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APPROVED
By Olivia Yu at 2:40 pm, Jul 25, 2018

May 21, 2018

NMOCD approves of the delineation completed thus far for 1RP-4239. The proposed additional monitoring well locations are approved pending concurrence of NMOCD Hydrologist.

Olivia Yu
Environmental Specialist
New Mexico Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, NM 88240

Re: Chevron New Mexico East State NCT-1 007
2017 Site Assessment Report
Case No. 1RP-4239
Lea County, New Mexico

Dear Ms. Yu,

Please find enclosed for your files copies of the following report:

- New Mexico East State NCT-1 007 – 2017 Site Assessment Report, Unit N, Section 1, Township 20 South, Range 36 East; Lea County New Mexico.

The report was prepared by GHD Services (GHD) on behalf of Chevron Environmental Management Company (CEMC) to document on-going assessment activities throughout 2017 at the Site.

Please do not hesitate to call Scott Foord with GHD at 713-734-3090 or myself at 713-372-0289, should you have any questions.

Sincerely,

Jason Michelson

Encl. New Mexico East State NCT-1 007 – 2017 Site Assessment Report

C.C. Amy Barnhill, Chevron/MCBU

Site Assessment Report

New Mexico East State NCT-1 007 (1RP-4239)
Wellhead Release
Lea County, New Mexico

Chevron Environmental
Management Company

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1. Introduction

On behalf of Chevron Environmental Management Company (CEMC), GHD Services Inc. (GHD) has prepared this Site Assessment Report summarizing soil boring and monitoring well installation and sampling activities conducted at the New Mexico East State NCT-1 007 site (hereafter referred to as the "Site"). The Site is located in Unit N, Section 1, Township 20 South, Range 36 East, approximately 3.2 miles southwest of Monument, in eastern Lea County, New Mexico (refer to Figure 1 and Figure 2). Geographic coordinates are 32° 35' 51.56" N latitude, 103° 18' 38.72" W longitude.

2. Background

On November 17, 2010, well NM E NCT-1 007 was in the process of being plugged and abandoned when unexpected wellhead pressure caused tubing in the well to damage the wellhead nipple connection resulting in a release of gas and well fluids around the well pad and tank battery location. The volume of fluids released was estimated at 5 to 10 barrels of an unknown fluid. Chevron submitted an initial Form C-141 to the New Mexico Oil Conservation Division (NMOCD) on November 18, 2010 which reported zero volume of fluids recovered. The wellhead and deadman anchors have been removed and surface casing cut off several feet below surface grade. GHD understands the surface land owner is the State of New Mexico.

Seven soil borings were installed to a depth of one foot on November 19, 2010 to investigate the release. Soil samples were collected at 0"- 6" and 6"- 12" intervals and analyzed for benzene, ethylbenzene, toluene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), chlorides, semi-volatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) 8 metals. Concentrations above NMOCD Recommended Remediation Action Levels (RRALs) for chloride and TPH were reported.

In September 2015, Chevron contracted GHD to perform a soil assessment at the Site. GHD advanced eight shallow soil borings (SB-1 through SB-8) to depths ranging from approximately 0.5 feet to 4 feet below ground surface (bgs). The soil samples were analyzed for TPH gasoline range organics (GRO) and diesel range organics (DRO) and chlorides. Soil boring samples collected from the Site for laboratory analyses were reported at concentrations below the Site RRALs for TPH (1,000 milligrams per kilogram [mg/kg]). Soil boring samples SB-3, SB-4, SB-6, SB-7, and SB-8 collected for laboratory analyses were below the Site RRALs for chloride concentrations (250 mg/kg). Soil boring samples SB-1, SB-2, and SB-5 exceeded the Site RRAL for chloride concentrations at all sampled intervals within each boring (maximum depth of 4 feet bgs). Concentrations exceeding the RRAL for chlorides ranged from 508 mg/kg (SB-5 - 1') to 17,000 mg/kg (SB-2 – 0') at these locations.

In order to further define the vertical and horizontal extent of chloride impact, four deep soil borings (SB-9 through SB-12) were advanced in August 2016 and analyzed for chlorides. The four soil borings were located to the north, east and west of the facility, and advanced to total depths of 30 feet bgs (just above the water table). Chloride concentrations in SB-10 peak at 15 feet bgs (847

mg/kg) before declining to 506 mg/kg at 30 feet bgs. Chloride concentrations in the 2016 borings SB-9, SB-11, and SB-12 exceeded the RRAL in most intervals sampled down to the total depths of 30 feet bgs.

The analytical data obtained from the 2015 and 2016 soil assessment activities indicated that vertical and horizontal delineation of chloride impacts in soil was not achieved at the Site. Assessment activities were continued in 2017 and included the advancement of six additional soil borings (SB-13 through SB-18) to 30 feet bgs, and three monitoring wells (MW-1 through MW-3) were installed to assess potential groundwater impact. Soil borings and well locations are depicted on Figure 3. The findings of the 2017 soil and groundwater investigation are presented in this report.

3. Remediation Standards

Soil

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal, current (GHD) managed groundwater site(s) data, and the United States Geological Survey (USGS) Current Water Database for the Nation indicate:

- The depth to groundwater at the Site is less than 50-feet bgs.
- The nearest private domestic water source is greater than 200-feet from the release site.
- The nearest public/municipal water source is greater than 1,000-feet from the release site.
- The release site lies more than 1,000 horizontal feet from the nearest surface water body.

The NMOCD provides guidance for remediation of contaminants of oil field wastes or products in Guidelines for Remediation of Leaks, Spills, and Releases (August 13, 1993). Consequently, the NMOCD total ranking criteria score is twenty (20) for the Site. The site-specific RRALs applied to this location by the NMOCD are 10 milligrams per kilogram (mg/kg) for benzene; 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX); 100 mg/kg for total petroleum hydrocarbons (TPH); and an NMOCD accepted 600 mg/kg for horizontal delineation and 250 mg/kg for vertical delineation of chlorides.

Groundwater

The guidance also requires remediation of groundwater to human health standards of the New Mexico Water Quality Control Commission (NMWQCC) established in New Mexico Administrative Code Section 20.6.2.3103. Standards for chloride and total dissolved solids (TDS) are listed below.

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
TDS	1,000

4. Geophysical Survey – EM31 and ER

In September 2017, GHD completed a two-phase geophysical investigation at the Site. The purpose of the investigation was to delineate areas of elevated conductivity in order to map the extent of suspected chloride impacts to soil at the Site. The first phase of the investigation consisted of an electromagnetic (EM) survey to delineate the footprint of the suspected impacts. Based on the EM survey results, an electrical resistivity (ER) survey was completed to determine the vertical distribution of the suspected impacts. Survey coverage data are presented on attached Figures 4 and 5.

The EM survey was completed with an EM31 terrain conductivity meter. Prior to conducting the EM31 survey, a grid consisting of parallel lines was established over the proposed area of investigation indicated on Figure 4. Measurements of EM31 data were collected along 30-foot spaced grid lines over the area of investigation, with station spacings of approximately 4 feet on all grid lines. The ER survey line location was chosen based on the EM31 survey results, and transected the EM31 conductivity anomaly. The configuration of the electrodes (also called an array) and the electrode spacings were optimized to achieve an approximate depth of investigation of approximately 70 feet bgs, and the electrode spacing on all grid lines was on the order of 6.6 feet (i.e. 2 meters).

4.1 EM31 Survey Methodology

The EM31 survey was completed to determine the horizontal extent or limits of chloride impacts in the shallow subsurface soils at the Site. The EM31 consists of transmitter and receiver coils located at opposite ends of a rigid boom. The coil separation for the EM31 is approximately 13 feet, which yields an approximate depth of penetration of 18 feet bgs in vertical dipole mode. Measurements of terrain conductivity from the EM31 were used to assess the extent of chloride impacts at the Site. The data for the EM31 survey were then processed as a colored contour plot. The plot was superimposed on an aerial image of the Site plan, and is used to locate elevated conductivity responses indicative of chloride-impacted areas relative to the Site features. Figure 4 depicts the EM31 survey results.

