0.0
MW-15	3/17/2020	0.00	161	6.94	5080	20.06	0.0
MW-16	3/17/2020	0.00	194	7.38	6850	22.11	0.0
MW-17	3/19/2020	0.00	-110	5.51	3750	17.3	0.0
MW-22	3/20/2020	2.96	-123	6.96	7730	12.18	3.8
MW-25	3/20/2020	0.00	-122	7.17	8200	11.94	0.0
MW-26	3/20/2020	0.00	-99	6.9	1860	16.06	1.6
MW-29	3/18/2020	0.00	-141	7.14	2700	20.38	0.0
MW-30	3/18/2020	0.00	-75	7.09	2490	20.5	0.0
MW-31	3/18/2020	0.00	-71	7.07	2990	17.82	0.0
MW-32	3/18/2020	0.00	-152	7.09	4190	20.64	0.0
MW-34	3/18/2020	2.69	-94	6.5	3540	17.84	20.1
MW-35	3/18/2020	0.00	-86	7.44	1700	22.28	0.0
MW-36	3/17/2020	0.00	144	7.62	2460	22.13	0.0
MW-37	3/18/2020	0.00	-100	7.52	2170	20.31	0.0
MW-38	3/18/2020	0.00	-105	7.54	3520	20.19	0.0
MWD-1	3/19/2020	0.00	74	5.71	2730	19.55	0.0
MWD-2	3/19/2020	0.00	94	5.62	4170	20.52	0.0
MWD-3	3/19/2020	0.00	-60	6.84	82100	20.5	0.0
MWD-4	3/19/2020	0.00	38	7.12	1550	17.95	0.0
MWD-5	3/18/2020	0.00	-101	6.69	3520	20.54	0.0
MWD-6	3/18/2020	0.00	-68	7.2	2350	19.79	0.0
MWD-7	3/19/2020	0.00	91	5.57	16900	17.42	0.0
MWD-8	3/19/2020	4.00	93	5.88	1090	20.44	0.0
MWD-11	3/18/2020	0.42	123	7.5	1280	20.9	0.0
MWD-12	3/19/2020	0.00	-139	7.73	4600	18.02	0.0
MWD-13	3/19/2020	3.94	33	7.1	10800	17.96	0.0
MWD-14	3/19/2020	0.00	29	7.74	5030	15.94	0.0
MWD-15	3/19/2020	0.00	-132	5.4	5480	21.07	0.0
MWD-17	3/19/2020	0.00	-158	6.02	16900	15.1	0.0
RW-6	3/19/2020	7.69	-146	7.62	5350	18.24	0.2
RW-7	3/19/2020	0.00	87	6.95	9310	19.41	0.0
RW-8	3/19/2020	0.00	-141	5.48	4770	20.49	0.0
TMW-1	3/19/2020	0.00	-93	7.28	4180	19.73	0.0

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Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	µS/cm	°C	NTU
TMW-6	3/20/2020	0.00	-66	6.98	2580	8.83	0.0
WW-2	3/19/2020	0.00	-164	7.42	7040	18.66	1.4
WW-7	3/18/2020	0.00	-200	7.75	1030	20.02	7.6

Acronyms and Abbreviations:
ID = identification
mg/L = milligrams per liter
mV = millivolts
NTU = nephelometric turbidity unit
SU = standard unit
µS/cm = microSiemens per centimeter
°C = degrees Celsius

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

ARCADIS Design & Consultancy for natural and built assets

Location ID	Date	Dissolved Oxygen	Oxidation-Reduction Potential	pH	Specific Conductivity	Temperature	Turbidity
		mg/L	mV	SU	mS/cm	°C	NTU
MW-11	9/24/2020	1.54	-76	6.96	1.58	22.66	5.0
MW-15	9/22/2020	5.02	187	6.67	5.52	19.14	0.4
MW-16	9/24/2020	1.05	-136	7.38	6.15	24.47	3.1
MW-17	9/22/2020	4.08	-44	7.18	3.20	27.30	0.0
MW-25	9/23/2020	8.96	-117	7.64	7.30	20.27	1.0
MW-26	9/24/2020	0.00	-106	7.18	1.70	23.69	0.90
MW-29	9/24/2020	0.39	-156	8.04	2.12	31.60	0.00
MW-30	9/24/2020	0.35	-177	8.07	1.89	32.35	0.00
MW-32	9/24/2020	0.00	-152	8.44	3.50	31.39	1.2
MW-34	9/24/2020	0.04	-120	7.79	2.55	28.18	0.00
MW-35	9/22/2020	1.62	-49	7.49	1.60	28.16	1.4
MW-38	9/22/2020	0.02	-72	8.00	2.82	26.44	0.10
MWD-3	9/22/2020	10.72	-118	6.94	11.7	26.12	12.8
MWD-12	9/24/2020	3.02	-170	8.37	55.4	21.17	0.1
MWD-13	9/23/2020	8.85	37	7.92	8.14	24.37	0.0
MWD-14	9/23/2020	4.88	-140	7.58	5.08	19.70	0.90
RW-6	9/22/2020	7.68	-116	7.34	4.42	26.33	0.1

Acronyms and Abbreviations:

°C = degrees Celsius

ID = identification

mg/L = milligrams per liter

mV = millivolts

NTU = nephelometric turbidity unit

SU = standard unit

mS/cm = milliSiemens per centimeter

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

Location ID	Date	Top of Casing (feet amsl)	Depth To Groundwater (feet btoc)	Depth to LNAPL (feet btoc)	LNAPL Thickness (feet)	LNAPL Specific Gravity	Uncorrected Groundwater Elevation (feet amsl)	Corrected Groundwater Elevation (feet amsl)[1]
MW-1	3/17/2020	3335.09	54.71	53.25	1.46	0.74	3280.38	3281.46
MW-2	3/17/2020	3335.70	53.57	51.55	2.02	0.74	3282.13	3283.62
MW-3	3/16/2020	3339.65	55.30	NM	NA	NA	3284.35	3284.35
MW-4	3/16/2020	3333.25	49.78	NM	NA	NA	3283.47	3283.47
MW-5	3/17/2020	3333.85	54.43	50.61	3.82	0.82	3279.42	3282.55
MW-6	3/16/2020	3332.33	49.90	NM	NA	NA	3282.43	3282.43
MW-7	3/16/2020	3330.43	48.15	NM	NA	NA	3282.28	3282.28
MW-8	3/16/2020	3330.59	48.75	NM	NA	NA	3281.84	3281.84
MW-9	3/16/2020	3334.73	52.83	NM	NA	NA	3281.90	3281.90
MW-10	3/17/2020	3336.38	52.70	50.91	1.79	0.74	3283.68	3285.00
MW-11	3/16/2020	3334.86	51.35	NM	NA	0.72	3283.51	3283.51
MW-11	9/23/2020	3334.86	51.33	NM	NA	0.72	3283.53	3283.53
MW-12	3/17/2020	3333.88	51.16	50.41	0.75	0.72	3282.72	3283.26
MW-13	3/16/2020	3336.15	55.64	NM	NA	NA	3280.51	3280.51
MW-14	3/16/2020	3333.04	51.99	NM	NA	NA	3281.05	3281.05
MW-15	3/16/2020	3328.98	47.20	NM	NA	NA	3281.78	3281.78
MW-15	9/22/2020	3328.98	47.08	NM	NA	NA	3281.90	3281.90
MW-16	3/16/2020	3330.20	47.97	NM	NA	NA	3282.23	3282.23
MW-16	9/24/2020	3330.20	47.78	NM	NA	NA	3282.42	3282.42
MW-17	3/16/2020	3334.32	49.99	NM	NA	NA	3284.33	3284.33
MW-17	9/22/2020	3334.32	50.78	NM	NA	NA	3283.54	3283.54
MW-18	3/16/2020	3336.10	51.98	NM	NA	NA	3284.12	3284.12
MW-19	3/17/2020	3334.21	52.61	51.07	1.54	0.82	3281.60	3282.86
MW-20	3/17/2020	3334.06	54.03	50.92	3.11	0.82	3280.03	3282.58
MW-21	3/17/2020	3333.02	52.15	50.18	1.97	0.82	3280.87	3282.49
MW-22	3/16/2020	3334.87	52.37	NM	NA	NA	3282.50	3282.50
MW-23	3/16/2020	3334.45	51.55	NM	NA	NA	3282.90	3282.90
MW-24	3/16/2020	3336.97	53.35	NM	NA	0.74	3283.62	3283.62
MW-24	9/22/2020	3336.97	NM	NM	NA	NA	NM	NM
MW-25	3/16/2020	3336.31	51.08	NM	NA	NA	3285.23	3285.23
MW-25	9/23/2020	3336.31	51.04	NM	NA	NA	3285.27	3285.27
MW-26	3/16/2020	3334.93	51.67	NM	NA	0.72	3283.26	3283.26
MW-26	9/23/2020	3334.93	51.66	NM	NA	0.72	3283.27	3283.27
MW-27	3/17/2020	3334.96	50.84	49.60	1.24	0.72	3284.12	3285.01
MW-28	3/17/2020	3333.04	54.98	53.22	1.76	0.72	3278.06	3279.33
MW-29	3/16/2020	3334.01	51.93	NM	NA	NA	3282.08	3282.08
MW-29	9/24/2020	3334.01	51.88	NM	NA	NA	3282.13	3282.13
MW-30	3/16/2020	3336.49	54.62	NM	NA	NA	3281.87	3281.87
MW-30	9/24/2020	3336.49	54.55	NM	NA	NA	3281.94	3281.94
MW-31	3/16/2020	3334.52	53.13	NM	NA	NA	3281.39	3281.39
MW-32	3/16/2020	3333.01	50.55	NM	NA	NA	3282.46	3282.46
MW-32	9/24/2020	3333.01	50.50	NM	NA	NA	3282.51	3282.51
MW-34	3/16/2020	3335.77	52.80	NM	NA	NA	3282.97	3282.97
MW-34	9/24/2020	3335.77	52.77	NM	NA	NA	3283.00	3283.00
MW-35	3/16/2020	NM	56.50	NM	NA	NA	NM	NM
MW-35	9/22/2020	NM	56.43	NM	NA	NA	NM	NM
MW-36	3/16/2020	NM	50.32	NM	NA	NA	NM	NM
MW-37	3/16/2020	NM	55.87	NM	NA	NA	NM	NM
MW-38	3/16/2020	NM	50.22	NM	NA	NA	NM	NM
MW-38	9/22/2020	NM	50.24	NM	NA	NA	NM	NM
MWD-1	3/16/2020	3335.26	51.76	NM	NA	NA	3283.50	3283.50
MWD-2	3/16/2020	3336.32	52.65	NM	NA	NA	3283.67	3283.67
MWD-3	3/16/2020	3335.06	52.69	NM	NA	NA	3282.37	3282.37
MWD-3	9/22/2020	3335.06	52.19	NM	NA	NA	3282.87	3282.87
MWD-4	3/16/2020	3330.86	48.64	NM	NA	NA	3282.22	3282.22
MWD-5	3/16/2020	3334.01	51.41	NM	NA	NA	3282.60	3282.60
MWD-6	3/16/2020	3335.08	52.77	NM	NA	NA	3282.31	3282.31
MWD-7	3/17/2020	3332.82	49.98	NM	NA	NA	3282.84	3282.84
MWD-8	3/16/2020	3335.97	52.18	NM	NA	NA	3283.79	3283.79
MWD-9	3/16/2020	3333.45	50.92	NM	NA	NA	3282.53	3282.53
MWD-9	9/22/2020	3333.45	50.62	NM	NA	NA	3282.83	3282.83
MWD-11	3/16/2020	3338.24	54.31	NM	NA	NA	3283.93	3283.93
MWD-12	9/24/2020	3334.08	51.78	NM	NA	NA	3282.30	3282.30
MWD-12	3/16/2020	3334.08	51.89	NM	NA	NA	3282.19	3282.19
MWD-13	3/16/2020	3332.11	50.08	NM	NA	NA	3282.03	3282.03
MWD-13	9/22/2020	3332.11	49.70	NM	NA	NA	3282.41	3282.41
MWD-14	9/23/2020	3333.76	50.78	NM	NA	NA	3282.98	3282.98
MWD-14	3/16/2020	3333.76	51.06	NM	NA	NA	3282.70	3282.70
MWD-15	3/16/2020	3335.35	51.83	NM	NA	NA	3283.52	3283.52
MWD-15	9/22/2020	3335.35	51.85	NM	NA	NA	3283.50	3283.50
MWD-17	3/16/2020	3334.74	51.99	NM	NA	NA	3282.75	3282.75
RW-1	3/17/2020	3335.19	52.83	51.17	1.66	0.74	3282.36	3283.59
RW-2	3/17/2020	3337.84	56.54	55.10	1.44	0.74	3281.30	3282.37

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

Location ID	Date	Top of Casing (feet amsl)	Depth To Groundwater (feet btoc)	Depth to LNAPL (feet btoc)	LNAPL Thickness (feet)	LNAPL Specific Gravity	Uncorrected Groundwater Elevation (feet amsl)	Corrected Groundwater Elevation (feet amsl)[1]
RW-3	3/16/2020	3338.06	55.69	55.62	0.07	0.72	3282.37	3282.42
RW-4	3/17/2020	3334.14	NM	53.84	NA	0.72	NM	NM
RW-5	3/17/2020	3334.20	55.03	54.72	0.31	0.72	3279.17	3279.39
RW-6	9/22/2020	3332.37	49.64	NM	NA	NA	3282.73	3282.73
RW-6	3/16/2020	3332.37	49.92	NM	NA	NA	3282.45	3282.45
RW-7	3/16/2020	3331.23	51.68	NM	NA	NA	3279.55	3279.55
RW-8	3/16/2020	3333.39	52.92	NM	NA	NA	3280.47	3280.47
TMW-1	3/16/2020	3337.70	53.57	NM	NA	NA	3284.13	3284.13
TMW-2	3/17/2020	3338.30	NM	NM	NA	0.82	NM	NM
TMW-3	3/16/2020	3336.67	52.75	NM	NA	NA	3283.92	3283.92
TMW-6	3/16/2020	3335.36	51.41	NM	NA	NA	3283.95	3283.95
WW-2	3/17/2020	3331.46	49.24	NM	NA	NA	3282.22	3282.22
WW-7	3/17/2020	3331.73	50.31	NM	NA	NA	3281.42	3281.42

Note:

1. Corrected groundwater elevations are corrected using an assumed LNAPL specific gravity of determined during LNAPL transmissivity testing. The formula used to correct groundwater elevation is as follows:

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

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 South Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

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	
MW-3	3/18/2020	REG	**0.000460**	J	0.00200	U	0.00200	U	0.00200	U	2.31	U	2.31	U
MW-4	3/19/2020	REG	**0.000470**	J	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-8	3/18/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.24	U	2.24	U
MW-9	3/18/2020	REG	**0.00370**		0.00200	U	0.00200	U	0.00200	U	2.24	U	2.24	U
MW-11	3/20/2020	REG	**2.25**	DJ	**0.00162**	J	**0.00423**	J	**0.0202**	J	2.18	U	**4.77**	
MW-13	3/18/2020	REG	**0.00226**		0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-14	3/18/2020	REG	**0.00121**	J	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-15	3/17/2020	FD	**0.000910**	J	0.00200	U	0.00200	U	0.00200	U	2.28	U	2.28	U
MW-15	3/17/2020	REG	**0.000820**	J	0.00200	U	0.00200	U	0.00200	U	2.23	U	2.23	U
MW-16	3/17/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.22	U	2.22	U
MW-17	3/19/2020	REG	**0.000600**	J	0.00200	U	0.00200	U	0.00200	U	2.16	U	2.16	U
MW-22	3/20/2020	REG	**26.50**	DJ	**0.00740**	J	**0.0441**	J	**0.0297**	J	2.21	U	**19.00**	
MW-25	3/20/2020	REG	**2.19**	DJ	**0.000930**	J	**0.00365**	J	**0.00246**	J	**3.03**		**2.98**	
MW-25	3/20/2020	FD	**1.97**	DJ	**0.000790**	J	**0.00331**	J	**0.00236**	J	**3.03**		**2.48**	
MW-26	3/20/2020	REG	**0.814**	DJ	**0.000730**	J	**0.00125**	J	**0.00214**	J	**28.90**		**3.58**	
MW-29	3/18/2020	REG	**0.259**	J	**0.000470**	J	**0.00144**	J	**0.000700**	J	2.20	U	**3.43**	
MW-30	3/18/2020	REG	**0.00387**		0.00200	U	0.00200	U	**0.000870**	J	2.25	U	2.25	U
MW-31	3/18/2020	REG	**0.000740**	J	0.00200	U	0.00200	U	0.00200	U	2.22	U	2.22	U
MW-32	3/18/2020	REG	**3.91**	DJ	**0.00200**	J	**0.00703**	J	**0.00663**	J	2.20	U	**7.65**	
MW-34	3/18/2020	FD	**0.347**		0.00200	U	**0.000810**	J	0.00200	U	**1.68**	J	**1.55**	J
MW-34	3/18/2020	REG	**0.331**		0.00200	U	**0.000890**	J	0.00200	U	**1.82**	J	**1.60**	J
MW-35	3/18/2020	REG	**0.000580**	J	**0.000470**	J	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-36	3/17/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.25	U	2.25	U
MW-37	3/18/2020	REG	**0.000750**	J	**0.000370**	J	0.00200	U	0.00200	U	**0.888**	J	2.22	U
MW-38	3/18/2020	REG	**0.00104**	J	0.00200	U	0.00200	U	0.00200	U	2.18	U	2.18	U
MWD-1	3/19/2020	REG	**0.000840**	J	**0.000390**	J	0.00200	U	0.00200	U	2.20	U	2.20	U
MWD-2	3/19/2020	REG	**0.000410**	J	0.00200	U	0.00200	U	0.00200	U	2.24	U	2.24	U
MWD-3	3/19/2020	REG	**4.62**	DJ	**0.00533**	J	**0.0630**	J	**0.0249**	J	**0.942**	J	**4.61**	
MWD-4	3/19/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.14	U	2.14	U
MWD-5	3/18/2020	REG	**6.82**	D	**0.00158**	J	**0.0103**		**0.0100**		**3.30**		**10.50**	

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

ARCADIS Design & Consultancy for natural and built assets

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	
MWD-6	3/18/2020	REG	**0.00766**		0.00200	U	0.00200	U	0.00200	U	2.25	U	2.25	U
MWD-7	3/19/2020	REG	**0.000510**	J	0.00200	U	0.00200	U	0.00200	U	2.16	U	2.16	U
MWD-8	3/19/2020	REG	0.00200	U	**0.000450**	J	0.00200	U	0.00200	U	**0.845**	J	2.21	U
MWD-11	3/18/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.31	U	2.31	U
MWD-12	3/19/2020	REG	**0.00886**		**0.000500**	J	**0.0424**		**0.00428**		**1.70**	J	2.17	U
MWD-13	3/19/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.18	U	2.18	U
MWD-14	3/19/2020	REG	**1.98**	D	0.00200	U	**0.152**		**0.00539**		**2.03**	J	**3.00**	
MWD-15	3/19/2020	REG	0.00200	U	**0.000470**	J	0.00200	U	0.00200	U	**0.834**	J	2.14	U
MWD-17	3/19/2020	REG	**0.0885**		0.00200	U	**0.00864**		**0.00331**		**0.974**	J	2.14	U
RW-6	3/19/2020	REG	**0.00270**		**0.000410**	J	0.00200	U	**0.00550**		2.12	U	**1.03**	J
RW-7	3/19/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.04	U	2.04	U
RW-8	3/19/2020	REG	0.00200	U	0.00200	U	0.00200	U	**0.00164**	J	2.23	U	2.23	U
TMW-1	3/19/2020	FD	**0.0186**		0.00200	U	**0.00501**		**0.00916**		2.22	U	2.22	U
TMW-1	3/19/2020	REG	**0.0188**		0.00200	U	**0.00525**		**0.00985**		2.18	U	2.18	U
TMW-6	3/20/2020	REG	**0.0221**		0.00200	U	**0.000960**	J	**0.00129**	J	**1.93**	J	**1.48**	J
WW-2	3/19/2020	REG	**0.000970**	J	0.00200	U	0.00200	U	0.00200	U	2.15	U	2.15	U
WW-7	3/18/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.17	U	2.17	U