4.2 EM31 Survey Results

The colored contour conductivity plot presented on Figure 4 reveals that the highest intensity conductivity responses are colored red to purple, while areas of low response are colored blue. All remaining intermediate responses correspond to the color scale presented on the figure. Results from non-impacted areas within the survey coverage indicate that background conductivity responses were approximately 25 milliSiemens/meter (mS/m). Anomalous responses relative to background were generally 2 to 7 times higher, and ranged from approximately 50 to 175 mS/m. The EM31 survey results delineated one main area of suspected brine-impacted soils beginning on the northern section of the well pad, and continuing north/northwest off of the pad. A second smaller conductive zone was detected further south, directly north of the above ground storage tanks (ASTs) located along the southern boundary of the well pad.

4.3 ER Survey Methodology

The ER survey profile was completed in September 2017 to determine the vertical extent of chloride-impact in soil on one selected survey line located along the northern boundary of the well pad. This area exhibited the strong responses during the EM31 survey (see Figure 4). The ER survey was conducted with a dual-function resistivity meter, which operates simultaneously as a transmitter and receiver. The survey utilized two multi-electrode cables yielding a total spread of 72 electrodes. The receiver was programmed to automatically "switch" between measured quadripoles, yielding a pseudosection of apparent resistivity. The apparent resistivity data were then imported into an inversion software program, and processed to yield a modeled profile section of resistivity.

4.4 ER Survey Results

The electrical resistivity results for the survey line are presented on Figure 5. These results are based on the measured apparent resistivity values for various depths along the survey line. Calculations of measured apparent resistivity values include the type of ER array (Wenner), the electrode spacing, and raw field data (i.e., applied current and measured voltage for each data point).

The measured apparent resistivity data were processed with the inversion program RES2DINV to yield the modeled resistivity section presented on Figure 5. The modeled section represents the resistance of earth materials in the shallow subsurface, and thus provides an interpretation of the overburden sequences and areas of suspected brine impacts along the survey line. The highest resistivity values are colored dark blue, while areas of low resistivity (or conversely, high conductivity) are colored yellow to red. All remaining intermediate responses correspond to the color scale presented on the bottom of each section.

The colored plot reveals that the contour intervals ranged from 1.25 to 425 Ohm.meters (Ohm.m). The intermediate contour intervals were determined by applying a normalized distribution curve to the data such that the entire range of responses could be identified by discrete colors. The interpreted colored contoured plot suggests that suspected brine-impacted soils can be likely characterized by modeled responses of approximately 1.25 to 45 Ohm.m.

4.5 Geophysical Survey Correlations/Conclusions

- The geophysical investigation successfully delineated the horizontal extent of suspected brine-impacted areas in the shallow subsurface.
- The suspected brine impacts appear to correlate well with soil sample analytical results for chlorides from soil assessment activities.
- In general, the ER survey results indicate the zone of suspected brine impact affecting soils extends beyond 40 feet bgs (i.e., groundwater table – results were subsequently confirmed with groundwater laboratory sample analysis).

5. Drilling and Sampling

In order to further define the vertical and horizontal extent of chloride impact, six soil borings (SB-13 through SB-18) and three monitoring wells (MW-1 through MW-3) were advanced using a hollow stem auger drill rig. Prior to mobilizing drilling equipment to the Site, the boring locations were marked and an initial New Mexico One Call utility locate ticket was submitted on November 9, 2017. GHD's contracted service provider, Envirotech Drilling Services, LLC (Envirotech) (a New Mexico-licensed water well driller) of Houston, Texas, and GHD mobilized to the Site to begin drilling activities on November 13, 2017. Each boring location was cleared for underground utilities with the use of a hand probe and advancement of a hand auger to 1 foot depth, followed by a hydroexcavator to a depth of 4.0 feet bgs. Soil borings SB-13 through SB-18 were advanced to 30 feet bgs, just above the first groundwater bearing unit. Monitor wells MW-1 through MW-3 were advanced to depths ranging from 40-45 feet bgs. Site details and boring locations are shown on Figure 3. During drilling, a GHD geologist observed soil cuttings at 5-foot intervals and recorded subsurface lithology on boring logs.

The soil types observed during drilling of SB-13 through SB-18 and MW-1 through MW-3 consisted primarily of very fine grained, silty sands. The soils were logged in accordance with the Unified Soil Classification System, and soil boring logs are provided in Appendix A.

Soil samples were collected from each boring at 5-foot intervals beginning at the surface, were screened with a photoionization detector (PID), and then placed into laboratory-supplied jars and stored in a cooler with ice. The soil samples were sent to Xenco Laboratories (Xenco) in Midland, Texas for analysis of chlorides by EPA Method 300. Soil samples were additionally field screened for chlorides. The chloride screening was accomplished in the field by mixing soil samples with distilled water, then testing the rinsate using Hach chloride test strips.

5.1 Analytical Results

Soil analytical results are summarized in Table 1 and the distribution of analytical results is presented in map view on Figure 5. Chloride concentrations in all 2017 soil borings (SB-13 through SB-18 and MW-1 through MW-3) exceeded the RRAL in most intervals sampled down to the total depths (30-40 feet bgs). Chloride concentrations in recent samples range up to 9,280 mg/kg (SB-16, 15').

The laboratory analytical report is provided in Appendix B.

6. Groundwater Assessment

Chloride impact to groundwater was not previously evaluated. As such, three monitoring wells were installed during recent assessment activities.

6.1 Monitoring Well Installation

Monitoring wells MW-1, MW-2, and MW-3 were installed on November 15 and 16, 2017 along the northern and western boundaries of the well pad. The monitoring wells were installed concurrently

with the soil investigation detailed in Section 4.0. A hollow stem auger drilling rig operated by Envirotech, advanced MW-1 and MW-3 to total depths of 40 feet bgs, and MW-2 was advanced to 45 feet bgs. During drilling, a GHD geologist logged the soils in accordance with the Unified Soil Classification System; boring logs, well construction diagrams, and the State Well Reports are provided in Appendix A. Chloride/PID field screening, and soil sample collection and analysis were performed as detailed previously during monitoring well drilling activities. Groundwater was encountered during drilling at depths ranging from 33 to 38 feet bgs.

The groundwater monitoring wells were installed with 15 feet of 2.0-inch diameter, 0.010-inch slotted, polyvinyl chloride (PVC) screen. A graded sand filter-pack was placed around the screen and extending 2-feet above the top of the screen interval. A two foot bentonite seal was placed above the sand pack. After hydration of the bentonite seal with potable water, the remainder of the well bore annulus was filled with Portland cement/bentonite grout. The well was completed at the surface with a stick-up protective casing set in an approximate 2 feet by 2 feet concrete pad.

The wells were developed by removal of water to clear the well casing and annulus of sediment. Turbid water was removed from each monitoring well with 2-inch diameter bailers. After bailing, well development was completed with a submersible pump. Approximately 20 gallons of water were removed during well development activities.

Soil cuttings, drilling fluids, and well development water were contained in a lined mudbox. The drill cuttings/fluids and development water were transported as non-hazardous, exploration and production (E&P) exempt waste to Sundance Services, Inc., near Eunice New Mexico. Waste management documentation is provided in Appendix C.

6.2 Groundwater Sampling

Groundwater gauging was conducted on December 13, 2017, and the vertical conductivity profile was assessed through the water column prior to sampling activities. Water levels were measured to the nearest hundredth of a foot and conductivity was measured at 2-foot intervals within the water column of the monitoring wells. After setting the pump at the depth of the highest conductivity reading in each well, the wells were purged and sampled using low-flow methodology. Temperature, conductivity, and pH were monitored during purging with a YSI 556 MP meter, and groundwater samples were collected after the parameters were stabilized. A peristaltic pump with new downhole polyethylene tubing was used at each well to minimize the potential for cross contamination between wells. Field equipment was decontaminated with an Alconox™ wash and distilled water rinse before beginning field activities and between wells.

All groundwater samples were labeled, recorded on a chain-of-custody form, and placed on ice in a cooler to maintain a temperature of 40°F (4°C) or lower. The groundwater samples were delivered to Xenco in Midland, Texas, for analysis of dissolved chloride according to method EPA 300 and for TDS by method SM 2540C. Proper chain of custody documentation was maintained throughout sampling and analytical processes.

6.3 Groundwater Gradient

Groundwater level measurements collected during 2017 are summarized in Table 1. The potentiometric surface map for the December 2017 monitoring event is presented in map view on Figure 7.

Groundwater elevations during the December event ranged from 3531.89 feet above mean sea level (ft msl) in MW-1 to 3531.65 ft msl in MW-3, a difference of 0.24 feet across the Site with an average gradient of 0.0015ft/ft toward the southeast.

6.4 Analytical Results

Analytical results are summarized in Table 3 and the distribution of analytical results is presented in map view on Figure 7. Exceedances of NMWQCC standards for chlorides (250 milligrams per liter (mg/L)) and TDS (1,000 mg/L) were reported in all three monitor wells. Chloride concentrations ranged from 10,900 mg/L to 11,400 mg/L. TDS concentrations ranged from 12,000 mg/L to 18,600 mg/L.

The laboratory analytical report is provided in Appendix B.

7. Summary of Findings

Findings of soil delineation and groundwater monitoring activities conducted at the Site in 2017 are summarized below.

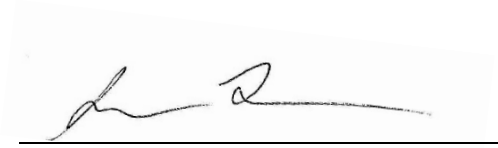
- Chloride concentrations exceeding the RRAL were reported for soil samples collected in all borings and monitoring wells installed in 2017 (SB-13 through SB-18 and MW-1 through MW-3). Concentrations ranged from non-detect in the shallow samples (0-1 feet bgs) to 9,280 mg/kg in SB-16, at 15 feet bgs.
- Chlorides exceeded the RRAL in all samples collected from the soil borings at total depths (30 feet bgs).
- Monitoring wells MW-1, MW-2, and MW-3 were installed in November 2017 to further assess soil investigation results from activities conducted in 2015 and 2016.
- A groundwater monitoring event was conducted in December 2017. Groundwater elevations during the December event ranged from 3531.89 ft msl in MW-1 to 3531.65 ft msl in MW-3 with a gradient toward the southeast.
- Chloride and TDS concentrations exceeded NMWQCC standards in all three monitoring wells.

The analytical data obtained from the assessment and delineation activities performed in 2017 indicates that the vertical and horizontal extent of chloride impacts in soil and groundwater are not delineated. The horizontal extent of chloride impact is not yet defined to the north, east and west of the Site. Chloride exceeds the RRAL in all soil borings at total depth (30 feet bgs) installed in 2017, and exceeds the NMWQCC standards in the groundwater samples collected from MW-1 through MW-3. As such, additional horizontal and vertical delineation of chloride impacts is warranted at the Site.

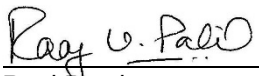
8. 2018 Assessment Activities

On February 13, 2018, GHD and Chevron representatives met with NMOCD and New Mexico State Land Office (NMSLO) to discuss further assessment activities addressing the presence of elevated chloride and TDS concentrations at the Site. Recommended additional assessment activities for 2018 are detailed in the 2018 Work Plan attached as Appendix D.

Submitted by:
GHD

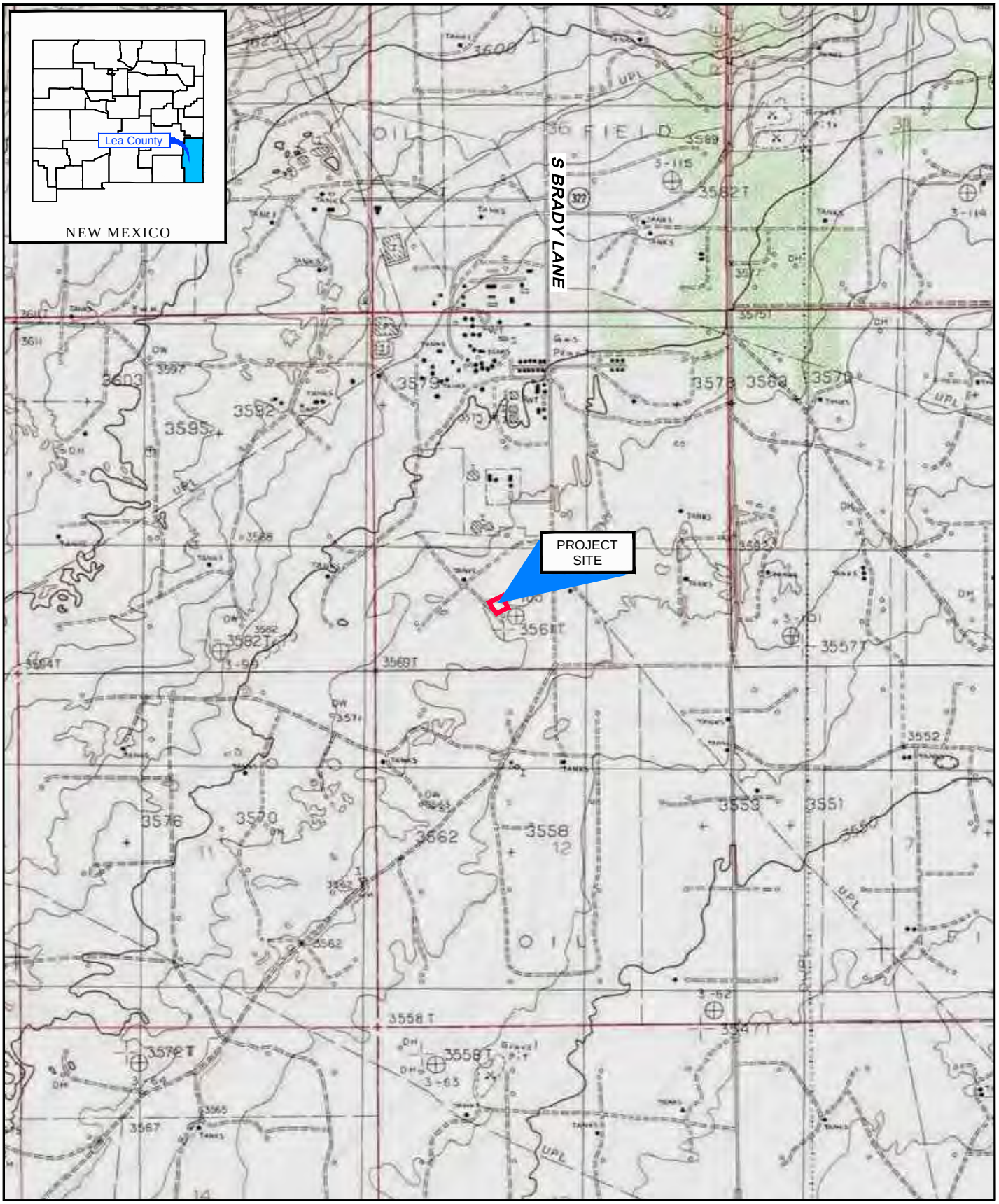


Scott Foord
Project Manager



Raaj Patel
Program Manager

Figures



Source: USGS 7.5 Minute Quad "Monument South, New Mexico"

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 1000 2000ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