Acronyms and Abbreviations:

bold = detected analytes

BTEX = benzene, toluene, ethylbenzene, and xylene

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

NA = Not applicable- no standard available

REG = regular field sample

shading = analytes exceeding the NMWQCC Standard

* = active recovery well

Qualifiers:

J = estimated value

U = nondetect

D = diluted sample

UJ = The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

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

ARCADIS Design & Consultancy for natural and built assets

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	
MW-11	9/23/2020	REG	**1.67**	D	**0.00288**		**0.00606**		**0.0281**		2.19	U	**5.67**	
MW-15	9/22/2020	FD	**0.000770**	J	**0.000610**	J	0.00200	U	0.00200	U	2.16	U	2.16	U
MW-15	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-16	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.18	U	2.18	U
MW-17	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-25	9/23/2020	REG	**0.871**	DJ	**0.00107**	J	**0.00919**	J	**0.00510**	J	**1.25**	J	**2.38**	
MW-26	9/23/2020	REG	**0.921**	D	0.00200	U	**0.00623**		**0.00905**		**4.17**		**3.17**	
MW-29	9/22/2020	REG	**0.113**		0.00200	U	0.00200	U	0.00200	U	2.40	U	**3.87**	
MW-30	9/22/2020	REG	**0.00474**		0.00200	U	0.00200	U	0.00200	U	2.22	U	**0.927**	J
MW-32	9/22/2020	REG	**1.21**	D	0.00200	U	**0.00157**	J	0.00200	U	2.23	U	**3.76**	
MW-34	9/22/2020	FD	**0.186**	J	0.00200	U	0.00200	U	0.00200	U	2.22	U	**2.04**	J
MW-34	9/22/2020	REG	**0.0857**	J	0.00200	U	0.00200	U	**0.000900**	J	**1.05**	J	**2.29**	
MW-35	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MW-38	9/22/2020	REG	**0.00121**	J	0.00200	U	0.00200	U	0.00200	U	2.19	U	2.19	U
MWD-3	9/22/2020	REG	**0.137**		0.002	U	0.00200	J	0.00200	U	2.23	UJ	**1.32**	J
MWD-12	9/22/2020	REG	0.00200	U	0.00200	U	**0.0516**		**0.00346**		2.26	UJ	**1.15**	J
MWD-13	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	0.00200	U	2.24	U	2.24	U
MWD-14	9/23/2020	REG	**0.780**	D	0.00200	U	**0.0504**		**0.00496**		2.19	U	**3.07**	
RW-6	9/22/2020	REG	0.00200	U	0.00200	U	0.00200	U	**0.00485**		2.22	UJ	**1.61**	J

Acronyms and Abbreviations:

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

NA = Not applicable- no standard available

REG = regular field sample

shading = analytes exceeding the NMWQCC Standard

Qualifier:

D = sample was diluted

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

U = Analyte was not detected

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

ARCADIS Design & Consultancy for natural and built assets

Location ID	Date	Analyte	Dissolved Arsenic		Dissolved Barium		Dissolved Total Chromium		Dissolved Hexavalent Chromium		TDS		Chloride	
		Unit	mg/L											
		NMWQCC Standard	0.01		2		0.05		0.05		1000		250	
MW-3	3/18/2020	REG	**0.0174**		**0.0497**		**0.00114**	J	0.0100	U	**709**		**86.3**	
MW-4	3/19/2020	REG	**0.00985**		**0.0627**		0.0200	U	0.0100	U	**4,460**		**2,120**	
MW-8	3/18/2020	REG	**0.0353**		**0.0607**		0.00400	U	0.0100	U	**2,330**		**423**	
MW-9	3/18/2020	REG	**0.00572**		**11.0**	D	0.00400	U	0.0100	U	**1,370**		**276**	
MW-11	3/20/2020	REG	**0.0249**		**1.26**		0.00400	U	0.0100	U	**974**		**133**	
MW-13	3/18/2020	REG	**0.0169**		**0.100**		0.00400	U	0.0100	U	**1,140**		**342**	
MW-14	3/18/2020	REG	**0.00862**		**0.0793**		0.00400	U	0.0100	U	**2,100**		**504**	
MW-15	3/17/2020	FD	**0.0113**		**0.0506**		0.00400	U	0.0100	U	**880**	J	**1,840**	
MW-15	3/17/2020	REG	**0.0115**		**0.0447**		0.00400	U	0.0100	U	**3,690**	J	**1,900**	
MW-16	3/17/2020	REG	**0.0135**		**0.0400**		**0.115**		**0.104**		**4,030**		**2,120**	
MW-17	3/19/2020	REG	**0.0213**		**0.764**		0.00400	U	0.0100	U	**2,320**		**1,060**	
MW-22	3/20/2020	REG	**0.0711**		**0.851**		**0.000743**	J	0.0500	U	**4,600**		**1,940**	
MW-25	3/20/2020	REG	**0.00166**	J	**1.34**		**0.00151**	J	0.0100	U	**4,560**		**1,900**	
MW-25	3/20/2020	FD	**0.00203**	J	**1.48**		**0.00151**	J	0.0100	U	**4,680**		**1,880**	
MW-26	3/20/2020	REG	**0.0605**		**5.71**	D	0.00400	U	0.0100	U	**1,080**		**173**	
MW-29	3/18/2020	REG	**0.00335**	J	**8.64**	D	0.00400	U	0.0100	U	**1,290**		**308**	
MW-30	3/18/2020	REG	**0.00942**		**0.440**		0.00400	U	0.0100	U	**1,250**		**256**	
MW-31	3/18/2020	REG	**0.0409**		**0.442**		0.00400	U	0.0100	U	**1,430**		**462**	
MW-32	3/18/2020	REG	**0.0397**		**1.81**		0.00400	U	0.0100	U	**2,300**		**438**	
MW-34	3/18/2020	FD	**0.00102**	J	**4.36**	D	0.00400	U	0.0100	U	**1,620**		**311**	
MW-34	3/18/2020	REG	**0.00123**	J	**4.59**	D	0.00400	U	0.0100	U	**1,620**		**308**	
MW-35	3/18/2020	REG	**0.00963**		**0.104**		0.00400	U	0.0100	U	**955**		**167**	
MW-36	3/17/2020	REG	**0.00886**		**0.105**		0.00400	U	0.0100	U	**1,270**		**453**	
MW-37	3/18/2020	REG	**0.00797**		**0.287**		0.00400	U	0.0100	U	**1,090**		**318**	
MW-38	3/18/2020	REG	**0.00838**		**0.090**		0.00400	U	0.0100	U	**2,400**		**772**	
MWD-1	3/19/2020	REG	**0.0543**		**0.0454**		**0.00389**	J	0.0100	U	**1,590**		**479**	
MWD-2	3/19/2020	REG	**0.0100**		**0.0431**		**0.000565**	J	0.0100	U	**2,660**		**857**	
MWD-3	3/19/2020	REG	**0.0348**	D	**0.936**	D	0.0200	U	0.0100	U	**52,000**		**36,000**	
MWD-4	3/19/2020	REG	**0.00127**	J	**0.0554**		0.00400	U	0.0100	U	**1,260**		**39.6**	
MWD-5	3/18/2020	REG	**0.0148**		**7.58**	D	0.00400	U	0.0100	U	**7,900**		**598**	
MWD-6	3/18/2020	REG	**0.00757**		**1.75**		0.00400	U	0.0100	U	**1,240**		**193**	

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

ARCADIS Design & Consultancy for natural and built assets

Location ID	Date	Analyte	Dissolved Arsenic		Dissolved Barium		Dissolved Total Chromium		Dissolved Hexavalent Chromium		TDS		Chloride	
		Unit	mg/L											
		NMWQCC Standard	0.01		2		0.05		0.05		1000		250	
MWD-7	3/19/2020	REG	**0.0156**		**0.0409**		0.0200	U	0.0100	U	**10,600**		**5,590**	
MWD-8	3/19/2020	REG	**0.0185**		**0.0463**		**0.000971**	J	0.0100	U	**690**		**95.4**	
MWD-11	3/18/2020	REG	**0.0169**		**0.0488**		**0.00151**	J	0.0100	U	**753**		**96.6**	
MWD-12	3/19/2020	REG	**0.0389**		**0.296**		0.00400	U	0.0100	U	**3,280**		**1,390**	
MWD-13	3/19/2020	REG	**0.0359**		**0.0625**		**0.00158**	J	0.0100	U	**5,300**		**2,230**	
MWD-14	3/19/2020	REG	**0.000667**	J	**0.605**		**0.000833**	J	0.0100	U	**3,410**		**742**	
MWD-15	3/19/2020	REG	**0.0117**		**1.79**		0.0200	U	0.0100	U	**3,470**		**1,470**	
MWD-17	3/19/2020	REG	**0.0490**		**2.23**	D	0.0200	U	0.0500	U	**11,600**		**5,340**	
RW-6	3/19/2020	REG	**0.00358**	J	**1.74**		0.00400	U	0.0100	U	**2,720**		**1,040**	
RW-7	3/19/2020	REG	**0.0100**		**0.087**		**0.00136**	J	0.0100	U	**9,060**		**4,820**	
RW-8	3/19/2020	REG	**0.0284**		**0.219**		0.00400	U	0.0100	U	**2,660**		**1,190**	
TMW-1	3/19/2020	FD	**0.0187**		**1.12**		0.00400	U	0.0100	U	**1,480**		**531**	
TMW-1	3/19/2020	REG	**0.0178**		**1.14**		0.00400	U	0.0100	U	**1,430**		**518**	
TMW-6	3/20/2020	REG	**0.0711**		**1.09**		**0.000609**	J	0.0100	U	**1,400**		**305**	
WW-2	3/19/2020	REG	**0.000628**	J	**1.86**		0.00400	U	0.0100	U	**3,640**		**2,450**	
WW-7	3/18/2020	REG	**0.000661**	J	**0.448**		0.00400	U	0.0100	U	**459**		**238**	

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
* = active recovery well

Qualifiers:

J = estimated value
U = nondetect
D =Concentration is based on a diluted sample analysis.

ARCADIS Design & Consultancy for natural and built assets

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

Location ID	Date	Analyte	Dissolved Arsenic		Dissolved Barium		Dissolved Total Chromium		Dissolved Hexavalent Chromium		TDS		Chloride	
		Unit	mg/L											
		NMWQCC Standard	0.01		2		0.05		0.05		1000		250	
MW-11	9/23/2020	REG	**0.0294**		**1.05**		0.00400	U	0.0100	UJ	**972**		**117**	
MW-15	9/22/2020	FD	**0.0116**		**0.0430**	J	0.00400	U	0.0100	U	**3,290**		**1,590**	
MW-15	9/22/2020	REG	**0.0114**		**0.0430**	J	0.00400	U	0.0100	U	**3,320**		**1,590**	
MW-16	9/22/2020	REG	**0.0136**		**0.0356**		**0.0972**		**0.0950**		**4,040**		**1,900**	
MW-17	9/22/2020	REG	**0.0105**		**0.214**	J	0.00400	U	0.0100	U	**2,320**		**1,140**	
MW-25	9/23/2020	REG	**0.00162**	J	**1.13**		**0.00126**	J	0.0100	UJ	**4,550**		**1,540**	
MW-26	9/23/2020	REG	**0.0606**		**5.69**		0.00400	U	0.0100	U	**1,120**		**168**	
MW-29	9/22/2020	REG	**0.00270**	J	**9.44**		0.00400	U	0.0100	U	**1,430**		**316**	
MW-30	9/22/2020	REG	**0.00762**		**0.317**		0.00400	U	0.0100	U	**1,220**		**266**	
MW-32	9/22/2020	REG	**0.038**		**1.63**		0.00400	U	0.0100	U	**2,320**		**510**	
MW-34	9/22/2020	FD	**0.000838**	J	**5.14**		0.00400	U	0.0100	U	**1,530**		**297**	
MW-34	9/22/2020	REG	**0.000802**	J	**4.69**		0.00400	U	0.0100	U	**1,550**		**295**	
MW-35	9/22/2020	REG	**0.00942**		**0.122**	J	0.00400	U	0.0100	U	**937**		**167**	
MW-38	9/22/2020	REG	**0.00970**		**0.0718**		0.00400	U	0.0100	U	**1,960**		**641**	
MWD-3	9/22/2020	REG	**0.0469**		**4.50**	J	0.00400	U	0.0100	U	**13,000**		**7,110**	
MWD-12	9/22/2020	REG	**0.0352**		**0.298**	J	0.00400	U	0.0100	U	**3,730**		**1,550**	
MWD-13	9/22/2020	REG	**0.0670**		**0.0878**	J	**0.00337**	J	0.0100	U	**6,430**		**2,250**	
MWD-14	9/23/2020	REG	**0.000588**	J	**1.09**		**0.000723**		0.0100	UJ	**3,140**		**426**	
RW-6	9/22/2020	REG	**0.00287**	J	**1.71**	J	0.00400	J	0.0100	U	**2,660**		**1,070**	

Acronyms and Abbreviations:

bold = detected analytes

FD = field duplicate sample

ID = identification

mg/L = milligrams per liter

NMWQCC = New Mexico Water Quality Control Commission

TDS = total dissolved solids

** Hexavalent chromium concentration at this well is believed to be erroneous and this data has not been used for analysis

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.

Table 9
LNAPL Transmissivity Test
2020 Annual Groundwater Monitoring Report
Former Eunice South Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Well ID	Test Date	Time Cut (minutes)	Initial LNAPL Thickness (feet)	Test Duration (minutes)	Final LNAPL Thickness (feet)	Percent Recovery	LNAPL Transmissivity (ft^2/day)							
							Bouwer and Rice	Cooper and Jacob/Jacob and Lohman	Cooper, Bredehoeft, and Papadopoulos	Geometric Mean	*2019 Geometric Mean*	*2018 Geometric Mean*	*2017 Geometric Mean*	*2016 Geometric Mean*
MW-1	---[a]	---	---	---	---	---	---	---	---	---	0.75	0.55 **1.8**	**1.8**	**2.9**
MW-2	---[a]	---	---	---	---	---	---	---	---	---	**1.2**	**5.4** **3.4**	**1.6**	**---**
MW-5	---[a]	---	---	---	---	---	---	---	---	---	---	0.35 0.21	0.16	0.30
MW-10	---[a]	---	---	---	---	---	---	---	---	---	0.03	**---**	**---**	**---**
MW-12	---[a]	---	---	---	---	---	---	---	---	---	---	0.04 0.37	**---**	**---**
MW-19	---[a]	---	---	---	---	---	---	---	---	---	0.16	0.01 **3.5**	0.01	**---**
MW-20	---[a]	---	---	---	---	---	---	---	---	---	**2.5**	**2.9** **1.7**	**2.9**	**2.7**
MW-21	---[a]	---	---	---	---	---	---	---	---	---	---	0.47 0.38	0.005	**---**
MW-27	10/1/2020	11	1.28	203	0.79	62%	0.4	0.5	0.4	0.4	**2.0**	0.57	**1.0**	**---**
MW-28	10/1/2020	35	1.69	323	1.65	98%	**2.4**	**2.9**	**3.6**	**2.9**	**1.6**	**6.2** **3.3**	**4.5**	**5.9**
RW-1	---[a]	---	---	---	---	---	---	---	---	---	**1.2**	**1.7** **2.0**	**2.2**	**1.2**
RW-2	10/1/2020	19	1.41	139	1.48	105%	**3.9**	**7.1**	**9.3**	**6.3**	**4.8**	**8.1** **8.6**	**5.3**	**4.7**
RW-4	---[a]	---	---	---	---	---	---	---	---	---	**3.9**	**3.1** **1.6**	**3.1**	**2.4**
RW-5	---[a]	---	---	---	---	---	---	---	---	---	---	**4.1**	**---**	**---**
TMW-2	---[a]	---	---	---	---	---	---	---	---	---	---	**1.9**	**---**	**---**

Notes:

[a]LNAPL baildown testing was not conducted in accordance with the work plan

Acronyms and Abbreviations:

bold = values greater than the Interstate Technology & Regulatory Commission (ITRC [2009]) recommended threshold for practical recoverability of LNAPL (0.8 ft^2/day)

ft^2/day = square foot (feet) per day

LNAPL = light nonaqueous phase liquid

--- = data not available

% = percent

Table 10
Chloride Recovery Estimates
2020 Annual Groundwater Monitoring Report
Former Eunice South Gas Plant
Eunice, Lea County, New Mexico

ARCADIS Design & Consultancy for natural and built assets

Date		MWD-3			MWD-9		
		Volume Removed (gallons)	Average Chloride Concentration (mg/L)	Estimated Chloride Mass Removal (lbs)	Volume Removed (gallons)	Average Chloride Concentration (mg/L)	Estimated Chloride Mass Removal (lbs)
2017	Q1	3,698	32,300	997	874,200	18,100	132,091
	Q2	2,113	30,650	541	831,200	17,200	119,349
	Q3	1,611	35,800	481	763,100	17,267	109,995
	Q4	49,500	38,400	15,868	685,178	16,650	95,236
	Total	**56,922**	**--**	**17,887**	**3,153,678**	**--**	**456,671**
2018	Q1	304,765	34,233	87,096	394,338	16,850	55,469
	Q2	30,335	35,900	9,091	1,392	16,700	194
	Q3	504,100	37,650	158,440	605,392	15,200	76,818
	Q4	384,913	38,350	123,229	719,099	13,350	80,141
	Total	**1,224,113**	**--**	**377,856**	**1,720,221**	**--**	**212,622**
2019	Q1	0	--	--	875,201	16,800	122,744
	Q2	0	--	--	728,275	16,300	99,098
	Q3	270,323	30,150	68,038	362,895	18,500	56,045
	Q4	563,826	35,700	168,034	26,155	18,500*	4,039
	Total	**834,149**	**--**	**236,072**	**1,992,526**	**--**	**281,926**
2020	Q1	431,244	37,250	134,101	0	--	--
	Q2	9,616	35,600	2,858	0	--	--
	Q3	0	--	--	0	--	--
	Q4	0	--	--	0	--	--
	Total	**440,860**	**--**	**136,959**	**0**	**--**	**0**

Acronyms and Abbreviations:

-- = not applicable

lbs = pounds

mg/L = milligrams per liter

Q1 = first quarter

Q2 = second quarter

Q3 = third quarter

Q4 = fourth quarter

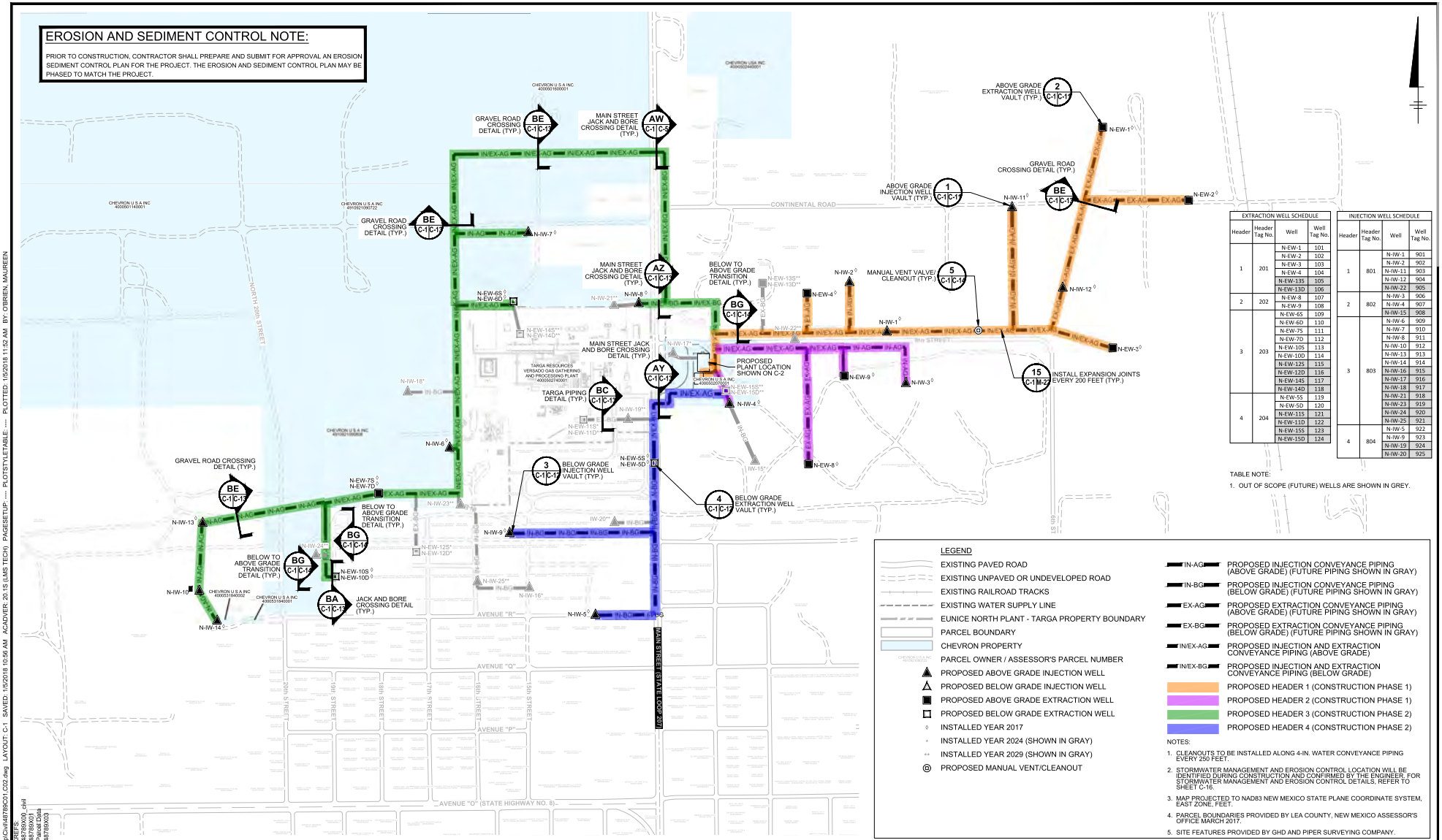
* An average chloride concentration could not be calculated for MWD-9 due to the down time in Q4 2019. The average value was used from Q3 for removal calculation.

Appendix G

100% Groundwater Treatment Plant Design Drawings

EROSION AND SEDIMENT CONTROL NOTE:

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL AN EROSION SEDIMENT CONTROL PLAN FOR THE PROJECT. THE EROSION AND SEDIMENT CONTROL PLAN MAY BE PHASED TO MATCH THE PROJECT.



EXTRACTION WELL SCHEDULE			
Header	Header Tag No.	Well	Well Tag No.
1	201	N-EW-1	101
		N-EW-2	102
		N-EW-3	103
		N-EW-4	104
		N-EW-13S	105
		N-EW-13D	106
2	202	N-EW-8	107
		N-EW-9	108
3	203	N-EW-6S	109
		N-EW-6D	110
		N-EW-7S	111
		N-EW-7D	112
		N-EW-10S	113
		N-EW-10D	114
		N-EW-12S	115
		N-EW-12D	116
		N-EW-14S	117
		N-EW-14D	118
4	204	N-EW-5S	119
		N-EW-5D	120
		N-EW-11S	121
		N-EW-11D	122
		N-EW-15S	123
		N-EW-15D	124

INJECTION WELL SCHEDULE			
Header	Header Tag No.	Well	Well Tag No.
1	801	N-IW-1	901
		N-IW-2	902
		N-IW-11	903
		N-IW-12	904
		N-IW-22	905
2	802	N-IW-3	906
		N-IW-4	907
		N-IW-15	908
3	803	N-IW-6	909
		N-IW-7	910
		N-IW-8	911
		N-IW-10	912
		N-IW-13	913
		N-IW-14	914
		N-IW-16	915
		N-IW-17	916
		N-IW-18	917
		N-IW-21	918
		N-IW-23	919
		N-IW-24	920
		N-IW-25	921
4	804	N-IW-5	922
		N-IW-9	923
		N-IW-19	924
		N-IW-20	925

TABLE NOTE:
1. OUT OF SCOPE (FUTURE) WELLS ARE SHOWN IN GREY.

LEGEND

- EXISTING PAVED ROAD
- EXISTING UNPAVED OR UNDEVELOPED ROAD
- EXISTING RAILROAD TRACKS
- EXISTING WATER SUPPLY LINE
- EUNICE NORTH PLANT - TARGA PROPERTY BOUNDARY
- PARCEL BOUNDARY
- CHEVRON PROPERTY
- PARCEL OWNER / ASSESSOR'S PARCEL NUMBER
- PROPOSED ABOVE GRADE INJECTION WELL
- PROPOSED BELOW GRADE INJECTION WELL
- PROPOSED ABOVE GRADE EXTRACTION WELL
- PROPOSED BELOW GRADE EXTRACTION WELL
- INSTALLED YEAR 2017
- INSTALLED YEAR 2024 (SHOWN IN GRAY)
- INSTALLED YEAR 2029 (SHOWN IN GRAY)
- PROPOSED MANUAL VENT/CLEANOUT
- PROPOSED INJECTION CONVEYANCE PIPING (ABOVE GRADE) (FUTURE PIPING SHOWN IN GRAY)
- PROPOSED INJECTION CONVEYANCE PIPING (BELOW GRADE) (FUTURE PIPING SHOWN IN GRAY)
- PROPOSED EXTRACTION CONVEYANCE PIPING (ABOVE GRADE) (FUTURE PIPING SHOWN IN GRAY)
- PROPOSED EXTRACTION CONVEYANCE PIPING (BELOW GRADE) (FUTURE PIPING SHOWN IN GRAY)
- PROPOSED INJECTION AND EXTRACTION CONVEYANCE PIPING (ABOVE GRADE)
- PROPOSED INJECTION AND EXTRACTION CONVEYANCE PIPING (BELOW GRADE)
- PROPOSED HEADER 1 (CONSTRUCTION PHASE 1)
- PROPOSED HEADER 2 (CONSTRUCTION PHASE 1)
- PROPOSED HEADER 3 (CONSTRUCTION PHASE 2)
- PROPOSED HEADER 4 (CONSTRUCTION PHASE 2)

NOTES:
1. CLEANOUTS TO BE INSTALLED ALONG 4-IN. WATER CONVEYANCE PIPING EVERY 250 FEET.
2. STORMWATER MANAGEMENT AND EROSION CONTROL LOCATION WILL BE IDENTIFIED DURING CONSTRUCTION AND CONFIRMED BY THE ENGINEER. FOR STORMWATER MANAGEMENT AND EROSION CONTROL DETAILS, REFER TO SHEET C-16.
3. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
4. PARCEL BOUNDARIES PROVIDED BY LEA COUNTY, NEW MEXICO ASSESSOR'S OFFICE MARCH 2017.
5. SITE FEATURES PROVIDED BY GHD AND PIPER SURVEYING COMPANY.

CITY: SAN RAFAEL, CA DIV/GROUP: ENV/CAD DB: J. HARRIS
C:\Users\mcbrien\Desktop\Civil\487890\C01\C02.dwg LAYOUT: C-1 SAVED: 1/5/2018 10:56 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 1/5/2018 11:52 AM BY: O'BRIEN, MAUREEN

XREFs:
487890X00_civil
487890X01
487890X02
487890X03

300' 0 300' 600'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM
Date Signed:
Project Mgr.: KJP
Designed by: JLP
Drawn by: JLH
Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

NORTH SITE PLAN PROPOSED FORCEMAINS

CIVIL

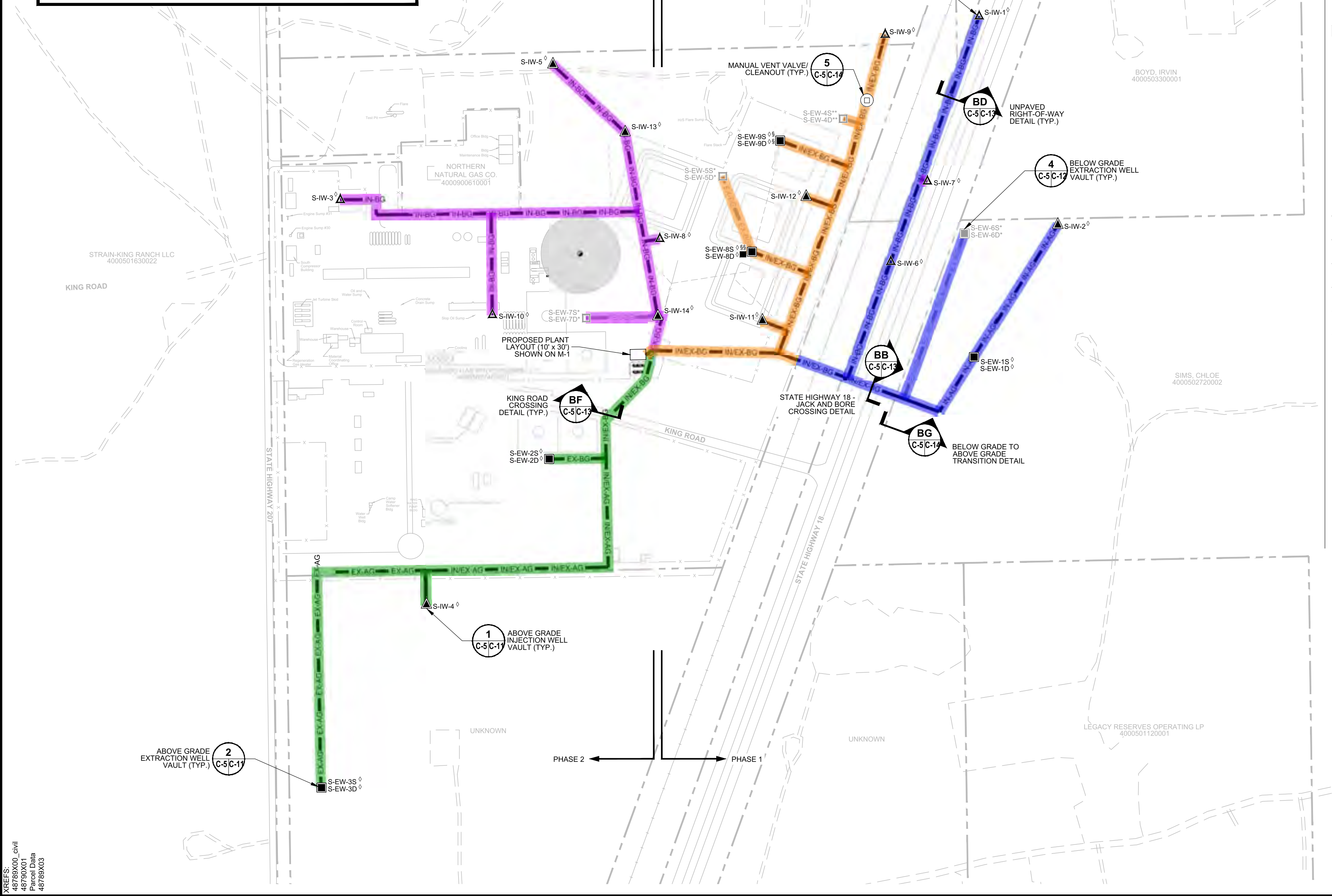
ARCADIS Project No.: B0048789.0002.0005A
Date: JANUARY 2018

ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

1

EROSION AND SEDIMENT CONTROL NOTE:

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL AN EROSION SEDIMENT CONTROL PLAN FOR THE PROJECT. THE EROSION AND SEDIMENT CONTROL PLAN MAY BE PHASED TO MATCH THE PROJECT.



LEGEND

- EXISTING PAVED ROAD
- EXISTING UNPAVED OR UNDEVELOPED ROAD
- EXISTING RAILROAD TRACKS
- EXISTING TARGA'S ONSITE H_2S INJECTION WELL
- 150-FOOT EXCLUSION ZONE
- PARCEL BOUNDARY
- BOYD, IRVIN 4000503300001 — PARCEL OWNER / ASSESSOR'S PARCEL NUMBER
- PROPOSED ABOVE GRADE INJECTION WELL
- PROPOSED BELOW GRADE INJECTION WELL
- PROPOSED ABOVE GRADE EXTRACTION WELL
- PROPOSED BELOW GRADE EXTRACTION WELL
- ◊ INSTALLED YEAR 2021/2022
- * INSTALLED YEAR 2024 (SHOWN IN GRAY)
- ** INSTALLED YEAR 2024, CONVERTED TO AN INJECTION WELL YEAR 2029 (SHOWN IN GRAY)
- $ CONVERTED TO AN INJECTION WELL YEAR 2024
- $$ CONVERTED TO AN INJECTION WELL YEAR 2034
- IN-AG — PROPOSED INJECTION CONVEYANCE PIPING (ABOVE GRADE) (FUTURE PIPING SHOWN IN GRAY)
- IN-BG — PROPOSED INJECTION CONVEYANCE PIPING (BELOW GRADE) (FUTURE PIPING SHOWN IN GRAY)
- EX-AG — PROPOSED EXTRACTION CONVEYANCE PIPING (ABOVE GRADE) (FUTURE PIPING SHOWN IN GRAY)
- EX-BG — PROPOSED EXTRACTION CONVEYANCE PIPING (BELOW GRADE) (FUTURE PIPING SHOWN IN GRAY)
- IN/EX-AG — PROPOSED INJECTION AND EXTRACTION CONVEYANCE PIPING (ABOVE GRADE)
- IN/EX-BG — PROPOSED INJECTION AND EXTRACTION CONVEYANCE PIPING (BELOW GRADE)
- PROPOSED MANUAL VENT/CLEANOUT
- PROPOSED HEADER 5 (CONSTRUCTION PHASE 1)
- PROPOSED HEADER 6 (CONSTRUCTION PHASE 1)
- PROPOSED HEADER 7 (CONSTRUCTION PHASE 2)
- PROPOSED HEADER 8 (CONSTRUCTION PHASE 2)

NOTES:

1. CLEANOUTS TO BE INSTALLED ALONG 4-IN. WATER CONVEYANCE PIPING EVERY 250 FEET.
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3. MAP PROJECTED TO NAD83 NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, FEET.
4. PARCEL BOUNDARIES PROVIDED BY LEA COUNTY, NEW MEXICO ASSESSOR'S OFFICE MARCH 2017.
5. SITE FEATURES PROVIDED BY GHD.

EXTRACTION WELL SCHEDULE

Header	Header Tag No.	Well	Well Tag No.
5	205	S-EW-4S	125
		S-EW-4D	126
		S-EW-5S	127
		S-EW-5D	128
		S-EW-8S	129
		S-EW-8D	130
		S-EW-9S	131
		S-EW-9D	132
6	206	S-EW-1S	133
		S-EW-1D	134
		S-EW-6S	135
		S-EW-6D	136
7	207	S-EW-2S	137
		S-EW-2D	138
		S-EW-3S	139
		S-EW-3D	140
8	208	S-EW-7S	141
		S-EW-7D	142

INJECTION WELL SCHEDULE

Header	Header Tag No.	Well	Well Tag No.
5	805	S-IW-9	926
		S-IW-11	927
		S-IW-12	928
		S-EW-4	929
		S-EW-8D	930
		S-EW-9D	931
6	806	S-IW-1	932
		S-IW-2	933
		S-IW-6	934
		S-IW-7	935
7	807	S-IW-4	936
8	808	S-IW-3	937
		S-IW-5	938
		S-IW-8	939
		S-IW-10	940
		S-IW-13	941
		S-IW-14	942

TABLE NOTE:

1. OUT OF SCOPE (FUTURE) WELLS ARE SHOWN IN GREY.

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS LAYOUT: C-5 SAVED: 1/5/2018 2:01 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 1/5/2018 3:50 PM BY: O'BRIEN, MAUREEN
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XREFS: 48789X00_civil 48789X01 Parcel Data 48789X03

200' 0 200' 400'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

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Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: JLP | Drawn by: JLH | Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

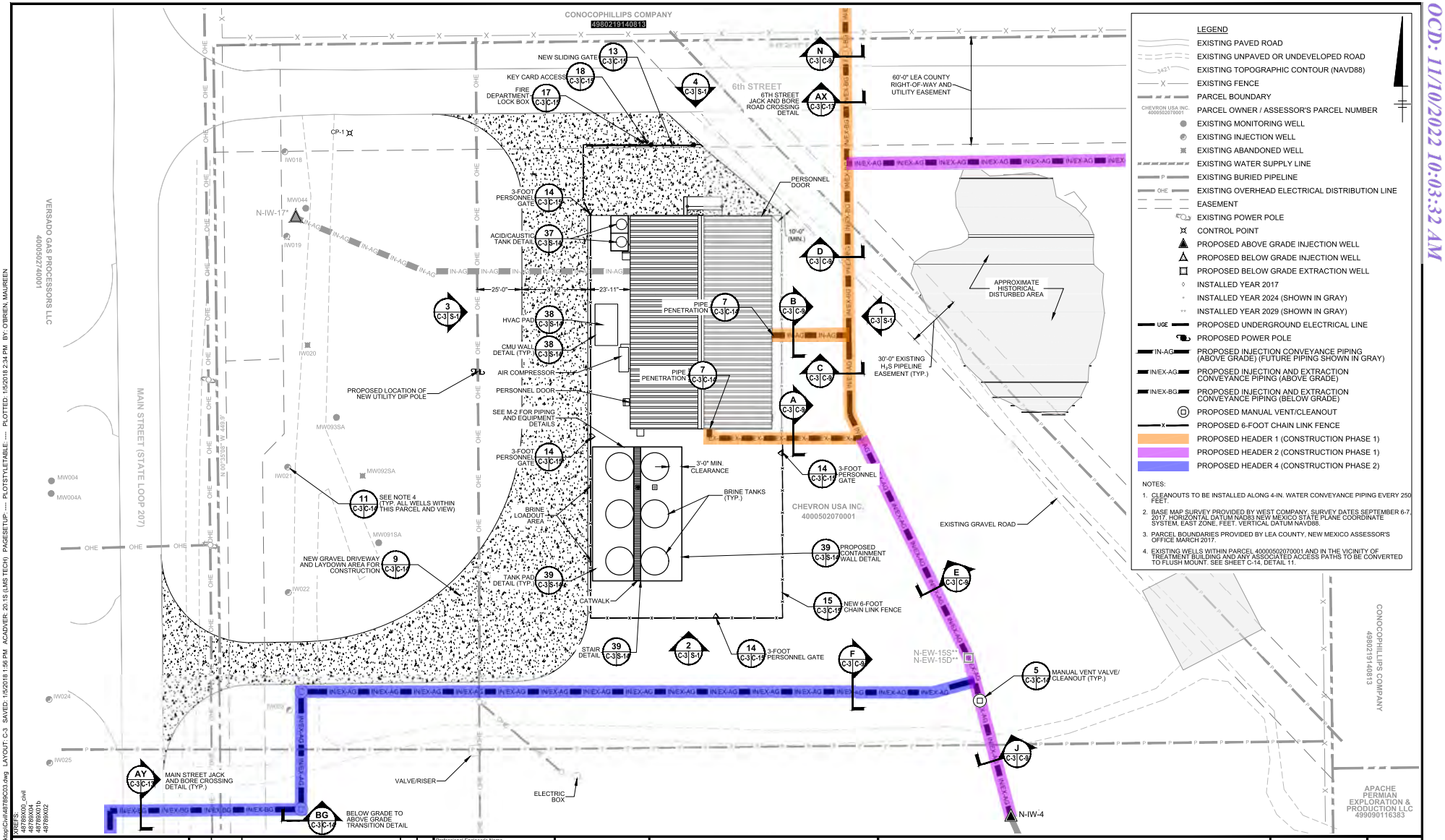
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT • EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

SOUTH SITE PLAN PROPOSED FORCEMAINS

CIVIL

ARCADIS Project No. B0048789.0002.0005A
Date: JANUARY 2018
ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

2



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XREFS:
487890000_civil
487890X04
487890X03
487890X02

25' 0 25' 50'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: JLP | Drawn by: JLH | Checked by: JWS

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Chevron U.S.A. Inc.