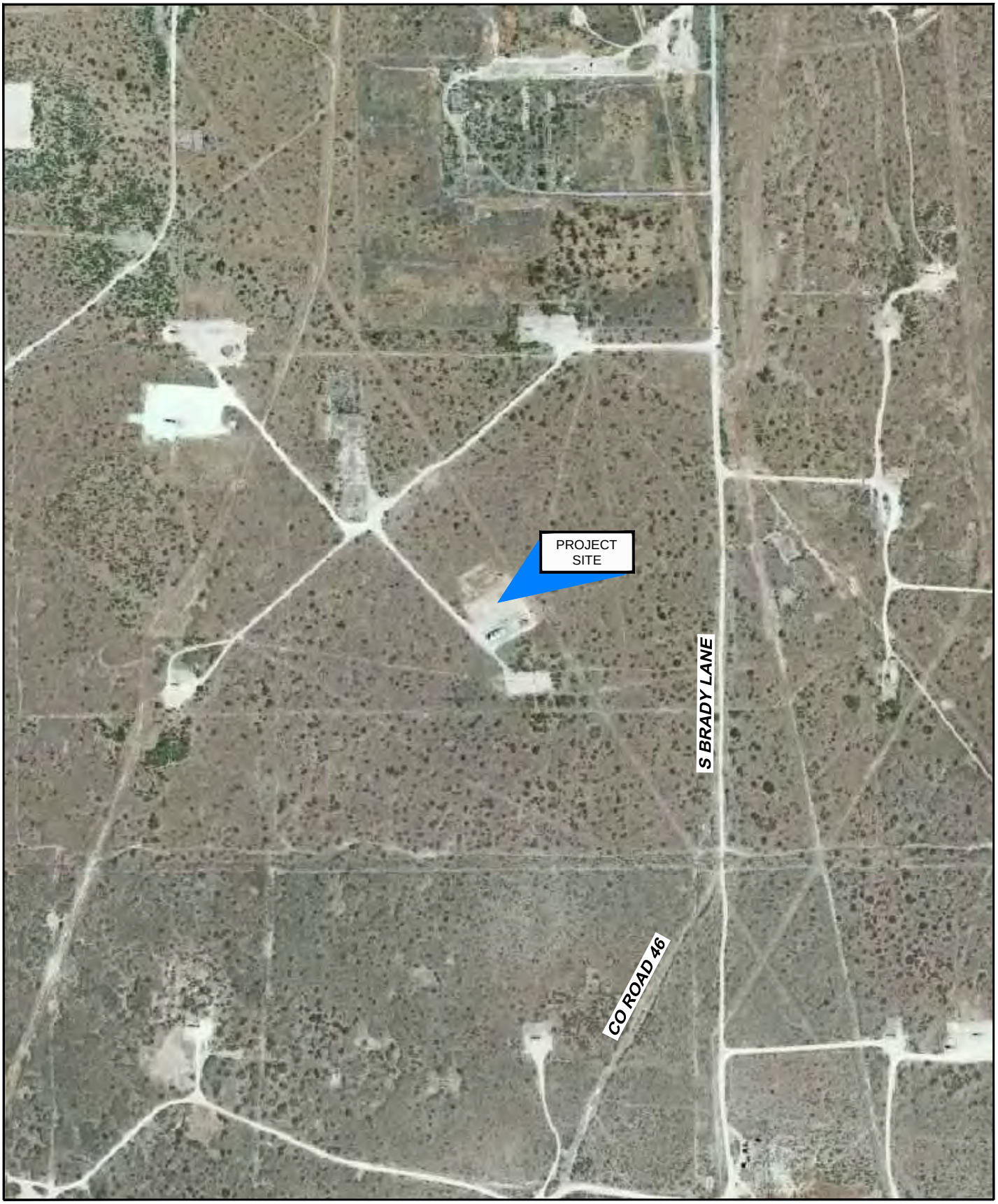
089861-00

Feb 6, 2018

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg



Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 250 500ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

089861-00

Feb 6, 2018

SITE AERIAL MAP

FIGURE 2

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg

Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

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Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

GHD

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

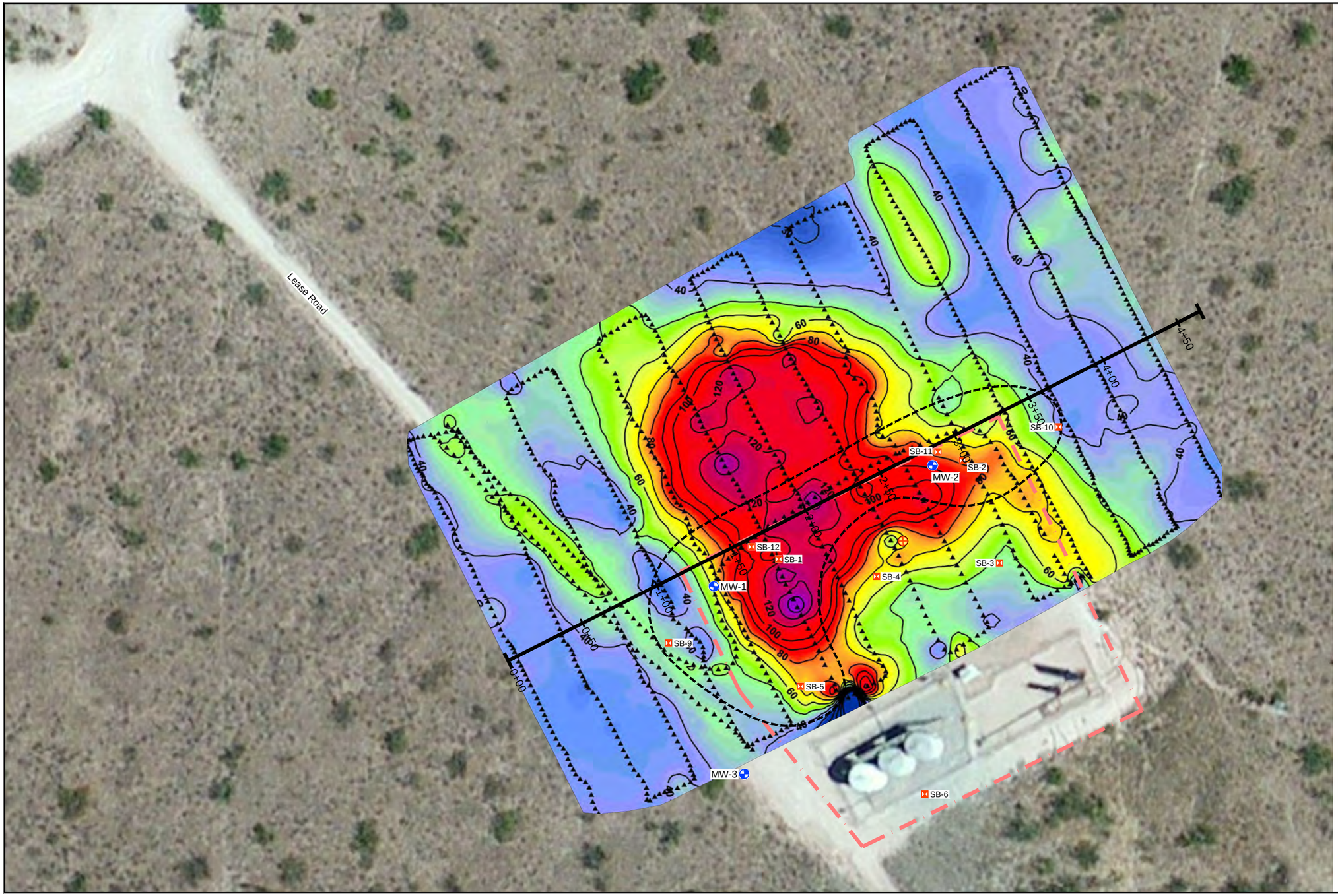
SITE DETAILS AND SOIL BORING AND WELL LOCATION MAP

089861-00

Apr 26, 2018

FIGURE 3

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg



Source: Bing Maps Imagery

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Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

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NEW MEXICO E STATE NCT-1 007