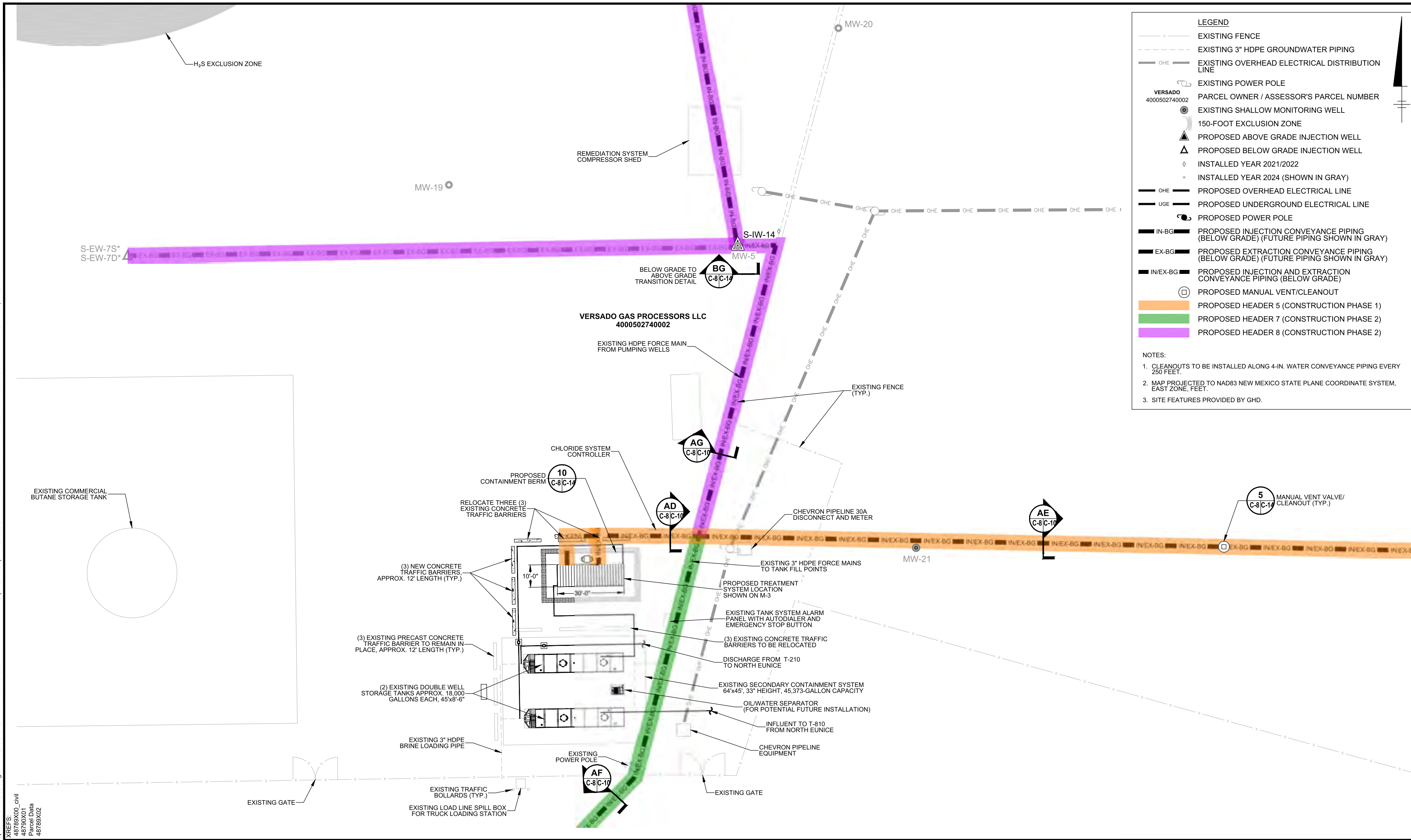
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

NORTH BUILDING SITE PLAN

CIVIL

ARCADIS Project No. B0048789.0002.0005A
Date JANUARY 2018
ARCADIS 630 PLAZA DRIVE HIGHLANDS RANCH, CO TEL. 303.316.6524

3



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XREFS: 48789X00_civil 48790X01 Parcel Data 48789X02

20' 0 20' 40'
1"=20'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

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Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: JLP | Drawn by: JLH | Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT • EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

SOUTH BUILDING SITE PLAN

CIVIL

ARCADIS Project No. B0048789.0002.0005A
Date JANUARY 2018
ARCADIS
630 PLAZA DRIVE
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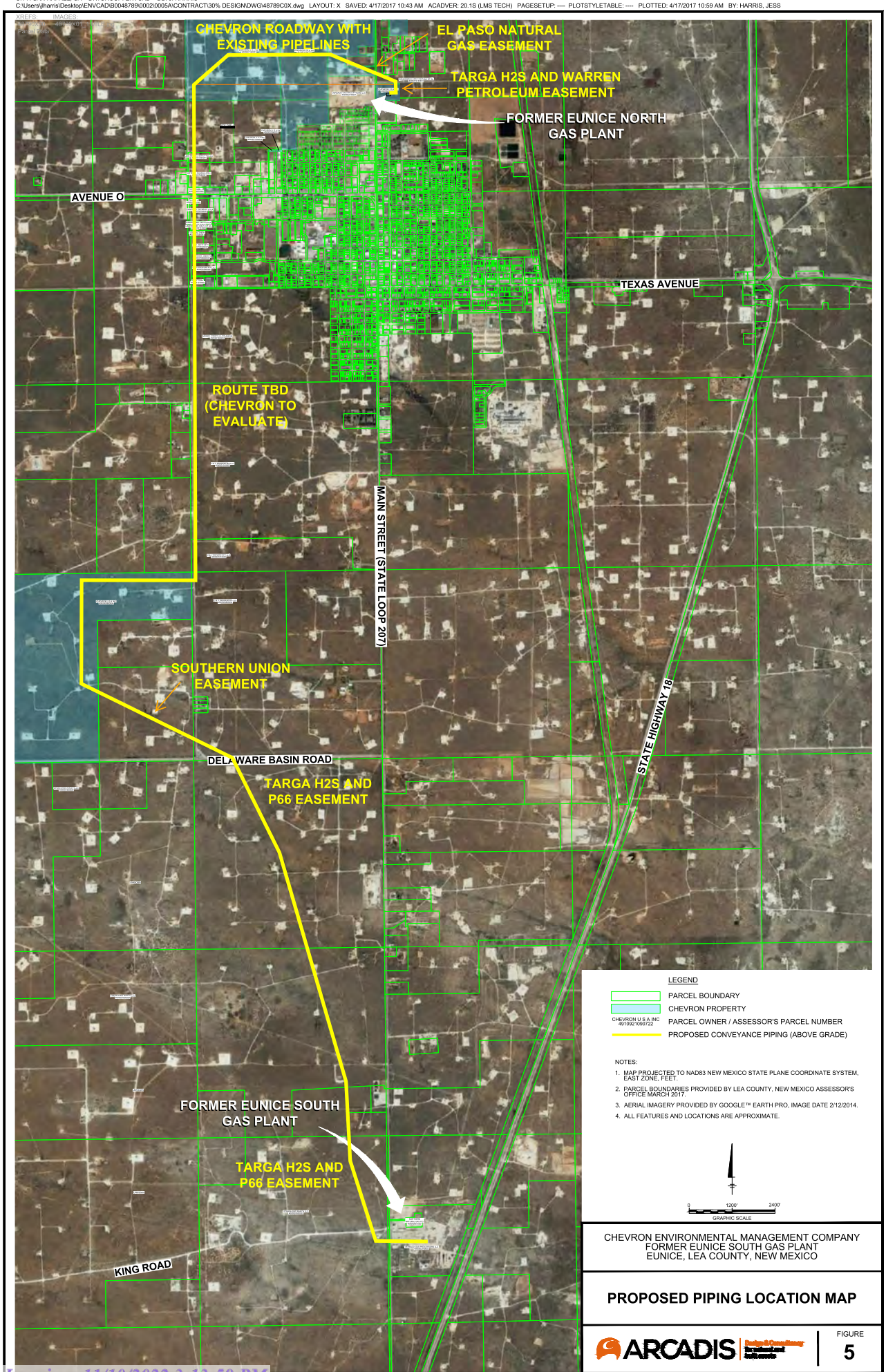
4

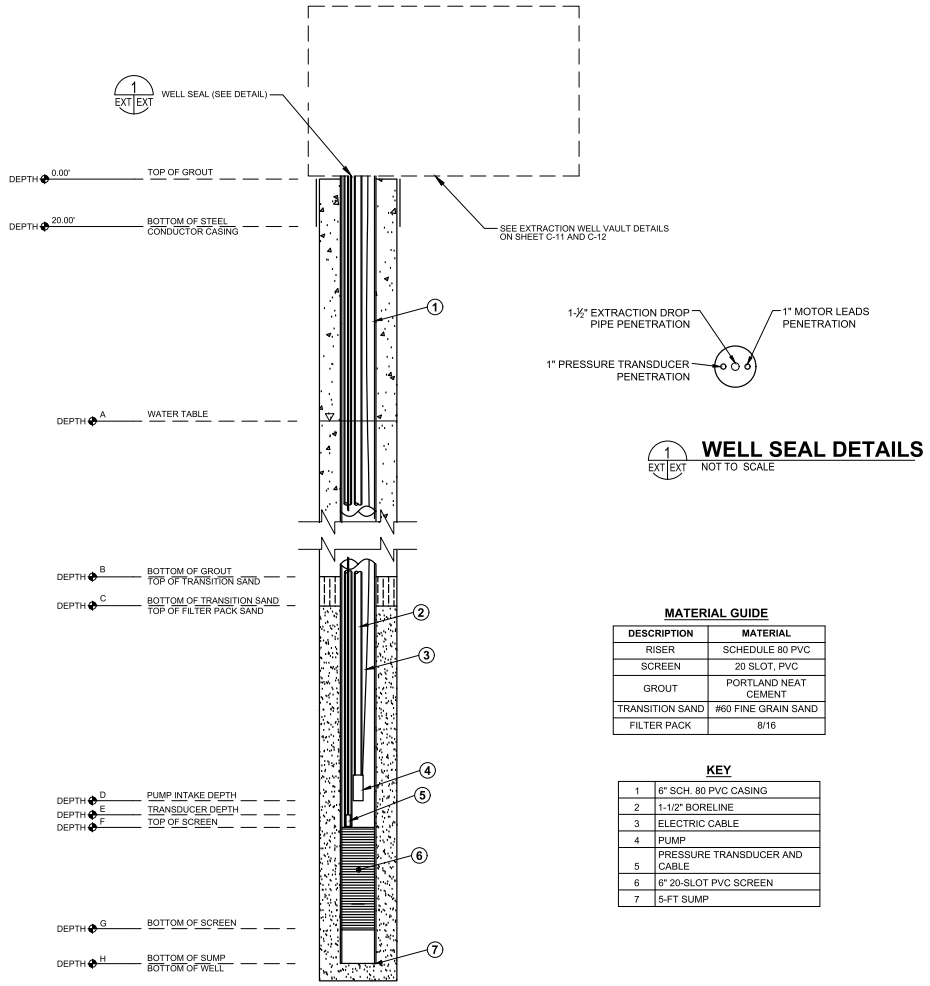


CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
FORMER EUNICE SOUTH GAS PLANT
EUNICE, LEA COUNTY, NEW MEXICO

PROPOSED PIPING LOCATION MAP

ARCADIS

FIGURE
5



1 EXT EXT **WELL SEAL DETAILS**
NOT TO SCALE

MATERIAL GUIDE

DESCRIPTION	MATERIAL
RISER	SCHEDULE 80 PVC
SCREEN	20 SLOT, PVC
GROUT	PORTLAND NEAT CEMENT
TRANSITION SAND	#60 FINE GRAIN SAND
FILTER PACK	8/16

KEY

1	6" SCH. 80 PVC CASING
2	1-1/2" BORELINE
3	ELECTRIC CABLE
4	PUMP
5	PRESSURE TRANSDUCER AND CABLE
6	6" 20-SLOT PVC SCREEN
7	5-FT SUMP

1 X-X X-X **NEW EXTRACTION WELL INSTALLATION DETAIL**
NOT TO SCALE

WELL CONSTRUCTION SCHEDULE

	WELL ID	EASTING (x)	NORTHING (y)	A	B	C	D	E	F	G	H
NORTH	N-EW-1	906433.19	531206.16	49.1	42.3	47.3	76.2	78.2	52.3	92.3	97.3
	N-EW-2	907006.76	530718.50	49.5	43.2	48.2	76.4	78.4	53.2	93.2	98.2
	N-EW-3	906500.27	529732.57	47.3	24.5	29.5	69.0	71.0	34.5	74.5	79.5
	N-EW-4	904460.12	530097.19	42.4	26.2	31.2	61.8	63.8	36.2	76.2	81.2
	N-EW-5D	903444.01	528963.28	43.2	72.6	77.6	78.0	80.0	82.6	97.6	102.6
	N-EW-5S	903444.01	528963.28	43.2	62.6	67.6	68.0	70.0	72.6	87.6	92.6
	N-EW-6D	902501.58	530043.74	48.6	83.7	88.7	70.8	72.8	93.7	108.7	113.7
	N-EW-6S	902501.58	530043.74	48.6	73.7	78.7	60.0	62.0	83.7	98.7	103.7
	N-EW-7D	901601.70	528761.97	53.3	73.5	78.5	75.9	77.9	83.5	98.5	103.5
	N-EW-7S	901601.70	528761.97	53.3	63.5	68.5	65.0	67.0	73.5	88.5	93.5
	N-EW-8	904470.30	528957.06	42.6	28.1	33.1	68.7	70.7	38.1	78.1	83.1
	N-EW-9	904708.63	529545.34	45.8	29.8	34.8	62.5	64.5	39.8	79.8	84.8
	N-EW-10D	901314.17	528206.56	56.0	89.0	94.0	78.4	80.4	99.0	114.0	119.0
	N-EW-10S	901314.17	528206.56	56.0	79.0	84.0	68.0	70.0	89.0	104.0	109.0
	N-EW-11D	902966.08	529492.67	47.4	82.6	87.6	80.3	82.3	92.6	107.6	112.6
	N-EW-11S	902966.08	529492.67	47.4	72.6	77.6	70.0	72.0	82.6	97.6	102.6
	N-EW-12D	901853.26	528369.49	49.6	79.0	84.0	79.0	81.0	89.0	104.0	109.0
	N-EW-12S	901853.26	528369.49	49.6	69.0	74.0	69.0	71.0	79.0	94.0	99.0
	N-EW-13D	904163.53	530164.35	44.5	54.4	59.4	66.7	68.7	64.4	79.4	84.4
	N-EW-13S	904163.53	530164.35	44.5	44.4	49.4	56.0	58.0	54.4	69.4	74.4
	N-EW-14D	902546.42	529825.71	49.5	86.3	91.3	81.1	83.1	96.3	111.3	116.3
	N-EW-14S	902546.42	529825.71	49.5	76.3	81.3	71.0	73.0	86.3	101.3	106.3
	N-EW-15D	903919.32	529446.21	41.0	63.6	68.6	60.7	62.7	73.6	88.6	93.6
	N-EW-15S	903919.32	529446.21	41.0	53.6	58.6	50.0	52.0	63.6	78.6	83.6
SOUTH	S-EW-8D	905660.78	497661.54	49.1	63.2	68.2	70.0	72.0	73.2	93.2	98.2
	S-EW-8S	905660.78	497661.54	49.1	48.2	53.2	60.0	62.0	58.2	78.2	83.2
	S-EW-9D	905768.36	498084.93	51.3	63.7	68.7	61.5	63.5	73.7	93.7	98.7
	S-EW-9S	905768.36	498084.93	51.3	48.7	53.7	61.0	63.0	58.7	78.7	83.7
	S-EW-1D	906507.05	497260.30	48.3	64.3	69.3	76.8	78.8	74.3	89.3	94.3
	S-EW-1S	906507.05	497260.30	48.3	54.3	59.3	64.0	66.0	64.3	79.3	84.3
	S-EW-2D	904888.20	496871.66	49.9	70.8	75.8	76.4	78.4	80.8	95.8	100.8
	S-EW-2S	904888.20	496871.66	49.9	60.8	65.8	66.0	68.0	70.8	85.8	90.8
	S-EW-3D	904020.34	495618.87	57.6	79.3	84.3	83.8	85.8	89.3	104.3	109.3
	S-EW-3S	904020.34	495618.87	57.6	69.3	74.3	76.0	78.0	79.3	94.3	99.3
	S-EW-4D	906008.50	498168.48	48.9	67.5	72.5	71.2	73.2	77.5	92.5	97.5
	S-EW-4S	906008.50	498168.48	48.9	57.5	62.5	61.0	63.0	67.5	82.5	87.5
	S-EW-5D	905549.75	497949.26	50.3	69.5	74.5	74.5	76.5	79.5	94.5	99.5
	S-EW-5S	905549.75	497949.26	50.3	59.5	64.5	62.0	64.0	69.5	84.5	89.5
	S-EW-6D	906471.03	497731.00	48.5	65.4	70.4	74.0	76.0	75.4	90.4	95.4
	S-EW-6S	906471.03	497731.00	48.5	55.4	60.4	64.0	66.0	65.4	80.4	85.4
	S-EW-7D	905029.55	497408.68	50.2	70.3	75.3	73.0	75.0	80.3	95.3	100.3
	S-EW-7S	905029.55	497408.68	50.2	60.3	65.3	63.0	65.0	70.3	85.3	90.3

NOTES:
1. EXTRACTION WELL SHALL HAVE A 10" BOREHOLE DIAMETER.
2. DRILLING CONTRACTOR TO INSTALL TRANSDUCER, DROP PIPE, REMOVE WELL PLUG AND INSTALL WELL SEAL, AND PERMANENT VAULTS AT A LATER DATE CONFIRMED BY THE ENGINEER. ALL MATERIALS TO BE PROVIDED BY OTHERS.
3. CONTRACTOR TO PROVIDE A SANITARY WELL SEAL OF STEEL CONSTRUCTION WITH A RUBBER GASKET. PENETRATIONS TO BE INSTALLED BY CONTRACTOR UPON VALIDATION OF THE PENETRATION LAYOUT WITH THE ENGINEER.
4. EACH WELL WILL BE EQUIPPED WITH A 5 FT. LONG, 6" SUMP.
5. SEE CONTRACT SPECIFICATIONS FOR PIPE, SCREEN, AND VAULT REQUIREMENTS.
6. SEE CONTRACT SPECIFICATIONS FOR DEVELOPMENT REQUIREMENTS.
7. ACTUAL DEPTHS AND WELL LOCATIONS TO BE DETERMINED AT TIME OF WELL INSTALLATION. ALL DEPTHS ARE IN FEET BELOW GROUND SURFACE.
8. EXTRACTION WELLS S-EW-8D, S-EW-9D, AND S-EW-4D WILL BE CONVERTED TO INJECTION WELLS. SEE DRAWING C-3 FOR FUTURE WELL CONVERSIONS.