89861-2017

Apr 12, 2018

EM31 GEOPHYSICAL SURVEY MAP

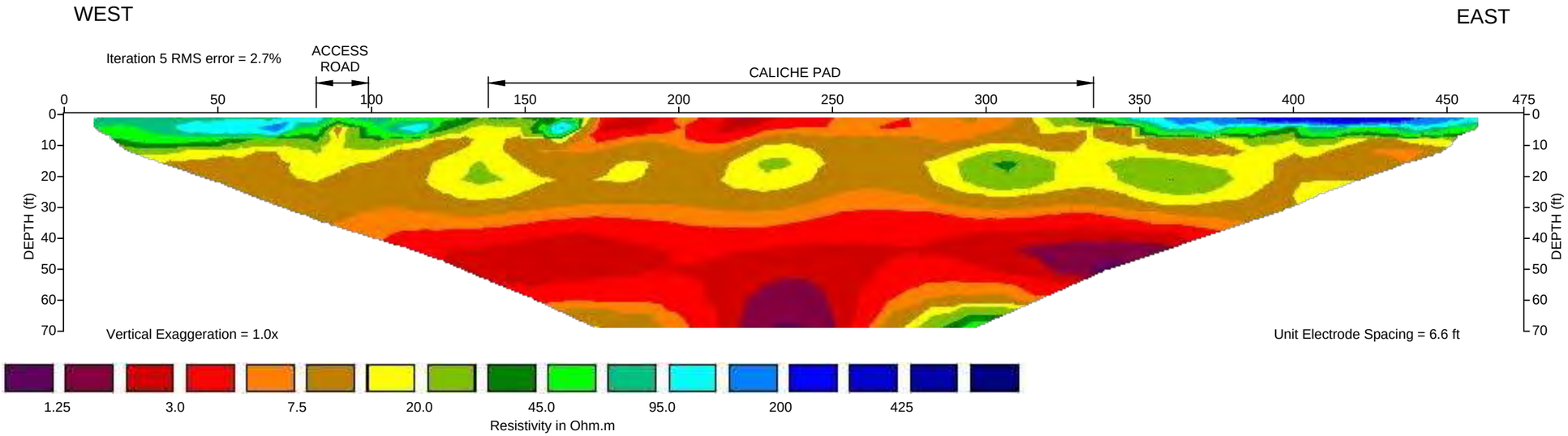
FIGURE 4

CAD File: P:\drawings\89000s\89861\89861-PRES\89861-2017(PRES001)\89861-2017(PRES001)GN\89861-2017(PRES001)GN-WA003.dwg

NM E STATE - LINE 1

INVERSE MODEL RESISTIVITY SECTION

DISTANCE (ft)



0 20 40ft

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

GEOPHYSICAL INVESTIGATION
ELECTRICAL RESISTIVITY SURVEY RESULTS

89861-2017.2

Apr 12, 2018

FIGURE 5

CAD File: P:\drawings\89000s\89861\89861-PRES\89861-2017(PRES001)\89861-2017(PRES001)GN\89861-2017(PRES001)GN-WA004.dwg

NOTES:

1. Yellow shaded cells indicate NMOCD Recommended Remediation Action Level exceedance above 250 mg/kg for chloride.
2. "<" indicates below laboratory detection limit.
3. All analytical results reported in mg/kg.

SB-15 11/14/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<4.99	163	51.9	966	947	642	629

SB-16 11/14/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<4.99	482	996	9,280	2,090	518	629

SB-17 11/14/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<4.98	5.19	73.3	873	324	433	719

SB-11 08/24/16

Depth	5'	10'	15'	20'	25'	30'
Chloride	340	929	17	1,770	<10	858

MW-2 11/15/17

Depth	0-1'	5'	10'	15'	20'	25'	30'	35'	40'
Chloride	106	2,120	1,680	1,990	1,180	476	472	975	1,040

SB-10 08/24/16

Depth	5'	10'	15'	20'	25'	30'
Chloride	22.9	507	847	276	381	506

SB-4 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<10.2	<10.4	<10.6	<10.6	<10.6
Chloride	22.2	2.33	4.49	3.98	4.58

SB-12 08/24/16

Depth	5'	10'	15'	20'	25'	30'
Chloride	118	1,680	3,770	2,710	263	337

SB-2 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<10.1	<10.7	<10.9	<10.8	<10.3
Chloride	17,000	2,920	3,150	1,960	1,330

SB-14 11/13/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<5.00	339	688	1,330	935	432	705

SB-18 11/15/17

Depth	0-1'	5'	10'	15'	30'
Chloride	331	552	659	677	1,940

SB-1 09/17/15

Depth	0'	0.5'
TPH (GRO + DRO)	<10.1	<10.6
Chloride	11,300	11,700

SB-3 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<10.3	<10.2	<10.3	<10.0	<10.1
Chloride	11.7	137	140	14.6	12.6

MW-1 11/15/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<5.00	216	2,880	1,070	557	469	794

SB-13 11/13/17

Depth	0-1'	10'	15'	20'	25'	30'
Chloride	<4.92	331	728	739	963	1,950

SB-9 08/24/16

Depth	5'	10'	15'	20'	25'	30'
Chloride	25.3	615	854	174	597	888

MW-3 11/16/17

Depth	0-1'	5'	10'	15'	20'	25'	30'
Chloride	<4.99	208	285	948	693	861	881

SB-5 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<10.1	<10.1	<10.1	<10.1	<10.2
Chloride	569	508	600	581	598

SB-6 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<9.88	<9.95	<10.0	<9.95	<10.0
Chloride	24.0	11.4	27.9	31.8	51.7

SB-7 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<9.91	<9.99	<9.99	<10.0	<9.96
Chloride	1.79	23.2	18.1	19.1	8.73

SB-8 09/17/15

Depth	0'	1'	2'	3'	4'
TPH (GRO + DRO)	<9.96	<10.1	<10.2	<10.3	<11.2
Chloride	2.23	16.1	5.05	15.1	83.3

LEGEND

- Soil Boring Location - 2015 and 2016
- Soil Boring Location - 2017
- Monitoring Well Location
- New Mexico E State NCT-1 007 Well Marker
- Approximate Site Boundary
- Depth — Depth of Sample (ft)
- TPH — Total Petroleum Hydrocarbons Concentration (mg/kg)
- DRO — TPH as Diesel Range Organics
- GRO — TPH as Gasoline Range Organics
- ND — Indicates Non Detect

Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 20 60ft

Coordinate System: NAD 1983 StatePlane- New Mexico East (US Feet)

Sample ID: MW-3 11/16/17 — Sample Date; Depth 15' — Sample Depth (ft); Chloride 948 — Sample Result (mg/kg)

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

089861-00

Apr 26, 2018

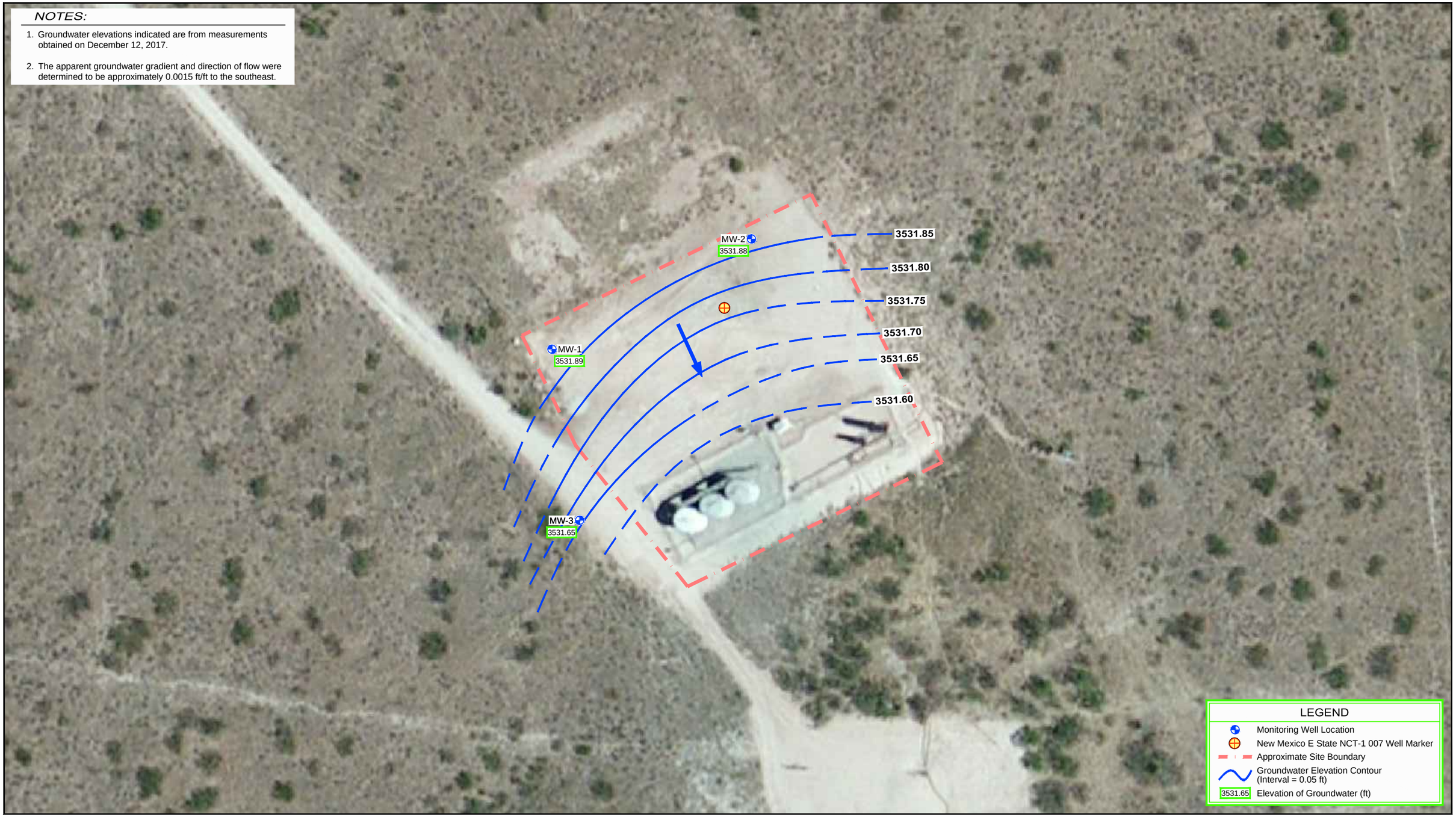
SOIL ANALYTICAL RESULTS MAP

FIGURE 6

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg

NOTES:

1. Groundwater elevations indicated are from measurements obtained on December 12, 2017.
2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.0015 ft/ft to the southeast.



Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 20 60ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

089861-00

Mar 27, 2018

POTENTIOMETRIC SURFACE MAP - DECEMBER 2017

FIGURE 7

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg

NOTES:

1. Yellow shaded cells indicate concentration exceeds NMWQCC standard of 250 mg/L for chloride or 1,000 mg/L for TDS.
2. All analytical results reported in mg/L.

Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 20 60ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

Sample ID — MW-3 12/13/17 — Sample Date
Chloride 11400 — Sample Result (mg/L)
TDS 16500

CEMC
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

089861-00

Mar 28, 2018

GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 8

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\089861-00\089861-00(003)\089861-00(003)GN-DL001.dwg

Tables

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
NEW MEXICO EAST STATE NCT-1 007
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Date	TPH (SW 8015 Modified)			Chlorides
			DRO	GRO	GRO+DRO	
			mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels			---	---	100	250
SB-1	0	9/17/15	<10.1	<10.1	<10.1	**11300**
	0.5	9/17/15	<10.6	<10.6	<10.6	**11700**
SB-2	0	9/17/15	<10.1	<10.1	<10.1	**17000**
	1	9/17/15	<10.7	<10.7	<10.7	**2920**
	2	9/17/15	<10.9	<10.9	<10.9	**3150**
	3	9/17/15	<10.8	<10.8	<10.8	**1960**
	4	9/17/15	<10.3	<10.3	<10.3	**1330**
SB-3	0	9/17/15	<10.3	<10.3	<10.3	11.7
	1	9/17/15	<10.2	<10.2	<10.2	137
	2	9/17/15	<10.3	<10.3	<10.3	140
	3	9/17/15	<10.0	<10.0	<10.0	14.6
	4	9/17/15	<10.1	<10.1	<10.1	12.6
SB-4	0	9/17/15	<10.2	<10.2	<10.2	22.2
	1	9/17/15	<10.4	<10.4	<10.4	2.33
	2	9/17/15	<10.6	<10.6	<10.6	4.49
	3	9/17/15	<10.6	<10.6	<10.6	3.98
	4	9/17/15	<10.6	<10.6	<10.6	4.58
SB-5	0	9/17/15	<10.1	<10.1	<10.1	**569**
	1	9/17/15	<10.1	<10.1	<10.1	**508**
	2	9/17/15	<10.1	<10.1	<10.1	**600**
	3	9/17/15	<10.1	<10.1	<10.1	**581**
	4	9/17/15	<10.2	<10.2	<10.2	**598**
SB-6	0	9/17/15	<9.88	<9.88	<9.88	24.0
	1	9/17/15	<9.95	<9.95	<9.95	11.4
	2	9/17/15	<10.0	<10.0	<10.0	27.9
	3	9/17/15	<9.95	<9.95	<9.95	31.8
	4	9/17/15	<10.0	<10.0	<10.0	51.7
SB-7	0	9/17/15	<9.91	<9.91	<9.91	1.79
	1	9/17/15	<9.99	<9.99	<9.99	23.2
	2	9/17/15	<9.99	<9.99	<9.99	18.1
	3	9/17/15	<10.0	<10.0	<10.0	19.1
	4	9/17/15	<9.96	<9.96	<9.96	8.73
SB-8	0	9/17/15	<9.96	<9.96	<9.96	2.23
	1	9/17/15	<10.1	<10.1	<10.1	16.1
	2	9/17/15	<10.2	<10.2	<10.2	5.05
	3	9/17/15	<10.3	<10.3	<10.3	15.1
	4	9/17/15	<11.2	<11.2	<11.2	83.3
SB-9	5	8/24/16	NT	NT	NT	25.3
	10	8/24/16	NT	NT	NT	**615**
	15	8/24/16	NT	NT	NT	**854**
	20	8/24/16	NT	NT	NT	174
	25	8/24/16	NT	NT	NT	**597**
	30	8/24/16	NT	NT	NT	**888**

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
NEW MEXICO EAST STATE NCT-1 007
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Date	TPH (SW 8015 Modified)			Chlorides
			DRO	GRO	GRO+DRO	
			mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels			---	---	100	250
SB-10	5	8/24/16	NT	NT	NT	22.9
	10	8/24/16	NT	NT	NT	**507**
	15	8/24/16	NT	NT	NT	**847**
	20	8/24/16	NT	NT	NT	**276**
	25	8/24/16	NT	NT	NT	**381**
	30	8/24/16	NT	NT	NT	**506**
SB-11	5	8/24/16	NT	NT	NT	**340**
	10	8/24/16	NT	NT	NT	**929**
	15	8/24/16	NT	NT	NT	17
	20	8/24/16	NT	NT	NT	**1770**
	25	8/24/16	NT	NT	NT	<10
	30	8/24/16	NT	NT	NT	**858**
SB-12	5	8/24/16	NT	NT	NT	118
	10	8/24/16	NT	NT	NT	**1680**
	15	8/24/16	NT	NT	NT	**3770**
	20	8/24/16	NT	NT	NT	**2710**
	25	8/24/16	NT	NT	NT	**263**
	30	8/24/16	NT	NT	NT	**337**
SB-13	0-1	11/13/17	NT	NT	NT	<4.92
	10	11/13/17	NT	NT	NT	**331**
	15	11/13/17	NT	NT	NT	**728**
	20	11/13/17	NT	NT	NT	**739**
	25	11/13/17	NT	NT	NT	**963**
	30	11/13/17	NT	NT	NT	**1950**
SB-14	0-1	11/13/17	NT	NT	NT	<5.00
	5	11/13/17	NT	NT	NT	**339**
	10	11/13/17	NT	NT	NT	**688**
	15	11/13/17	NT	NT	NT	**1330**
	20	11/13/17	NT	NT	NT	**935**
	25	11/13/17	NT	NT	NT	**432**
	30	11/13/17	NT	NT	NT	**705**
SB-15	0-1	11/14/17	NT	NT	NT	<4.99
	5	11/14/17	NT	NT	NT	163
	10	11/14/17	NT	NT	NT	51.9
	15	11/14/17	NT	NT	NT	**966**
	20	11/14/17	NT	NT	NT	**947**
	25	11/14/17	NT	NT	NT	**642**
	30	11/14/17	NT	NT	NT	**629**
SB-16	0-1	11/14/17	NT	NT	NT	<4.99
	5	11/14/17	NT	NT	NT	**482**
	10	11/14/17	NT	NT	NT	**996**
	15	11/14/17	NT	NT	NT	**9280**
	20	11/14/17	NT	NT	NT	**2090**
	25	11/14/17	NT	NT	NT	**518**
	30	11/14/17	NT	NT	NT	**629**