CITY: SAN RAFAEL, CA DIV/GROUP: ENV/CAD DB: J. HARRIS
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No.	Date	Revisions	By	Ckd
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1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: STZ | Drawn by: JLH | Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

EXTRACTION WELL CONSTRUCTION DETAIL

CIVIL

ARCADIS Project No.: B0048789.0002.0005A
Date: JANUARY 2018

ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

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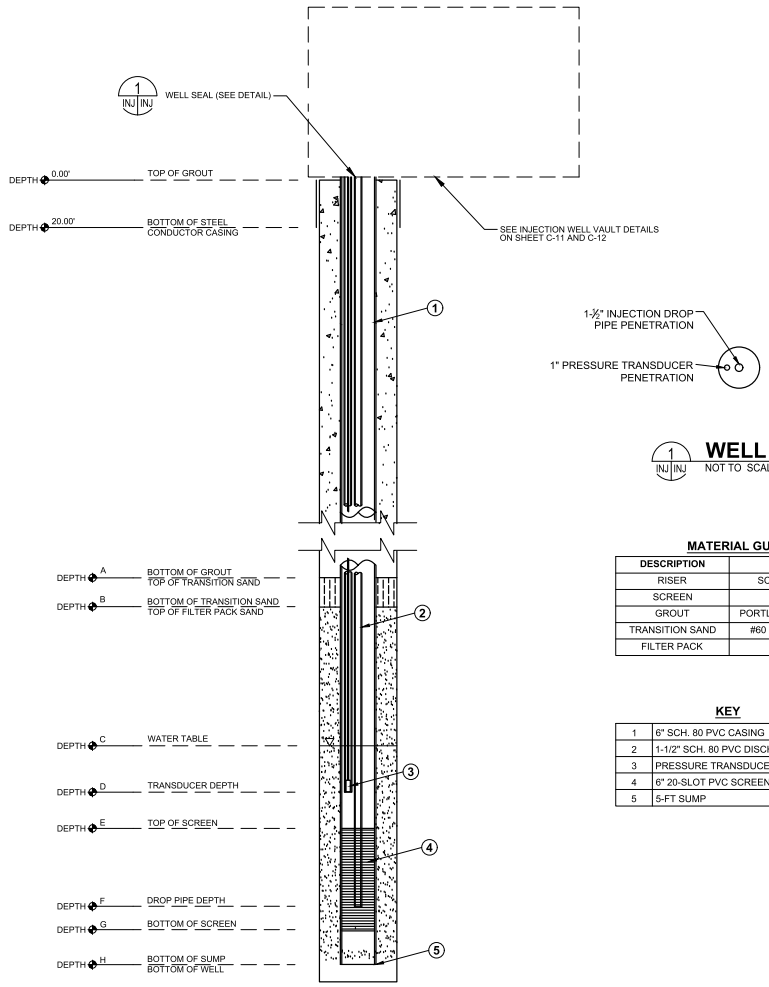

1 INJ INJ **WELL SEAL DETAILS**
NOT TO SCALE

1 X-X X-X **NEW INJECTION WELL INSTALLATION DETAIL**
NOT TO SCALE

MATERIAL GUIDE

DESCRIPTION	MATERIAL
RISER	SCHEDULE 80 PVC
SCREEN	20 SLOT, PVC
GROUT	PORTLAND NEAT CEMENT
TRANSITION SAND	#60 FINE GRAIN SAND
FILTER PACK	8/16

KEY

1	6" SCH. 80 PVC CASING
2	1-1/2" SCH. 80 PVC DISCHARGE
3	PRESSURE TRANSDUCER AND CABLE
4	6" 20-SLOT PVC SCREEN
5	5-FT SUMP

WELL CONSTRUCTION SCHEDULE

	WELL ID	EASTING (x)	NORTHING (y)	A	B	C	D	E	F	G	H
NORTH	N-IW-1	904993.70	529838.65	10.1	15.1	39.3	39.8	20.1	40.3	70.1	75.1
	N-IW-2	904743.63	530167.95	10.7	15.7	39.3	39.8	20.7	40.3	70.7	75.7
	N-IW-3	905119.57	529493.83	10.4	15.4	39.5	40.0	20.4	40.5	70.4	75.4
	N-IW-4	903943.14	529356.64	27.6	32.6	40.6	41.1	37.6	41.6	87.6	92.6
	N-IW-5	903048.66	527946.84	42.0	47.0	43.7	44.2	52.0	44.7	102.0	107.0
	N-IW-6	902075.78	529063.09	42.0	47.0	51.2	51.7	52.0	52.2	102.0	107.0
	N-IW-7	902599.57	530501.22	44.0	49.0	51.3	51.8	54.0	52.3	104.0	109.0
	N-IW-8	903337.58	530027.37	36.2	41.2	46.0	46.5	46.2	47.0	96.2	101.2
	N-IW-9	902475.95	528493.51	49.5	54.5	46.2	46.7	59.5	47.2	109.5	114.5
	N-IW-10	900405.86	528107.51	60.9	65.9	63.8	64.3	70.9	64.8	120.9	125.9
	N-IW-11	905828.38	530667.78	7.1	12.1	50.2	50.7	17.1	51.2	67.1	72.1
	N-IW-12	906166.88	530131.03	4.8	9.8	49.2	49.7	14.8	50.2	64.8	69.8
	N-IW-13	900427.59	528560.47	59.3	64.3	61.4	61.9	69.3	62.4	119.3	124.3
	N-IW-14	900524.32	527907.69	61.7	66.7	65.7	66.2	71.7	66.7	121.7	126.7
	N-IW-15	903923.97	528869.29	23.3	28.3	40.9	41.4	33.3	41.9	83.3	88.3
	N-IW-16	902607.25	528129.41	46.6	51.6	45.8	46.3	56.6	46.8	106.6	111.6
	N-IW-17	903614.74	529694.43	33.3	38.3	42.7	43.2	43.3	43.7	93.3	98.3
	N-IW-18	901795.68	529437.88	56.6	61.6	54.7	55.2	66.6	55.7	116.6	121.6
	N-IW-19	903265.84	529254.79	41.3	46.3	44.5	45.0	51.3	45.5	101.3	106.3
	N-IW-20	903176.00	528565.31	40.0	45.0	40.4	40.9	50.0	41.4	100.0	105.0
	N-IW-21	903174.39	530017.83	41.2	46.2	47.3	47.8	51.2	48.3	101.2	106.2
	N-IW-22	904379.16	529789.54	18.4	23.4	41.4	41.9	28.4	42.4	78.4	83.4
	N-IW-23	902147.68	528683.02	50.9	55.9	48.2	48.7	60.9	49.2	110.9	115.9
	N-IW-24	901183.99	528346.94	53.4	58.4	55.9	56.4	63.4	56.9	113.4	118.4
	N-IW-25	902261.26	528169.49	47.9	52.9	47.3	47.8	57.9	48.3	107.9	112.9
SOUTH	S-IW-10	904671.72	497420.75	36.7	41.7	52.1	52.6	46.7	53.1	96.7	101.7
	S-IW-11	905700.54	497398.37	32.5	37.5	48.6	49.1	42.5	49.6	92.5	97.5
	S-IW-12	905867.53	497870.27	33.0	38.0	49.3	49.8	43.0	50.3	93.0	98.0
	S-IW-13	905177.47	498116.12	35.4	40.4	51.4	51.9	45.4	52.4	95.4	100.4
	S-IW-14	905302.52	497414.73	33.6	38.6	48.7	49.2	43.6	49.7	93.6	98.6
	S-IW-1	906527.04	498558.67	32.5	37.5	48.6	49.1	42.5	49.6	92.5	97.5
	S-IW-2	906826.76	497763.58	31.0	36.0	48.1	48.6	41.0	49.1	91.0	96.0
	S-IW-3	904092.02	497858.86	37.9	42.9	55.9	56.4	47.9	56.9	97.9	102.9
	S-IW-4	904420.37	496315.44	36.3	41.3	50.2	50.7	46.3	51.2	96.3	101.3
	S-IW-5	904902.22	498375.00	35.9	40.9	53.0	53.5	45.9	54.0	95.9	100.9
	S-IW-6	906190.26	497623.00	31.0	36.0	49.1	49.6	41.0	50.1	91.0	96.0
	S-IW-7	906329.36	497929.72	31.3	36.3	48.9	49.4	41.3	49.9	91.3	96.3
	S-IW-8	905309.74	497710.15	34.0	39.0	49.3	49.8	44.0	50.3	94.0	99.0
	S-IW-9	906168.64	498489.14	33.5	38.5	49.4	49.9	43.5	50.4	93.5	98.5

NOTES:
1. INJECTION WELL SHALL HAVE A 10" BOREHOLE DIAMETER.
2. DRILLING CONTRACTOR TO INSTALL TRANSDUCER, DROP PIPE, REMOVE WELL PLUG AND INSTALL WELL SEAL, AND PERMANENT VAULTS AT A LATER DATE CONFIRMED BY THE ENGINEER. ALL MATERIALS TO BE PROVIDED BY OTHERS.
3. CONTRACTOR TO PROVIDE A SANITARY WELL SEAL OF STEEL CONSTRUCTION WITH A RUBBER GASKET. PENETRATIONS TO BE INSTALLED BY CONTRACTOR UPON VALIDATION OF THE PENETRATION LAYOUT WITH THE ENGINEER.
4. EACH WELL WILL BE EQUIPPED WITH A 5 FT. LONG, 6" SUMP.
5. SEE CONTRACT SPECIFICATIONS FOR PIPE, SCREEN, AND VAULT REQUIREMENTS.
6. SEE CONTRACT SPECIFICATIONS FOR DEVELOPMENT REQUIREMENTS.
7. ACTUAL DEPTHS AND WELL LOCATIONS TO BE DETERMINED AT TIME OF WELL INSTALLATION. ALL DEPTHS ARE IN FEET BELOW GROUND SURFACE.
8. EXTRACTION WELLS THAT WILL BE CONVERTED TO INJECTION WELLS IN THE FUTURE ARE NOT INCLUDED IN THIS INJECTION WELL CONSTRUCTION SCHEDULE. SEE DRAWING C-3 FOR FUTURE WELL CONVERSIONS.

No.	Date	Revisions	By	Ckd
2	01/2018	DRAFT 100% DESIGN	JLH	JWS
1	9/30/17	DRAFT 60% DESIGN	JLH	JWS
0	4/20/17	DRAFT 30% DESIGN	JLH	JWS

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

Professional Engineer's Name: JON SPITZINGER
Professional Engineer's No.: 24160
State: NM | Date Signed: | Project Mgr.: KJP
Designed by: STZ | Drawn by: JLH | Checked by: JWS

DRAFT
NOT FOR CONSTRUCTION

Chevron U.S.A. Inc.

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY FORMER EUNICE GAS PLANT ● EUNICE, LEA COUNTY, NEW MEXICO
DRAFT 100% DESIGN

INJECTION WELL CONSTRUCTION DETAIL

CIVIL

ARCADIS Project No.: B0048789.0002.0005A
Date: JANUARY 2018

ARCADIS
630 PLAZA DRIVE
HIGHLANDS RANCH, CO
TEL. 303.316.6524

7

Appendix H

GWTP Operations, Maintenance, and Monitoring Sheets

CHEVRON - EUNICE NORTH WEEKLY OPERATIONS LOG SHEET
Eunice, NM

ARCADIS

Date Time Operator

ANYTHING UNDER LOTO, OR TEMPORARY OR OPEN MOC, PLEASE NOTE AS SUCH.

North Treatment System Weekly Checks

FLOWS (Collect from SCADA)	Flow Rate	Totalizer (gal)
FIT-209 System Influent Flow		
FIT-220 North Influent Mixing		
FIT-231 North Backwash Decant		
FIT-221 North Filtration		
FIT-610 EDR Feed Mixing		
FIT-710 EDR Product Mixing		
FIT-711 North Injection		
FIT-713 Backwash		
FIT-261 North Auxiliary		
FIT-714 Brine Offsite Disposal (total gallons only)		
FIT-715 Brine Offsite Disposal (total gallons only)		

CONDUCTIVITIES (Collect from SCADA)	mS/cm
AE-611 EDR Feed EQ Tank	
AE-711 EDR Product Tank	

pH (Collect from SCADA)	S.U.
AE-220 North Inf Conditiong Tank	
AE-610 EDR Feed EQ Tank	
AE-710 EDR Product Tank	

pH (Collect from sample port)	S.U.
PI-711 Sample Port (North Injection Line)	

(Maintain level between 6.5 - 8.5)

PRESSURES (Collect readings from SCADA and from local PI)	PIT (psi)	PI (psi)
PIT/PI-209 Influent		
PIT-220 North Influent Mixing		
PIT-231 North Backwash Decant		
PIT-221 North Filtration Transfer		
PIT-610 EDR Feed Mixing		
PIT-710 EDR Product Mixing		
PIT-711 North Injection		
PIT-713 Backwash		
PIT-261 North Auxiliary		

DIFFERENTIAL PRESSURES	psi
DPI-301 MMF (T-301/302)	
DPI-303 MMF (T-303/304)	
DPI-501 IEX (T-501)	
DPI-502 IEX (T-502)	

TANK LEVELS		
T-800 Surge Tank		gallons
T-620 Acid Tank		gallons
T-720 Caustic Tank		gallons
T-730 Brine Storage		gallons
T-740 Brine Storage		gallons
T-750 Brine Storage		gallons
T-760 Brine Storage		gallons

CHEMICAL SET POINTS		
P-621 Acid Metering Pump		gpd
P-622 Acid Metering Pump		gpd
P-721 Caustic Metering Pump		gpd

ADDITIONAL NOTES

CHEVRON - EUNICE NORTH WEEKLY OPERATIONS LOG SHEET
Eunice, NM

ARCADIS

North Wellfield Weekly Inspection

Extraction Wells

Document pressure at well head, flow and total gallons from SCADA. Inspect well boxes and buried extraction lines **(cover any exposed lines)**.

	Pressure	Flow rate	Total Gallons
N-EW-1			
N-EW-2			
N-EW-3			
N-EW-4			
N-EW-5D			
N-EW-5S			
N-EW-6D			
N-EW-6S			
N-EW-7D			
N-EW-7S			
N-EW-8			
N-EW-9			
N-EW-10D			
N-EW-10S			
N-EW-11D			
N-EW-11S			
N-EW-12D			
N-EW-12S			
N-EW-13D			
N-EW-13S			
N-EW-14D			
N-EW-14S			
N-EW-15D			
N-EW-15S			

Injection Wells

Document pressure at well head and flow and total gallons from SCADA. Drive and inspect buried injection lines **(cover any exposed lines)** and inspect the well boxes.

	Pressure	Flow Rate	Total Gal.
N-IW-1			
N-IW-2			
N-IW-3			
N-IW-4			
N-IW-5			
N-IW-6			
N-IW-7			
N-IW-8			
N-IW-9			
N-IW-10			
N-IW-11			
N-IW-12			
N-IW-13			
N-IW-14			
N-IW-15			
N-IW-16			
N-IW-17			
N-IW-18			
N-IW-19			
N-IW-20			
N-IW-21			
N-IW-22			
N-IW-23			
N-IW-24			
N-IW-25			

WEEKLY MAINTENANCE LOG

	Initials	Yes	No	NA	Comments
Weekly Sample Collection time **(On COC, file w/ field sheet**					
Visually inspect entire system for any damages or leaks **(inside and tank battery)**					
Replace cartridge filters**(Change filters if above 5 psi)**					
Inspect stacks for excessive external leakage **(>2gph)**					
Check drains for clogs if not draining fast enough					
Check below listed equipment for proper functioning					
Pressure gauge instruments					
Differential pressure instruments					
Flow instruments					
Equipment Skids for corrosion					
Drive Field Lines, and inspect extraction wells					
Check valve position using checklist **(after a upset event)**					
Send EDR Data to Project management team for review and approval prior to leaving site.					

ADDITIONAL NOTES

CHEVRON - EUNICE NORTH WEEKLY OPERATIONS LOG SHEET
Eunice, NM

ARCADIS

EDR Weekly Inspection and Checks

The EDR enters reverses polarity every 15 minutes. Splits cells are for positive and negative polarity.
Maintenance log and notes are on back, print double sided

Record From System Parameters Screen

FLOWS (Collect from the SCADA)

	+	-
EDR Inlet Flow		
EDR Concentrate Makeup Flow		
EDR Concentrate Inlet Flow		
EDR Product Flow		
EDR Concentrate Blowdown Flow		
Product Transfer Flow		

TEMPERATURE (Collect from the SCADA)

	+	-
EDR Feed Water Temperature		

CONDUCTIVITIES (Collect from the SCADA)

	+	-
EDR Feed Water Conductivity		
EDR Unit Product Conductivity		

PRESSURES (Collect from the SCADA)

	+	-
EDR Stack Inlet Pressure		
EDR Stack Outlet Pressure		

DIFFERENTIAL PRESSURE (Collect from the SCADA)

	+	-
Cartridge Filter Diff. Pressure		
EDR Stack Inlet Diff. Pressure		
EDR Stack Outlet Diff. Pressure		

EDR STACKS (Collect from the SCADA)

LINE 1 2 (CIRCLE 1 OR 2)

	VOLTS		AMPS	
	+	-	+	-
Stage 1				
Stage 2				
Stage 3				
Stage 4				

ELECTRODE FLOW (Collect in EDR)

FLOW 1 2 (CIRCLE 1 OR 2)

	+	-
TOP		
BOTTOM		

RUN TIME METERS (Collect from the SCADA)

EDR Feed Pump	A:	B:
EDR 1 Concentrate Pump		
EDR Product Pump	A:	B:
CIP Pump		
EDR ECIP Acid Pump		
EDR pH Control Acid Pump		

pH and CONDUCTIVITIES Handheld Meter at Sample Ports

EDR Data		+	-
Unit Feed	pH		
	Cond		
Product	pH		
	Cond		
Concentrate	pH		
	Cond		
Brine Blowdown	pH		
	Cond		

FLOWMETERS (Collect gpm/total from meter & BBL from SCAD

	GPM	TOTAL GAL.	BBL
Unit Feed			
Product			
System Feed			

TANK LEVELS

Acid Tank Level ____ gallons

	Stroke	Speed
ECIP Pump Setpoints		
pH Control Acid Pump Setpoints		

Chloride Titrate Strips	+	-	Effluent
Product **(<250)**			
pH			
Cond **(~900)**			

CHEVRON - EUNICE NORTH MONTHLY OPERATIONS LOG SHEET
Eunice, NM

ARCADIS

Date Time Operator

MONTHLY MAINTENANCE LOG

EDR Monthly Maintenance	Initials	Yes	No	NA	Comments
Open stack cover and check for wall alignment (Re-align if necessary)					
Clean outside of stacks from deposited salt (Hose with Low pH solution)					
Monthly stack voltage check/Probe Membrane Stacks					
Hydrate the secondary/stand by Train					
Inspect secondary/standby train during manual flush for sprays/streams					
Change Out Moisture Absorbers					
Check all pumps in operation (P-220, P-231, P-221, P-610, P-710, P-711, P-713, P-261, P-631) for:					
Check centrifugal pump seals for signs of leakage					
Is repair needed?					
Excessive vibrations					
Excessive oil temperatures					
Inspect metering pumps for signs of wear					
EDR pH Control					
EDR ECIP					
P-621 Acid Metering Pump					
P-622 Acid Metering Pump					
P-721 Caustic Metering Pump					
Additional Monthly Check Items					
Inspect AC Air Filter In Control Room Change out air filter if dirty					
Record Calibration Cylinder set points	Acid Calibration Cylinder (C-621)		Acid Calibration Cylinder (C-622)		Caustic Calibration Cylinder (C-721)

ADD ADDITIONAL NOTES AS APPROPRIATE

CHEVRON - EUNICE NORTH SEMI-ANNUAL OPERATIONS LOG SHEET
Eunice, NM

Date Time Operator

SEMI-ANNUAL MAINTENANCE LOG

	Initials	Yes	No	NA	Comments
Check tightness of all electrical connections					
Check expiration dates for all chemicals used					
Order new chemicals if needed; dispose off old ones appropriately (this includes calibration solutions and buffers)					
Replace the corrosion inhibitor emitters in the electrical enclosures.					
Remove and inspect grounding rod assemblies					
If scaled, clean with 50% diluted HCL					
Damaged or corroded rods must be replaced.					
Dissemble Stacks and check for wear or damage to any components					
Blow Out Vents:					
Bottom of PLC					
Rectifier A					
Rectifier B					
Power Control Cabinet					
Perform CIP					
Line 1					
Line 2					
Inspect the undercarriage of the EDR trailer when opening/closing the 4" ball valve on the gravity drain line					
Are any changes necessary for: (add comments below)					
CIP chemicals?					
CIP Frequency?					
CIP concentrations?					

ADD ADDITIONAL NOTES AS APPROPRIATE

Appendix I

Waste Management Plan

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

WASTE MANAGEMENT PLAN

North Eunice Remedial Construction Project

Intersection of Main Street and 6th Street

Eunice, New Mexico 88231

September 2018

WASTE MANAGEMENT PLAN

North Eunice Remedial Construction Project

Patrick Hart

PJ Hart

Construction Task Manager

Kelli Jo Preston

Kelli Jo Preston

Project Manager

Prepared for:

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Date:

September 2018

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Appendix I. Waste Fact Sheet for Subcontractors

1 INTRODUCTION

This Waste Management Plan (WMP) establishes guidance and procedures for the management of wastes generated during remedial construction activities at the Chevron Environmental Management Company (CEMC) former North Eunice Gas Plant site located at the Intersection of Main Street and 6th Street, (North Eunice, Site, as shown on **Figure 1**).

1.1 Remedial Action Summary

The overall intention of the remedial strategy at North Eunice is to extract groundwater containing elevated levels of constituents of concern (COCs), treat and reinject clean groundwater back into the aquifer. The project is split into two treatment areas: North Eunice and South Eunice. The scope of this WMP is focused on North Eunice construction activities only.

The main COCs in North Eunice are chromium and chloride in groundwater. The main activities to be performed at North Eunice include: treatment building construction, extraction/injection well installation, and wellfield piping installation. During these activities, generated wastes will include soil cuttings, groundwater generated during well development activities, personal protective equipment (PPE), and construction debris.

The perimeter of the Site boundary will be excavated by a third party hydrovac contractor to identify subsurface utilities. Following perimeter excavation, the building foundation area will be overexcavated and backfilled with structural fill. Soil excavated during building construction will be re-used as backfill; however, any soil that cannot be re-used will need to be shipped off-site to a CEMC Selected for Use (SFU) facility. ***Prior to being transported to an SFU facility, a manifest generated by Arcadis and verbal approval from either Keith Hansen or P.J. Hart, must be obtained.*** A waste profile for soil was created in January 2017 (Appendix B).

A total of 49 wells will be installed in the vicinity of North Eunice throughout the lifetime of the project. These wells will be installed by a licensed subcontractor and will be installed in phases. Groundwater generated during well development will be collected by a subcontractor and trucked off-site to Christmas #003 Salt Water Disposal (SWD) Well (API 30-025-10500). As with soil, a manifest must be generated by Arcadis prior to transportation. A waste profile for groundwater was created in January 2017 (Appendix B).

1.2 Categories of Waste

1.2.1 Hazardous Waste

Pursuant to 40 CFR §261.3, a solid waste is a hazardous waste if it meets any of the following criteria:

1. It is not excluded from regulation as a hazardous waste under §261.4(b); and
2. It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity) identified in subpart C of 40 CFR part 261.
(ii) It is listed in subpart D of 40 CFR part 261 and has not been excluded from the lists in subpart D of this part under §260.20 and 260.22 of this chapter.
(iii) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded.
(iv) *Rebuttable presumption for used oil.* Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter.

For this project, no hazardous waste is expected to be generated during construction activities. Confirmation sampling may be required. Shipping document requirements and procedures are detailed in §5.1.2.

1.2.2 Non-hazardous Waste

Soil waste generated during construction activities will be non-hazardous. Non-hazardous wastes will be sent for disposal at a CEMC SFU facility. Non-hazardous wastes are **required** to be transported under a non-hazardous manifest generated by Arcadis. The generators original copy of each manifest must be sent to the CEMC North America Waste Tracking Desk within seven days, preferably, 24-hours if possible (1400 Smith Street, Houston, TX 77043).

Non-hazardous wastes that do not contain site-related COCs (uncontaminated concrete, construction and demolition debris, general trash) do not have to be sent for disposal at a CEMC SFU facility. Records of volume disposed must be kept and sent to the CEMC project manager on a quarterly basis.

1.2.3 Recyclable Materials

Recyclable materials are exempt from federal hazardous waste regulations as described in 40 CFR §261.4. Recyclable materials will be collected on-site and sent off-site for the appropriate reuse. Scrap recyclables to be send off-site in exchange for cash value must be approved by CEMC on a case by case basis. If approved these goods are to be sent off-site under a bill of lading (BOL) and reported to the CEMC North American Waste Tracking Desk. An example BOL is included in Appendix F.

1.2.4 Universal Wastes

A universal waste is any waste listed in §261.9, including batteries as described in §273.2, mercury-containing equipment as described in §273.4, lamps as described in §273.5, cathode ray tubes as described in §273.6, and cathode ray tube glass as described in §273.7.

The project may generate used batteries that will constitute universal wastes. Universal wastes will be profiled and disposed of at a proper facility on a case by case basis as they are generated. No sampling is required.

2 WASTE MANAGMENT ROLES AND RESPONSIBILITIES

The roles and responsibilities of the project team for the coordination of waste management are outlined in **Table 2-1**.

Table 2-1. Waste Management Roles and Responsibilities

Role	Personnel	Responsibilities
CEMC Project Manger	Kegan Boyer	• Contracts transportation and disposal services • Approves profiles and material characterization reports • Manages CEMC records
Arcadis Task Managers	PJ Hart and/or Brett Krehbiel	• Coordinates transportation and disposal • Approves sampling plan • Develops profiles and material characterization reports • Receives manifest copies from designated facility • Manages project training and shipping records
Arcadis Waste Coordinator	Greg Mason	• Performs hazardous material shipping determinations • Facility coordinator for emergency response • Compliance assurance • Provides necessary training
Arcadis Field Supervisor	Keith Hansen	• Provide and label soil containers • Provide placards to transportation vendor • Performs daily inspections of applicable storage tanks
Arcadis Field Personnel with CEMC Delegation of Authority	Appendix A (Ryan Nanny)	• Sign manifests/waste shipping records/bills of lading on behalf of CEMC • Collect soil characterization samples • Coordinate recordkeeping with CEMC North American Waste Tracking Desk • Retains necessary training and up to date DOA status
Emergency Coordinator	Brett Krehbiel	• Respond to an emergency • Coordinates all emergency response measures
CEMC Remedial Contractor	Subcontractors (Arcadis ECS)	• Conduct excavation and any required dewatering
Waste Management Chevron Account Coordinator	Waste Management - Melissa Thompson	• Coordinate profiling, manifesting and shipment needs with Arcadis • Coordinates transportation of wastes from Site to disposal facilities • Coordinates recordkeeping and invoicing with CEMC

3 WASTE CHARACTERIZATION

Arcadis personnel are responsible for characterizing wastes generated by remediation activities conducted by Arcadis and CEMC business partners. This section discusses:

- the forms of required documentation necessary to characterize a waste stream,
- when and how they should be characterized, and
- the anticipated waste streams associated with this scope of work.

3.1 Waste Profiles and MCRs

3.1.1 Waste Profiles

Prior to shipping a hazardous or non-hazardous waste to a CEMC-approved disposal facility, a waste profile must be in place. The waste profile will provide information on the generator, properties of the waste, characterization data, and a generator certification. The profile will often include supporting documentation such as a Site history, map, sampling details, photo log, etc. used to further detail the material in question. Waste profiles for the Site are included in **Appendix B**.

A copy of each active profile will be maintained on-site with the waste characterization and determination forms. In addition, the waste profile number will be entered into the waste tracking sheet in **Appendix C** for each stream of material leaving the Site.

3.2 Characterization Sampling

Arcadis is responsible for collecting the appropriate data to support determinations for CEMC wastes generated at the Site. A waste determination form, as provided in **Appendix D,** will be completed for each waste stream generated. Copies of analytical data and/or process knowledge documentation to support the waste determinations will be filed with the waste determination form and kept on Site during the remedial efforts, and then in the project file. A copy of analytical data and waste profile documentation shall be provided to the disposal facility upon completion of the initial waste determination.

Solid waste is defined in Title 40 of the Code of Federal Regulations (CFR) §261.2 as any discarded material of any form that is not excluded by §261.4(a). The United States Environmental Protection Agency (USEPA) describes environmental media as being soil, groundwater or sediment. The USEPA has established and upheld in a court of law, a policy, which simply put, states that environmental media will be considered a solid waste, if it “contains” a solid waste. Examples of remediation wastes that are environmental media are excavated impacted soil, soil cuttings, and purged soil water and groundwater.

The characterization of solid wastes generated on-site such as excavated soil, spent absorbent booms, spent filter bags, spent groundwater treatment media, etc. will be based on the results of composite (or grab for volatile organic compounds [VOCs]) samples collected from the materials themselves. Waste samples can be collected either pre-characterization prior to generation or after wastes have been generated.

For non-VOC analysis, waste characterization will consist of collecting five-point composite samples for analysis by a certified analytical laboratory. For VOC waste characterization, grab samples must be collected, and VOCs analyzed using USEPA Method 5035. The frequency of sampling is to be one sample per 500 cubic yards.

It is Arcadis policy to make waste determinations based on analytical data, supported by generator knowledge. Analytical data should be representative of the material being evaluated, and satisfy applicable federal, state and disposal facility requirements on (1) specific compounds/tests, (2) methods of analysis and (3) sampling frequency.

Waste characterization determinations shall be made using a combination of process knowledge and/or analytical evaluation of waste sampling as described in 40 CFR §261.10. Waste characterization determinations shall be reevaluated whenever any of the following circumstances occur:

- change in the process that produces the waste;
- change in treatment media is made;
- waste was tainted by inadvertent mixing with another waste;
- change occurred to the hazardous waste regulations that apply to that waste.

Instances of when analytical sampling may be required for specific waste media are discussed in the various sub-sections of §3.3. Waste sampling procedures and sampling documentation should include the following:

- dates samples were collected;
- a description of the Site or unit from which the sample is taken and sampling location(s) at the Site unit;
- sample methods and sample equipment utilized; and
- description of sample handling techniques, including containerization, preservation, and chain of custody.

3.2.1 Chain of Custody, Packing and Transportation

Samples collected for analysis are required to be accompanied by a chain of custody. Signatures are required on the chain of custody whenever samples are transferred to another entity (except when transferred to a commercial shipper). When shipped by a commercial shipper, the tracking number must be written on the chain of custody. Packing samples for shipment require sufficient ice to maintain a minimum temperature of four degrees Celsius. Detailed instructions for the preparation of a sample cooler with hazardous materials for shipment can be found in **Appendix E**. Transportation should be as expedient as possible in order to ensure temperature and holding time requirements are not violated. This may be accomplished either by pick up from a laboratory representative or by using a commercial shipper such as Federal Express.

3.3 Waste Streams

3.3.1 Pre-Characterized Excavated Soil

The majority of anticipated excavated soil is pre-characterized based on the limits of the approved excavation area boundaries. Excavated soils are expected to be characteristically non-hazardous by RCRA standards.

Waste profiles for the non-hazardous soil have been prepared based on in-situ analytical soil characterization data. A copy of each waste profile shall be kept on site.

3.3.2 Excavation Debris

Manageable debris encountered within the excavation (easily contained within the excavator's bucket) will be stockpiled with the soil being excavated. All oversized debris encountered during excavation activities

(e.g. oversized timbers [greater than 6 feet in length], large rocks, large concrete, highly concentrated blocks or brick construction debris, tires, etc.) will be managed within the footprint of the proposed excavation areas and sized to fit within a full-size lined roll-off container. This debris is not intended to be sent to an SFU facility but instead will be separately profiled and sent off-site for the appropriate disposal.

3.3.3 Recyclable Metals

Excavated metal debris will be recycled through a third-party vendor. If necessary, a scrap metal recycling container will be staged on-site. Scrap metal with gross contamination will not be considered eligible for recycling and should be decontaminated before being placed in the roll-off or else disposed of appropriately as a waste. Roll-off bins will be swapped out by the designated recycling company as necessary. The off-site haul truck will be decontaminated if coming into contact with impacted material.

3.3.4 Drummed Soil Wastes

Drumming of soil wastes should be avoided if possible during the remedial excavation phase. Small amounts of soil waste generated from environmental soil borings, well installations, or other operations should be brought to the attention of the Arcadis field supervisor immediately and placed in the appropriate soil staging area. Best management practices will be employed to monitor the generated waste and follow procedures established for waste storage in §5.2.1. Based on waste characterization results, a waste profile will be established for disposal. These waste characterization samples should follow the procedures previously outlined in §3.2.

3.3.5 Development and Purge Water from Extraction and Injection Wells

Water generated during a single well development will be collected by Harrison and Cooper Inc. (HCI) and drummed. Arcadis will coordinate with Key Energy to have development water vacuumed out and transported to an approved SWD.

3.3.6 Personal Protective Equipment and Miscellaneous Wastes

General PPE is not expected to be characterized as hazardous waste. Any characterization deemed necessary will be based on analytical results from associated soil and water samples. However, PPE and miscellaneous waste that is heavily contaminated with hazardous waste residues will be drummed and categorized under the same profile as described in §3.3.4. This material will be disposed of as hazardous waste.

3.3.7 Construction and Demolition Debris

Construction debris will be containerized in a covered roll-off bin on-site. Construction debris includes but is not limited to brick, concrete and masonry materials, plumbing fittings and fixtures, electrical wiring and components not containing hazardous fluids or refrigerants, insulation, and other debris associated with construction. Construction debris does not include materials identified as solid, universal or hazardous wastes.

3.3.8 Universal Waste

This project is anticipated to generate batteries, which are classified as universal wastes. These wastes will be stored in a designated facility, located near the Site trailers. This waste stream does not require samples to be taken, but a waste profile will be created upon waste generation. The appropriate shipping container will be acquired from the selected disposal facility, and volumes/shipments will be documented and retained on-site.

4 PRE-TRANSPORT, TRANSPORT AND DISPOSAL PRACTICES

CEMC is the generator and therefore, all shipping records and manifests (non-hazardous and hazardous) shall only be signed by a CEMC–designated employee. Arcadis personnel that have CEMC written delegation of authority authorization and have been trained in accordance with 40 CFR §265.16 and applicable Department of Transportation (DOT) regulations will sign the records. See **Appendix A** for a list of the qualified Arcadis personnel for this project.

4.1 Pre-Transportation

Management and storage of waste prior to off-site transportation is a critical to effectively managing waste. All waste associated with construction activities is expected to be non-hazardous. Excavated soil wastes may be placed in covered stockpiles contained within the approved erosion and sediment (E&S) control measures to be loaded into dump trucks. To ensure integrity of the waste storage containers, the following criteria will be monitored:

- Waste containers should be kept closed unless waste is actively being added to the container
- All waste containers must be labelled, and labels must be properly maintained.
- Visual inspections of the silt fence around the stockpiled waste will be performed following all storm events to assure E&S controls are properly maintained.
- No waste containers should be stored onsite for more than 180 days.

If a waste container is not labelled or has a damaged / unreadable label, Arcadis will identify the waste stream and relabeled immediately. For unknown waste streams a “pending analyses” label will be placed on the container until proper characterization of the waste stream is obtained.

4.2 Transportation

Subcontractors will need to communicate the scope of transportation activities to the Arcadis field supervisor at least one day in advance. The Arcadis field supervisor will be responsible for coordinating transport trucks from the Third-Party Recycling/Disposal Company(ies).

4.2.1 Transport Truck Lining and Tarping

Each transport truck carrying hazardous soil must be lined prior to loading and must be able to tarp after loading is complete. Trucks carrying non-hazardous or reuse designated materials may be lined for transporting excavated soils. It is the discretion of the facilities and/or transporter whether a liner is required or not for non-hazardous and reuse materials. Drivers shall not climb into the bed of their truck to line or tarp the truck while on-site. Trucks with auto tarping capabilities are preferred.

4.2.2 Shipping Documents

4.2.2.1 Hazardous Waste Manifest

Hazardous waste transported off-site requires a manifest (40 CFR §262.23) (Uniform Hazardous Waste Manifest [OMB Control number 2050-0039] on USEPA Form 8700-22 and, if necessary, the USEPA continuation form 8700-22A). The manifest is a form used to track the movement of hazardous waste from the point of generation to the point of ultimate disposition ("cradle to grave") (40 CFR §262). Manifests are supplied by the disposal company and it is recommended to obtain a copy of the pre-printed manifest prior to shipping to review the information for accuracy. Then the field person only needs to verify quantities and sign the manifest, reducing the change for human error. Prior to transport, verify the following information:

- Name, address, and USEPA ID No. of the generator, transporter, and the destination facility
- U.S. DOT description of the waste being transported and any associated hazards
- waste quantity
- name and phone number of CEMC's emergency contact service
- special handling or hazard information
- description of waste (Item 9b)
- generator's certification
- other information required either by USEPA or the state
- waste profile number
- unique manifest tracking number
- CEMC PM
- CEMC project number

Arcadis, on behalf of CEMC, will be required to verify the proper placard is in place for hazardous waste in accordance with DOT requirements prior to leaving the site. The waste disposal company will be prepared with the necessary placarding. With the current profile the correct placard for the hazardous waste is:

The waste manifest numbers for each waste shipment will be entered into the waste tracking sheet in **Appendix C**. The generator's original copies of waste manifests must be sent to the CEMC North America Waste Tracking Desk, within 24 hours of shipment for hazardous wastes:

Chevron Environmental Management Co.
c/o Chevron Products Co.
1400 Smith Street
Houston, TX 77043
Attention: Waste Tracking Desk

An extra scanned or hard copy of the manifest should be kept for Arcadis records in the project file and in the DOT hazmat central file associated with the office of the Arcadis employee who signed it.