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
NEW MEXICO EAST STATE NCT-1 007
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Date	TPH (SW 8015 Modified)			Chlorides
			DRO	GRO	GRO+DRO	
			mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels			---	---	100	250
SB-17	0-1	11/14/17	NT	NT	NT	<4.98
	5	11/14/17	NT	NT	NT	5.19
	10	11/14/17	NT	NT	NT	73.3
	15	11/14/17	NT	NT	NT	**873**
	20	11/14/17	NT	NT	NT	**324**
	25	11/14/17	NT	NT	NT	**433**
	30	11/14/17	NT	NT	NT	**719**
SB-18	0-1	11/15/17	NT	NT	NT	**331**
	5	11/15/17	NT	NT	NT	**552**
	10	11/15/17	NT	NT	NT	**659**
	15	11/15/17	NT	NT	NT	**677**
	30	11/15/17	NT	NT	NT	**1940**
MW-1	0-1	11/15/17	NT	NT	NT	<5.00
	5	11/15/17	NT	NT	NT	216
	10	11/15/17	NT	NT	NT	**2880**
	15	11/15/17	NT	NT	NT	**1070**
	20	11/15/17	NT	NT	NT	**577**
	25	11/15/17	NT	NT	NT	**469**
	30	11/15/17	NT	NT	NT	**794**
MW-2	0-1	11/15/17	NT	NT	NT	106
	5	11/15/17	NT	NT	NT	**2120**
	10	11/15/17	NT	NT	NT	**1680**
	15	11/15/17	NT	NT	NT	**1990**
	20	11/15/17	NT	NT	NT	**1180**
	25	11/15/17	NT	NT	NT	**476**
	30	11/15/17	NT	NT	NT	**472**
	35	11/15/17	NT	NT	NT	**975**
	40	11/15/17	NT	NT	NT	**1040**
MW-3	0-1	11/16/17	NT	NT	NT	<4.99
	5	11/16/17	NT	NT	NT	208
	10	11/16/17	NT	NT	NT	**285**
	15	11/16/17	NT	NT	NT	**948**
	20	11/16/17	NT	NT	NT	**693**
	25	11/16/17	NT	NT	NT	**861**
	30	11/16/17	NT	NT	NT	**881**

Notes:
- Chloride analyses by Method EPA 300
- TPH analysis by Method SW 8015B Modified
- bgs - below ground surface
- Bold numbers indicate detected concentrations.
- '<' indicates below laboratory Reporting Limit (RL)
- 'NT' indicated constituent was not tested.
- 'SB' indicates soil boring.
- Highlighted cells indicate exceedance of NMOCD RRALs

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
NEW MEXICO EAST STATE NCT-1 007
LEA COUNTY, NEW MEXICO

Well ID	Collection Date	Casing Elevation (ft)	Depth to Groundwater (ft TOC)	Groundwater Elevation (ft)	Total Depth (ft TOC)	Casing Diameter (in)	Well Screen Interval (ft bgs)
MW-1	12/13/17	*3569.59*	37.70	3531.89	43.18	2	25-40
MW-2	12/13/17	*3569.16*	37.28	3531.88	48.24	2	30-45
MW-3	12/13/17	*3568.39*	36.74	3531.65	43.42	2	25-40

Notes:
TOC - Top of Casing.
bgs - below ground surface.

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
NEW MEXICO EAST STATE NCT-1 007
LEA COUNTY, NEW MEXICO

Well ID	*Date*	*Chloride*	*Total Dissolved Solids*
NMWQCC Standards		***250 mg/L***	***1,000 mg/L***
MW-1	12/13/17	**10,900**	**16,900**
MW-1 Duplicate	12/13/17	**11,400**	**16,500**
MW-2	12/13/17	**11,300**	**12,000**
MW-3	12/13/17	**11,100**	**18,600**

NOTES:

NMWQCC - New Mexico Water Quality Control Commission

'mg/L' indicates milligrams per liter

Yellow-shaded cells indicate that concentration exceeds NMWQCC standard.

- BTEX analysis by EPA Method 8021B.

- Chlorides analyzed by EPA Method 300.1

Appendices

Appendix A
Boring Logs and State Well Reports

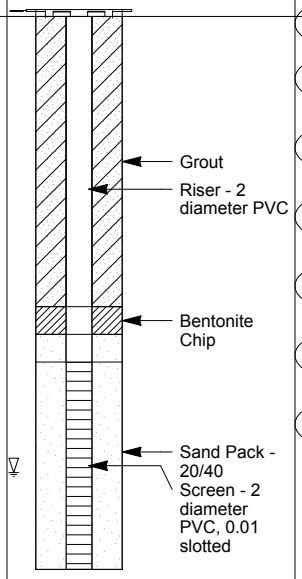
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
PROJECT NUMBER: 89861
CLIENT: Chevron Environmental Management Company
LOCATION: Lea County, New Mexico
DRILLING COMPANY: Envirotech

HOLE DESIGNATION: MW-1
DATE COMPLETED: 15 November 2017
DRILLING METHOD: Hollow Stem
FIELD PERSONNEL: Tom Kalinowski

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, dry	
5	SILTY SAND (SM); tan, olive, fine grained, moist	4.00
	- olive, orange, fine grained, moist	
10	- tan, dry	
15	SAND (SP), tan, orange, dry	15.00
20	- orange, dry	
25	- tan, moist	
30	- tan, saturated at 33 feet bgs, caliche cobbles, no samples taken	
35	- brown, tan, with caliche cobbles	
40	END OF BOREHOLE @ 40.0ft BGS	40.00
45		
50		
55		
60		
65		
70		
75		
80		
85		
90		
95		

WELL CONSTRUCTION



WELL DETAILS
Screened interval:
40.00 to 25.00ft BGS
Length: -15ft
Diameter: 0in
Slot Size: PVC
Material: 23
Seal:
23.00ft BGS
Sand Pack:
40.00ft BGS
Material: 23

BOREHOLE DIAMETER 2

SAMPLE	DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	0-1		1.0		0.6
	4-5		1.0		2.8
	9-10		1.0		5.4
	14-15		1.0		5.6
	19-20		1.0		1.8
	24-25		1.0		2.4
	29-30		1.0		4

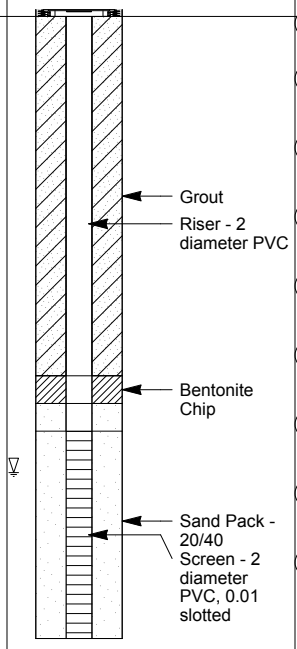
NOTES: Stratigraphy descriptions are based on split spoon samples.
WATER FOUND ▽
LABORATORY ANALYSIS ⬭