4.2.2.2 Non-hazardous Waste Manifest

Non-Hazardous waste transported off-site requires a non-hazardous waste manifest. The manifest is a form used to track the movement of nonhazardous waste from the point of generation to the point of ultimate disposition ("cradle to grave"). Manifests are supplied by the disposal company and it is recommended to obtain a copy of the pre-printed manifest prior to shipping to review the information for accuracy. Then the field person only needs to verify quantities and sign the manifest, reducing the change for human error. For CEMC projects, a non-hazardous waste manifest is required for shipment of non-hazardous waste that contains Site related constituents of concern. Prior to transport, verify the following information:

- Name and address of the generator, transporter, and the destination facility
- U.S. DOT description of the waste being transported and any associated hazards
- waste quantity
- name and phone number
- special handling or hazard information
- description of waste
- generator's certification
- waste profile number

- CEMC PM
- CEMC project number

Non-hazardous waste shipments are not likely to require a placard; however, an Arcadis DOT shipping determination should be performed by the Arcadis Waste Coordinator and filed.

The waste manifest numbers for each waste shipment will be entered into the waste tracking sheet in **Appendix C**. The generator's original copies of waste manifests must be sent to the CEMC North America Waste Tracking Desk, within seven days of shipment for nonhazardous waste nonhazardous wastes:

4.2.2.3 Bill of Lading

Non-regulated material leaving the Site such as scrap metal or reuse soil should be shipped under a BOL to an approved CEMC facility. An example of the Arcadis BOL form is attached in **Appendix F**. This form should be sent to the Waste Tracking Desk within seven days of shipment for tracking purposes.

5 TRAINING

Employees will not be allowed to work in unsupervised positions related to hazardous waste management until they have completed not only DOT training but also a mandatory annual Resource Conservation and Recovery Act (RCRA) training course to satisfy Environmental Protection Agency (EPA) hazardous waste generator regulations found in 40 CFR 262.34 and 265.16.

In accordance with 40 CFR §265.16(e), training records for Arcadis personnel with the Chevron Delegation of Authority will be kept at the project site. Training records on former employees will be kept for at least three years from the date the employee last worked.

6 RECORD KEEPING AND REPORTING

6.1 Waste Tracking

Arcadis has developed a waste tracking table to assist with managing the accumulation time for hazardous wastes generated during remediation. This waste tracking table will also document when copies of the manifest are received from the disposal facility. A copy of the waste tracking table is provided in **Appendix C**.

6.2 Manifests

As stated previously, the generator's original copies of hazardous waste manifests, as well as non-hazardous waste manifests and BOLs must be promptly sent to the CEMC North America Waste Tracking Desk. If there are any changes needed to a manifest that has already been sent, CEMC waste desk must be notified and consulted. If the disposal facility returns the "designated facility to generator" copy to the project site, please forward that copy by mail to the CEMC waste desk. Copies of manifests will be retained for a minimum of three years.

6.3 Waste Determinations

Arcadis is required to keep records of any information used to support waste determinations for a period of at least three years from the date the waste was last sent to on-site or off-site treatment, storage, or disposal. Waste determination records may include the waste determination forms, analytical data, safety data sheets, rationale for generator process knowledge, or any other documentation used to support the waste determinations.

6.4 Personnel Training Records

The following records related to personnel training must be maintained at the facility:

- The job title for each position at the jobsite related to hazardous waste management, and the name of the employee filling each job;
- A written job description for each position identified above. The job description shall include the requisite skill, education, or other qualification, and duties of project personnel assigned to each position.
- A written description of the type and amount of both introductory and continuing training that will be given to each person filling the positions identified above. Training records will be maintained on the STMS website.

Training records for current personnel must be kept until Arcadis completes work at the site. Training records for former employees must be kept for at least three years from the date the employee last worked at the Site.

7 REFERENCES

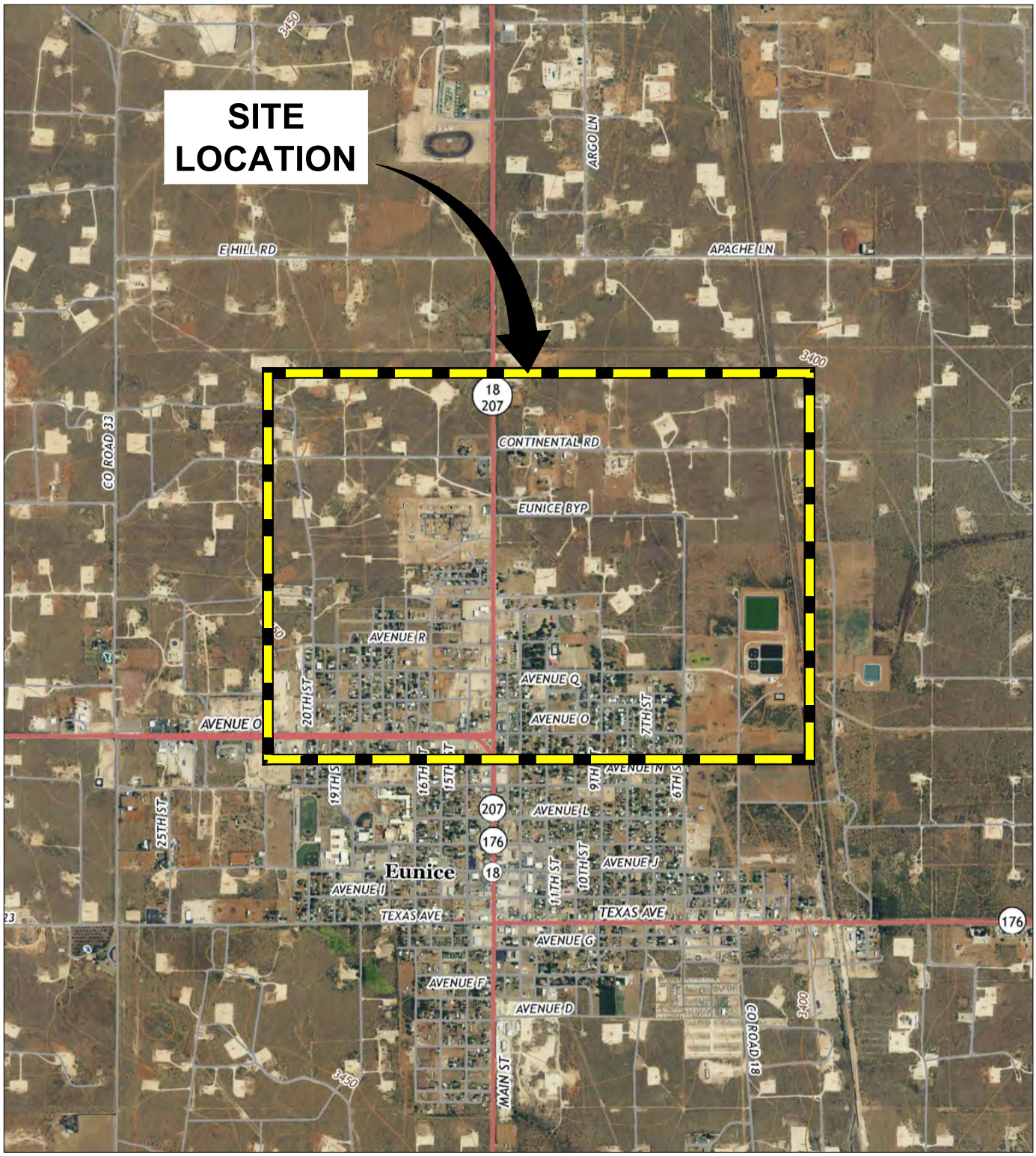
40 Federal Code of Regulations, Title 40. Environmental Health Standards for the Management of Hazardous Waste.

Arcadis U.S., Inc. 2016. Light Non-Aqueous Phase Liquid (LNAPL) Management Plan. January 2016.

IT Corporation. 1991. Post Construction Report—Slurry Trench Installation. 1991.

U.S. Environmental Protection Agency, 2004. Method 9095B Paint Filter Liquids Test. Nov.

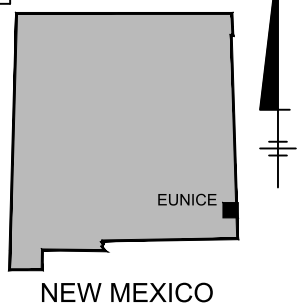
FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., EUNICE, NEW MEXICO, 2013.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



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

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY: SAN RAFAEL, CA DIV/GROUP: ENVCAD DB: J. HARRIS
Z:\ENVCAD\San Rafael\ACTIVE\B0048789\0000\0005A\2Q-3Q 2016\DWG\48789N02.dwg LAYOUT: 1 SAVED: 2/22/2017 9:23 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/22/2017 9:28 PM BY: HARRIS, JESSICA
XREFS: IMAGES: PROJECTNAME: ----
Eunice 2013 with aerial.jpg

APPENDIX A

Delegation of Authority Names and Letters

Roberto Piccioni
Chevron EMC
OE HES Planning &
Performance Manager

Chevron Environmental Management Company
6001 Bollinger Canyon Rd, C1248
San Ramon, CA 94583
Tel 877-386-6044
Fax 1-866-849-4435
NawtDesk@Chevron.com

January 24, 2018

David Lay
Arcadis U.S Inc.
Vice President, Client Program Manager
101 Creekside Ridge Court, Suite 290
Roseville, CA 95678

Dear Mr. Lay,

This letter outlines requirements and on-going expectations that serve to grant authority to Arcadis U.S Inc. employees for waste management activities for designated Chevron Environmental Management Company ("CEMC") project locations. This authorization applies to activities such as profiling and classifying waste streams according to applicable federal, state, and local laws and regulations, and signing of hazardous and non-hazardous waste manifests on behalf of Chevron EMC, and when specifically requested by Chevron EMC.

The following requirements apply for enabling authorization of Arcadis U.S Inc. employees to act as agent for CEMC, including the signature on CEMC Waste Documents:

1. This authority applies only to those waste streams Arcadis U.S Inc. has received authorization to manage and dispose by an authorized CEMC representative associated with the project(s) the Arcadis U.S Inc. employee is working on.
2. Signature authority does not transfer generator status from CEMC to Arcadis U.S Inc. as that term is used in applicable local, state, or federal regulations including the Resource Conservation and Recovery Act.
3. In matters that Arcadis U.S Inc. and its authorized employees undertake pursuant to this authority, Arcadis U.S Inc. shall use only those disposal facilities designated by CEMC as currently acceptable and selected for use by CEMC.
4. Notwithstanding the terms of this limited delegation of authority, all requirements, obligations, terms and conditions set forth in Arcadis U.S Inc.'s current contract with CEMC remain in full force and effect.
5. This letter does not authorize Arcadis U.S Inc. nor it's authorized employees to sign contracts or otherwise obligate CEMC financially. This authority is strictly limited to the matters described herein and expires on 02/28/2019.
6. This authorization is not assignable and terminates on 02/28/2019 or when Arcadis U.S Inc. is no longer contracted by CEMC. Further, CEMC reserves the right to terminate this authorization without advance notice at any time, and for any reason.

January 24, 2018

Attachment 1 of this letter is named the "Listing of Approved Contractor Employees for Chevron EMC Waste Management Signature Authority". This list is used to indicate the names of Arcadis U.S Inc. employees requested to be authorized by CEMC for activities such as profiling and classifying waste streams according to applicable federal, state, and local laws and regulations, and signing of hazardous and non-hazardous waste manifests on behalf of CEMC, and when specifically requested by CEMC.

The following requirements must be met and maintained.

1. Arcadis U.S Inc. shall provide the full names of employees intended for this authorization.
2. Chevron EMC requires endorsement certification by signature and return of this letter. Arcadis U.S Inc., certifies that the designated employees are qualified and trained pursuant to requirements of the US Department of Transportation (49 CFR Part 172) and Resource Conservation and Recovery Act (49 CFR Part 265.16).
3. Arcadis U.S Inc. is responsible to ensure that their authorized employees have completed and maintain regulatory compliant training and associated management techniques.

Generally, additions and removals of employees from this Letter and Attachment require submission to CEMC on a quarterly basis. Expedited authorization requests may be conducted but will generally require 5 business days to process.

CEMC will post the list of authorized employees by Arcadis U.S Inc. as part of a complete list of authorized personnel on the CEMC 'One Team' website. This website is available to CEMC contractors and will be considered the definitive summary listing of authorized Arcadis U.S Inc. employees that can act on behalf of CEMC as outlined in this letter.

CEMC reserves the right to audit your processes for assuring conformance to these stated expectations. Request for training records and other confirming information may be requested by an authorized CEMC employee. Timely response is expected within 5 business days. If an adequate response is not received; a written notification may be issued rescinding the authorizations provided in this letter.

Please direct any questions regarding completion of the manifests or related documents to CEMC's attention.

Sincerely,

Roberto Piccioni

Roberto Piccioni
OE HES Planning & Performance Manager

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

I agree to the limited authority and the attendant terms and conditions set forth in this agreement on this 16 day of February, 2018 and have confirmed [certify] that the individual stated in this letter is qualified pursuant to requirements of the US Department of Transportation (49 CFR Part 172) and Resource Conservation and Recovery Act (49 CFR Part 265.16).

Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Michael MacDaniel	x	
John Nelson	x	
Carlos Acero	x	
Anthony Larenas	x	
Diane Champagne	x	
Jessica Towell	x	
Ed Meyer	x	
Stephanie Hesselbarth	x	
Julianne Hagarty	x	
John Sidor	x	
Jacque Apelian	x	
Zach Leisure	x	
Carissa Koski	x	
Aaron Richardson	x	
Marcus Hagan	x	
Auguste Parrinello	x	
DJ Ruder	x	
Jon Gerdes	x	
Patrick Donohue	x	
Derrick Cheney	x	
Jason Almcrantz	x	
Max Dieckmann	x	
Jonathan Olsen	x	

By _____

David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

2/27/2018

DATE

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

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Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Mark Miller	x	
Frank Rago	x	
Richard Lawhorn	x	
Sam Velluti	x	
Derek Roy	x	
Russell Grant	x	
Keith Hansen	x	
Joel (Ryan) Nanny	x	
Jordan Bukovsky	x	
Anna King	x	
Sarah Matteson	x	
Megan Good	x	
Johnny Bates	x	
Matt Monte	x	
Melisa Phan-Darrow	x	
Jene Loker	x	
Steve Mahony	x	
Max Elias	x	
Olivia Marshall	x	
Tyler Green	x	
Sam Miles	x	
Ryan Brauchla	x	
John DeJong	x	

By _____

David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

2/27/2018

DATE

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

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Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Kristen Audette	x	
Rick Smail	x	
Maher Zein	x	
Eric Krueger	x	

By _____
David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

2/27/2018
DATE

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

I agree to the limited authority and the attendant terms and conditions set forth in this agreement on this 16 day of February, 2018 and have confirmed [certify] that the individual stated in this letter is qualified pursuant to requirements of the US Department of Transportation (49 CFR Part 172) and Resource Conservation and Recovery Act (49 CFR Part 265.16).

Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Michael MacDaniel	x	
John Nelson	x	
Carlos Acero	x	
Anthony Larenas	x	
Diane Champagne	x	
Jessica Towell	x	
Ed Meyer	x	
Stephanie Hesselbarth	x	
Julianne Hagarty	x	
John Sidor	x	
Jacque Apelian	x	
Zach Leisure	x	
Carissa Koski	x	
Aaron Richardson	x	
Marcus Hagan	x	
Auguste Parrinello	x	
DJ Ruder	x	
Jon Gerdes	x	
Patrick Donohue	x	
Derrick Cheney	x	
Jason Almcrantz	x	
Max Dieckmann	x	
Jonathan Olsen	x	

By _____
David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

2/27/2018
DATE

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

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Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Mark Miller	x	
Frank Rago	x	
Richard Lawhorn	x	
Sam Velluti	x	
Derek Roy	x	
Russell Grant	x	
Keith Hansen	x	
Joel (Ryan) Nanny	x	
Jordan Bukovsky	x	
Anna King	x	
Sarah Matteson	x	
Megan Good	x	
Johnny Bates	x	
Matt Monte	x	
Melisa Phan-Darrow	x	
Jene Loker	x	
Steve Mahony	x	
Max Elias	x	
Olivia Marshall	x	
Tyler Green	x	
Sam Miles	x	
Ryan Brauchla	x	
John DeJong	x	

By _____

David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

2/27/2018

DATE

January 24, 2018

Attachment 1

Listing of Approved Arcadis U.S Inc. Employees for Chevron EMC Waste Management Signature Authority Letter.

I agree to the limited authority and the attendant terms and conditions set forth in this agreement on this 16 day of February, 2018 and have confirmed [certify] that the individual stated in this letter is qualified pursuant to requirements of the US Department of Transportation (49 CFR Part 172) and Resource Conservation and Recovery Act (49 CFR Part 265.16).

Full Name of Arcadis U.S Inc. Individual for Authorization under this letter and its terms:

Names	Add	Remove
Kristen Audette	x	
Rick Smail	x	
Maher Zein	x	
Eric Krueger	x	
Brian Simons	x	
Jeremy Leo	x	

By _____
David Lay, Vice President, Client Program Manager, a duly authorized representative of Arcadis U.S Inc.

5/1/2018
DATE

APPENDIX B

Approved, Draft and Pending Waste Profiles

REPUBLIC SERVICES

SPECIAL WASTE PROFILE

Requested Disposal Facility: 3412 Charter Waste LF TX

Waste Profile #
Sales Rep #:

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Generator Name: Chevron Environmental Management Company			
Generator Site Address: 6th and Main			
City: Eunice	County: Lea	State: New Mexico	Zip: 88231
State ID/Reg No: n/a	State Approval/Waste Code: n/a (if applicable)		NAICS # :
Generator Mailing Address (if different): ☑ 1400 Smith street, Room 07076			
City: Houston	County: Harris	State: Texas	Zip: 77002
Generator Contact Name: Kegan Boyer		Email: Kegan.Boyer@Chevron.com	
Phone Number: (713) 372-7705	Ext:	Fax Number:	

II. Billing Information

Bill To: Chevron Environmental Management Company		Contact Name: Kegan Boyer	
Billing Address: 1400 Smith St., Room 07076		Email: kegan.boyer@chevron.com	
City: Houston	State: Texas	Zip: 77002	Phone: (713) 372-7705

III. Waste Stream Information

Name of Waste: Non-hazardous soil C2	
Process Generating Waste: Investigation derived waste. Soil cutting from soil boring activites.	
Type of Waste:	☐ INDUSTRIAL PROCESS WASTE ☑ POLLUTION CONTROL WASTE
Physical State:	☑ SOLID ☐ SEMI-SOLID ☐ POWDER ☐ LIQUID
Method of Shipment:	☐ BULK ☑ DRUM ☐ BAGGED ☐ OTHER:
Estimated Annual Volume:	4 Drums
Frequency:	☑ ONE TIME ☐ ONGOING
Disposal Consideration:	☑ LANDFILL ☐ SOLIDIFICATION ☐ BIOREMEDIATION

IV. Representative Sample Certification

☐ NO SAMPLE TAKEN

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	☑ YES or ☐ NO
Type of Sample: ☑ COMPOSITE SAMPLE ☐ GRAB SAMPLE	
Sample Date: 12-12-16	
Sample ID Numbers: 541979-001	

REPUBLIC SERVICES **SPECIAL WASTE PROFILE**

Waste Profile #

V. Physical Characteristics of Waste

Characteristic Components	% by Weight (range)
1. Soil	100
2.	
3.	
4.	
5.	

Color	Odor (describe)	Does Waste Contain Free Liquids?	% Solids	pH:	Flash Point
brown	none	☐ YES or ☑ NO	100	5-9	>200 °F

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) Including Chain of Custody and Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	☐ Yes or ☑ No
Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm)[reference 40 CFR 261.23(a)(5)]?	☐ Yes or ☑ No
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	☐ Yes or ☑ No
Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	☐ Yes or ☑ No
Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31?	☐ Yes or ☑ No
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Is this waste a reactive or heat generating waste?	☐ Yes or ☑ No
Does the waste contain sulfur or sulfur by-products?	☐ Yes or ☑ No
Is this waste generated at a Federal Superfund Clean Up Site?	☐ Yes or ☑ No
Is this waste from a TSD facility, TSD like facility or consolidator?	☐ Yes or ☑ No

VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services Inc.

Kegan Boyer, Environmental Project Manager	Chevron EMC
Authorized Representative Name And Title (Type or Print)	Company Name
On Behalf of CEMC	01/09/2017
Authorized Representative Signature	Date

REPUBLIC SERVICES

SPECIAL WASTE PROFILE

Requested Disposal Facility: 3412 Charter Waste LF TX

Waste Profile #
Sales Rep #:

Saveable fill-in form. Restricted printing until all required (yellow) fields are completed.

I. Generator Information

Generator Name: Chevron Environmental Management Company			
Generator Site Address: 6th and Main			
City: Eunice	County: Lea	State: New Mexico	Zip: 88231
State ID/Reg No: n/a	State Approval/Waste Code: n/a (if applicable)		NAICS # :
Generator Mailing Address (if different): ☑ 1400 Smith Street, Room 07076			
City: Houston	County: Harris	State: Texas	Zip: 77002
Generator Contact Name: Kegan Boyer		Email: Kegan.Boyer@Chevron.com	
Phone Number: (713) 372-7705	Ext:	Fax Number:	

II. Billing Information

Bill To: Chevron Environmental Management Company		Contact Name: Kegan Boyer	
Billing Address: 1400 Smith St., Room 07076		Email: kegan.boyer@chevron.com	
City: Houston	State: Texas	Zip: 77002	Phone: (713) 372-7705

III. Waste Stream Information

Name of Waste: Non-hazardous liquid C2	
Process Generating Waste: Investigation derived waste. purge water from monitoring well activities.	
Type of Waste:	☐ INDUSTRIAL PROCESS WASTE ☑ POLLUTION CONTROL WASTE
Physical State:	☐ SOLID ☐ SEMI-SOLID ☐ POWDER ☑ LIQUID
Method of Shipment:	☐ BULK ☑ DRUM ☐ BAGGED ☐ OTHER:
Estimated Annual Volume:	4 Drums
Frequency:	☑ ONE TIME ☐ ONGOING
Disposal Consideration:	☑ LANDFILL ☑ SOLIDIFICATION ☐ BIOREMEDIATION

IV. Representative Sample Certification

☐ NO SAMPLE TAKEN

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?	☑ YES or ☐ NO
Type of Sample: ☑ COMPOSITE SAMPLE ☐ GRAB SAMPLE	
Sample Date: 12-12-16	
Sample ID Numbers: 541979-002	

REPUBLIC SERVICES **SPECIAL WASTE PROFILE**

Waste Profile #

V. Physical Characteristics of Waste

Characteristic Components	% by Weight (range)
1. water	100
2.	
3.	
4.	
5.	

Color	Odor (describe)	Does Waste Contain Free Liquids?	% Solids	pH:	Flash Point
clear	none	☑ YES or ☐ NO	0	5-9	>200 °F

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) Including Chain of Custody and Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	☐ Yes or ☑ No
Does this waste contain reactive sulfides (greater than 500 ppm) or reactive cyanide (greater than 250 ppm)[reference 40 CFR 261.23(a)(5)]?	☐ Yes or ☑ No
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	☐ Yes or ☑ No
Does this waste contain concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	☐ Yes or ☑ No
Does this waste exhibit a Hazardous Characteristic as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31?	☐ Yes or ☑ No
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	☐ Yes or ☑ No
Is this waste a reactive or heat generating waste?	☐ Yes or ☑ No
Does the waste contain sulfur or sulfur by-products?	☐ Yes or ☑ No
Is this waste generated at a Federal Superfund Clean Up Site?	☐ Yes or ☑ No
Is this waste from a TSD facility, TSD like facility or consolidator?	☐ Yes or ☑ No

VI. Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste.

I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

I further certify that the company has not altered the form or content of this profile sheet as provided by Republic Services Inc.

Kegan Boyer, Environmental Project Manager	Chevron EMC
Authorized Representative Name And Title (Type or Print)	Company Name
ON BEHALF OF CEMC	01/9/2017
Authorized Representative Signature	Date

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised March 12, 2007

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:
Chevron Environmental Management Company 1500 Louisiana Street, Room 38110. Houston, TX 77002
Kegan Boyer (832) 854-5630 kegan.boyer@chevron.com

2. Originating Site:
Former Eunice North Gas Plant

3. Location of Material (Street Address, City, State or ULSTR):
2306 Main Street, Eunice, NM, 88231

4. Source and Description of Waste:
Soil cuttings generated from remedial well installations.

Estimated Volume 80 yd^3 / bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd^3 / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Kegan Boyer, representative or authorized agent for Chevron Environmental Management do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☐ *Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, _____, representative for _____ do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:
CTI Services- DOT#187957, WHP 3599

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Sundance Services Parabo Facility #NM-01-0003

Address of Facility: 42 Sundance Lane, Eunice, NM 88231

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☒ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: _____ TITLE: _____ DATE: _____

SIGNATURE: _____ TELEPHONE NO.: 575-408-2606

APPENDIX C

Waste Tracking Table

Appendix C
Waste Tracking Table

	Date of Transport	Type Waste	Description	Manifest No.	Profile Number	Profile Number Exp Date	Transporter	Designated Facility	No. Containers	Qty (lbs)	Qty (tons)	Date Manifest Rec'd
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.00	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.00	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	
Month:												
									Total Haz	0.00	0.0	

APPENDIX D

Waste Determination Form

SHIPPING/TRANSPORTATION DETERMINATION FORM Revision 10
Non-Regulated Shipping Determination

Date:	
Project Name:	
Project Number:	

1) Check the following to certify the sample media being transported/shipped meet non-regulated or not restricted status:

☐ Samples will not be collected on this project

OR

☐ The following samples have been reviewed and do not meet criteria of a regulated shipment under DOT or IATA:
Check applicable media that will be sampled on the project:

☐ Soil	☐ Groundwater	☐ Air samples
☐ Sediment	☐ Surface water	☐ Tissue, body part, or body fluid (1)
☐ Sludge	☐ Process water	☐ Plant tissue, part or fluid
☐ Bldg. materials	☐ Waste water	☐ Mold
☐ Articles	☐ Potable water	☐ Investigation derived waste (all media types)
	☐ Product	☐ Other:

☐ The following location(s) and media are not covered by above, are considered HazMat for shipping/transportation, and are subject to an additional shipping determination:

1a

2) For sample preservatives, the following checkboxes must be checked confirming a non-regulated/not restricted determination:

☐ Sample containers will be filled and preserved in accordance with EPA SW-846 protocols (2)
☐ Sample containers will not be field preserved with acids or bases by Arcadis staff
☐ Empty but preserved sample containers will not be return shipped to the laboratory or office
☐ EPA Method 5035 (TerraCore) samples will not be collected (3)

Supplemental information used to confirm section 1 and 2 conclusions:

3) Certify the following by checking the applicable categories that will be shipped or transported on this project (at least one category must be checked):

☐ Equipment and supplies will not be transported or shipped on this project.

OR

☐ Rental equipment being transported/shipped will not contain materials subject to DOT/IATA regulation (4)
☐ Field test kits, fire extinguishers and first aid kits will not be shipped
☐ Remediation chemicals transported in quantities >440 pounds gross weight per vehicle are not DOT regulated
☐ Other equipment and supplies used on this project are:
  ☐ Not regulated for transport; and/or
  ☐ Eligible for materials of trade exception

☐ The following equipment/supplies are not covered by above, are considered HazMat for shipping/transportation, and are subject to an additional shipping determination:

3a

Supplemental information used to confirm this conclusion:

Completion of the "Determination" worksheet is not required. Issue this worksheet to field staff.

3) Certification:

I certify that I am current in HazMat #1 or approved equivalent and the above determination is true and correct to the best of my knowledge.

Name :

Signature:

Reviewed By:

May be signed by any currently trained HazMat #1 employee

SHIPPING/TRANSPORTATION DETERMINATION FORM Revision 10

Regulated Material Shipping Determination

Download the HazMat Shipping Handbook

Date:	
Project Name:	North Eunice
Project Number:	B0048789
Supplemental Information:	None

1) Description of the Material to be Transported or Shipped

1a Select a description category ===>

1b

1c

- ☐ This material is mixed with water, soil or other inert material
- ☐ This material will be shipped on wet or blue ice
- ☐ Consignment contains dry ice
- ☐ Consignment contains containers with acid/base preservatives prepared by an analytical laboratory.
- ☐ ###

2) Classification and Identification

2a This material is:

Complete for Hazardous Materials ONLY:

2b UN/NA/ID# :

2c PG:

Primary Hazard Class:

Subsidiary Hazard Class:

PSN:

☐ See Section 7a

2d This material is a:

Gray colored fields cannot be blank, select first listing in dropdown menu if other listings do not apply.

3) Packaging, Exceptions and Shipping Information

3a Packaging Type:

3b Inner Container Category:

3c Number and Quantity:

	Number	Container type			Net Qty. Each Container		
Container type #1							<= Select units here
Container type #2							TIP: Do not place units in the white column. Place the largest container in bottle set in row #1.
Container type #3							
Container type #4							
Container type #5							
Container type #6							

3d Intermediate Packaging:

3e Outer Packaging:

3f Other: Type:

☐ Overnight AIR shipping for next day delivery is required

Your suggested shipping configuration (excluding MOT option):

This material will be shipped (mode of transport and type of shipment):

3g

3h

Carrier/Transporter information:

3i

5) Documentation

- ☐ No special documentation required
- ☐ Requires a Shipper's Declaration (air) prepared using :
- ☐ Requires HazMat ground shipping papers prepared using:
- ☐ Requires a Bill of Lading or Manifest (>MOT, Freight,Trucking Co., Waste Hauler, etc.)
- ☐ Requires Special Permit DOT-Special Permit #:
- ☐ Other:

6) Emergency Response

- ☐ Use ChemTel 24/7 Emergency Phone and Contract Number or approved equivalent (authorized client or vendor) for this shipment:
  1-800-255-3924 (ChemTel #MIS0007883) Register this shipment with ChemTel:
  Have carrier tracking number available. http://Arcadis.chemtel.net/
- ☐ Ensure current edition of Emergency Response Guidebook in vehicle (this applies to Arcadis Transport requiring a shipping paper)

7) Special Instructions (Specify any "See Section 7" details in 7a)

8) References and Rationale for the Determination (add additional sheets, if required).

8a

0	Rationale must be at least 200 characters (including spaces)

☐ See attached for rationale (IF CHECKED, DETERMINATION IS VOID IF RATIONALE NOT ATTACHED)

9) Signatures

#N/A

Determination performed by:
Phone (XXX-XXX-XXXX):

Determination QA/QC performed by:

May be signed by any currently trained HazMat #1 employee.

Do you have to register your shipment with ChemTel?
Copy the information below and paste into ChemTel's "Additional Comments" field during shipment registration:

APPENDIX E

Hazardous Materials (Dangerous Goods) Shipping Guide

ARCADIS SHIPPING GUIDE NO. US-001

Environmental Sample Cooler Preparation for Hazardous Materials Shipping
Do Not Use After 12/31/2018

1) Fill bottles <90% Full

2) Tape lids secure

3) Place bottles in protective bubble wrap bags or wrap in cushioning material

4) Place protected bottles inside of a self-sealing bag (Ziploc® bag)

5) Select a clean, like new ice chest ≤52 quart capacity. Avoid ice chests with drain plugs

6) Line ice chest with plastic bag (heavy duty trash bag)

7) Place absorbent pads, vermiculite, or other compatible absorbent in ice chest (enough to absorb contents of ice chest) and additional cushioning material (like bubble wrap)

8) Place all bottles in ice chest in upright position (including temperature blank if required by your work plan)

9) Fill remaining void with compatible absorbent, cushioning materials or ice in self-sealing plastic bags (if using cooling preservation). Don't overfill the bag liner.

10) Twist and tie off top of plastic bag

11) Place chain-of-custody in self-sealing plastic bag and tape to inside lid of ice chest

12) Close lid and secure with strapping/packing tape all the way around the ice chest. Apply chain-of-custody seals (one on each side or as directed in your work plan)

APPENDIX F

Bill of Lading

Bill of Lading

To:

From:

ARCADIS Design & Consultancy for natural and built assets

This shipping paper may not be used for hazardous waste shipments.

Maintain in arms reach of driver and readily visible (pocket of driver door or on seat face down when vehicle unattended).

Description and quantity of material transported:

Number and Type of Packages	HM	I.D. Number	Description	Hazard Class	Pkg. Grp.	Total Quantity (mass, volume or activity)

Additional instructions:

Emergency Response Guide:

Emergency Telephone Number: 1-800-255-3924 CHEMTEL #MIS0007883

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in Proper condition for transportation according to the applicable regulations of the Department of Transportation.

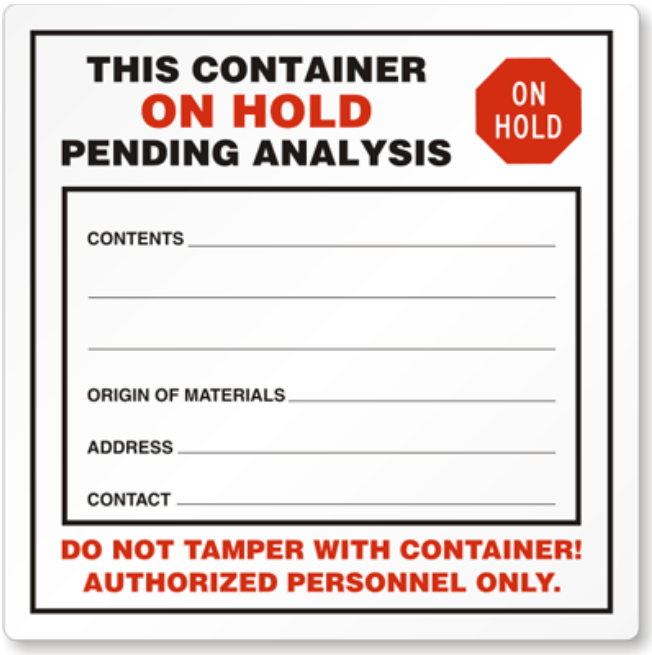
Name and Title of Signatory:

Signature: **Date:**

APPENDIX G

Examples Waste Labels

Appendix G – Examples of Waste Labels



APPENDIX H

Hazardous Waste Inspection Form

General Container Inspection Checklist

DATE/ TIME_____

SITE: _____

PROJECT #_____

PM_____

INSPECTORS NAME_____

The purpose of container, roll-off box, and stockpile inspections is to ensure that the integrity of the container/ pile is not compromised. These inspections are to be completed when the container is loaded or unloaded and at regular intervals during storage. If concerns are noted, please contact the Arcadis Project Manager

	REQUIREMENT	REGULATORY CITATION	Y	N
1	Are walkways between containers clear of debris? Adequate aisle space?	40 CFR 265.35		
2	General housekeeping of storage area is satisfactory?			
3	Is the container(s) labeled with the contents? Note: The label should be visible, legible, and weather resistant.			
4	Container is marked with the accumulation start date.	40 CFR 262.34(a)(2)		
5	Container is marked with the words "Hazardous Waste."	40 CFR 262.34(a)(2)		
6	Container is in good condition and non-leaking.	40 CFR 265.171		
7	Is the container(s) and surrounding area free of staining?			
8	Waste is compatible with container that it is stored in.	40 CFR 265.172		
9	If the container has potential to pressurize is it vented and/or stored in a cool area?			
10	Container is closed except when adding or removing waste. Are all ports and or lids plugged or capped?	40 CFR 265.173(a)		
11	Container not stored in a way that would cause it to spill or leak.	40 CFR 265.173(a)		
12	Are berms in place around the storage area/ containers for containment? Secondary containment is required for liquid wastes.			
13	Containers and storage area are maintained in a manner to prevent fire or explosions. (no Smoking signs, containers are grounded, pressure relief valves, etc.)	40 CFR 265.31		
14	Ignitable and reactive wastes are stored at least 15 meters (50 feet) from facility's property line.	40 CFR 265.176		
15	Packaging: Containers meet all applicable standards for the type of waste they hold. DOT regs at 49 CFR Parts 173, 178, and 179.)	40 CFR 262.30		
16	Labeling (DOT Warning Labels): (See DOT Regulations under 49 CFR 172).	40 CFR 262.31		
17	Marking: Containers of 119 gallons or less must comply with DOT regulations at 49 CFR 172. This includes the "proper shipping name" - 49 CFR 172.301. Containers must also be marked with the following words and information: 1. "HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, con- tact the nearest police or public safety authority or the U.S. Environmental Protection Agency." 2. Generator's name and address. 3. Generator's EPA ID number. 4. Manifest tracking number.	40 CFR 262.32		

18	If there are multiple containers on site, are they clearly numbered?			
19	Facility must be equipped with (unless hazards posed would not require): 1. Internal communications to signal emergency to facility personnel. 2. Communication device to alert local emergency response personnel. 3. Fire extinguishers. 4. Fire suppression: adequate water supply or foam producing equipment. 5. eyewash station	40 CFR 265.32		
20	Testing and maintenance of equipment.	40 CFR 265.33		
21	Immediate access to communication equipment when handling hazardous waste.	40 CFR 265.34		
22	List # of containers, Size and type of container (s) and contents (i.e 4 55-gallon steel drums NH petroleum impacted water)			

NOTES:

4. HAZARDOUS WASTE CONTAINER STORAGE AREA INSPECTION CHECKLIST

Month: _____ Year: ____

Instructions: Weekly, place a "Yes" next to all inspection items that meet facility rules. Place a "No" next to all inspection items that do not meet the rules. Please provide specific comments on all "No-marked"items. When weekly inspection is completed, inspector **must** initial at the bottom of the table. Report all No-marked items to appropriate supervisor.

	Four-Week Inspection Period				Comments on Inspection Items
Inspection Item	**Date:** ____	**Date:** ____	**Date:** ____	**Date:** ____	
Number of Containers in Unit					
Containers Marked/Labeled Properly					
Containers Dated Properly					
Containers Stored 90 Days or Less					
Containers Observed to be free of Leaks/Staining					
Containers Observed with Closed Tops or Bungs					
Containers Observed without Dents or Corrosion					
Appropriate Aisle Space Maintained					
Containment System free of Water or Other Liquids					
Inspectors Initials					

Overall Comments:_____

_____

_____

_____

Reviewed by:_____ Date:_____

Note: State and Federal regulations require that this inspection be performed weekly.

APPENDIX I

Waste Fact Sheet for Subcontractors

Waste Management Fact Sheet

North Eunice

This sheet provides a summary of the waste streams that might be generated at the North Eunice project and the associated requirements.

Waste Stream	Description	Requirements
Soil	Excavated soil from building construction, pipeline and well installation	• Non-hazardous • Stockpile onsite or inside hydrovac truck • Manifest generated by Arcadis • Original copy of manifest sent to CEMC North America Waste Tracking Desk
Groundwater	Well purge water, development water	• Non-hazardous • Collected in drums during purge/development • Manifest generated by Arcadis • Arcadis will coordinate with Key Energy for pick up and transport to an approved saltwater disposal well.
Debris	Construction and Excavated debris	• Non-hazardous • C&D debris placed in designated roll off bin • Scrap metal – decontaminate prior to disposal
Universal Waste	Batteries,	• Waste profile needs to be created upon generation • Shipped in appropriate shipping container acquired from disposal facility • Document volume/shipments

ARCADIS Design & Consultancy for natural and built assets

Arcadis U.S., Inc.

630 Plaza Drive, Suite 100

Highlands Ranch, CO 80129

Tel 720 344 3500

Fax 720 344 3535

www.arcadis.com

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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 157671

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 157671
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	See approval letter in part 1 attachment	11/10/2022