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: MW-2
PROJECT NUMBER: 89861
DATE COMPLETED: 15 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, trace caliche, dry	
5	SILTY SAND (SM); brown, orange gray, fine grained, dry	4.00
	- brown, dry	
10	- tan, white, dry	
15	- tan, orange, dry	
20	- brown, dry	
25	- brown, orange, trace caliche, moist	
30	- brown, light gray, trace caliche, saturated at 33 feet bgs	
35	- brown, tan, with trace caliche	
40	- tan, orange, gray	
45	END OF BOREHOLE @ 45.0ft BGS	45.00
50		
55		
60		
65		
70		
75		
80		
85		
90		
95		



WELL DETAILS
Screened interval:
45.00 to 30.00ft BGS
Length: -15ft
Diameter: 0in
Slot Size: PVC
Material: 28
Seal:
28.00ft BGS
Sand Pack:
45.00ft BGS
Material: 28

BOREHOLE DIAMETER 2

SAMPLE				
DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
0-1		1.0		0.8
4-5		1.0		6
9-10		1.0		5.2
14-15		1.0		7.8
19-20		1.0		4.6
24-25		1.0		3.4
29-30		1.0		4.4
34-35		1.0		5.2
39-40		1.0		6

NOTES: Stratigraphy descriptions are based on split spoon samples.
WATER FOUND ▽
LABORATORY ANALYSIS ⬭

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

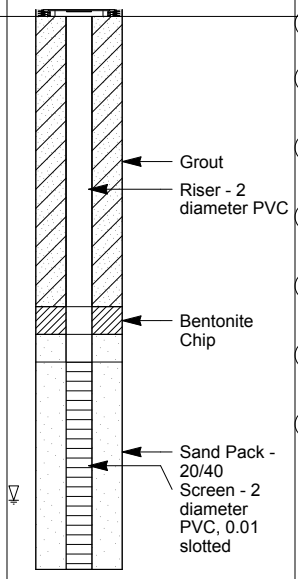
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
PROJECT NUMBER: 89861
CLIENT: Chevron Environmental Management Company
LOCATION: Lea County, New Mexico
DRILLING COMPANY: Envirotech

HOLE DESIGNATION: MW-3
DATE COMPLETED: 16 November 2017
DRILLING METHOD: Hollow Stem
FIELD PERSONNEL: Tom Kalinowski

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, moist	
5	SILTY SAND (SM); olive, fine grained, moist	4.00
	- orange, moist	
10	- tan, dry	
15	- orange, dry	
20	- brown, moist	
25	- red, moist	
30	- tan, trace caliche cobbles, saturated, no samples taken	
35	- tan, with trace caliche, no samples taken	
40	END OF BOREHOLE @ 40.0ft BGS	40.00
45		
50		
55		
60		
65		
70		
75		
80		
85		
90		
95		

WELL CONSTRUCTION



WELL DETAILS
Screened interval:
40.00 to 25.00ft BGS
Length: -15ft
Diameter: 0in
Slot Size: PVC
Material: 23
Seal:
23.00ft BGS
Sand Pack:
40.00ft BGS
Material: 23

BOREHOLE DIAMETER 2

SAMPLE	DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	0-1		1.0		0.4
	4-5		1.0		2.6
	9-10		1.0		2
	14-15		1.0		5
	19-20		1.0		3.8
	24-25		1.0		4.6
	29-30		1.0		3.4

NOTES: Stratigraphy descriptions are based on split spoon samples.
WATER FOUND ▽
LABORATORY ANALYSIS ⬭

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: SB-13
PROJECT NUMBER: 89861
DATE COMPLETED: 13 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE PP (tsf)	SAMPLE CHLORIDE (mg/kg)
	SILTY SAND (SM); Hand Augur to 4 feet bgs, brown, medium to fine grained, dry		0-0.1		0.1		0.4
5	SILTY SAND (SM); brown, fine to medium grained, dry	4.00					
	Sandstone, white, dry	8.00					
10	SILTY SAND (SM); brown, fine grained, some fine gravel, dry	10.00	9-10		1.0		0
15	- brown, orange, fine grained, some fine gravel, dry		14-15		1.0		3.8
20	- brown, orange, fine grained, some fine gravel, dry		19-20		1.0		3.4
25	- brown, orange, fine grained, some fine gravel, moist		24-25		1.0		3.8
30	END OF BOREHOLE @ 30.0ft BGS	30.00	29-30		1.0		5.9
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: SB-14
PROJECT NUMBER: 89861
DATE COMPLETED: 14 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, moist		0-1		1.0		0.5
		4.00					
5	SILTY SAND (SM); light grey, fine grained, dry - light gray, fine grained, some fine gravel, dry		4-5		1.0		2.8
10	- tan, orange, fine grained, some fine gravel, dry		9-10		1.0		3.8
15	- tan, orange, fine grained, some fine gravel, dry		14-15		1.0		6
20	- tan, fine grained, some fine gravel, dry		19-20		1.0		3.4
25	- tan, fine grained, some fine gravel, dry		24-15		1.0		3
30	END OF BOREHOLE @ 30.0ft BGS	30.00	29-30		1.0		4
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: SB-15
PROJECT NUMBER: 89861
DATE COMPLETED: 14 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, moist		0-1		1.0		0.2
5	SANDSTONE, white, dry	4.00 5.00	4-5		1.0		1.8
	SILTY SAND (SM); light gray, brown, fine grained, dry						
10	- light gray, orange, fine grained, dry		9-10		1.0		0.8
15	- orange, fine grained, dry		14-15		1.0		4.8
20	- orange, fine grained, dry		19-20		1.0		4.8
25	- orange, fine grained, moist		24-25		1.0		3.6
30	END OF BOREHOLE @ 30.0ft BGS	30.00	29-30				3.6
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
PROJECT NUMBER: 89861
CLIENT: Chevron Environmental Management Company
LOCATION: Lea County, New Mexico
DRILLING COMPANY: Envirotech

HOLE DESIGNATION: SB-16
DATE COMPLETED: 14 November 2017
DRILLING METHOD: Hollow Stem
FIELD PERSONNEL: Tom Kalinowski

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, moist		0-1		1.0		0.8
5	SILTY SAND (SM); tan, fine grained, trace fine gravel, dry	4.00	4-5		1.0		0.6
10	- tan, orange, fine grained, some fine gravel, dry		9-10		1.0		0.4
15	- tan, orange, fine grained, some fine gravel, dry		14-15		1.0		7.5
20	- tan, orange, fine grained, some fine gravel, dry		19-20		1.0		10
25	- tan, orange, fine grained, some fine gravel, dry		24-25		1.0		3.8
30	- tan, orange, fine grained, some fine gravel, moist		29-30		1.0		3.8
	END OF BOREHOLE @ 30.0ft BGS	30.00					
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: SB-17
PROJECT NUMBER: 89861
DATE COMPLETED: 14 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, dry		0-1		1.0		0.25
		4.00					
5	SILTY SAND (SM); tan, fine grained, dry - brown, fine grained, dry		4-5		1.0		0.2
10	- brown, tan, fine grained, dry		9-10		1.0		1.6
15	- tan, orange, fine grained, dry		14-15		1.0		4.6
20	- tan, orange, fine grained, dry		19-20		1.0		3
25	- tan, orange, fine grained, moist		24-25		1.0		4
30	END OF BOREHOLE @ 30.0ft BGS	30.00	29-30		1.0		5
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: New Mexico East State NCT-1 007
HOLE DESIGNATION: SB-18
PROJECT NUMBER: 89861
DATE COMPLETED: 15 November 2017
CLIENT: Chevron Environmental Management Company
DRILLING METHOD: Hollow Stem
LOCATION: Lea County, New Mexico
FIELD PERSONNEL: Tom Kalinowski
DRILLING COMPANY: Envirotech

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	CHLORIDE (mg/kg)
	SILTY SAND (SM); Hydrovac to 4 feet bgs, brown, fine grained, dry		0-1		1.0		1.8
		4.00					
5	SILTY SAND (SM); tan, fine grained, dry - tan, orange, fine grained, dry		4-5		1.0		3.4
10	- tan, orange, fine grained, some caliche, dry		9-10		1.0		4.2
15	- tan, orange, fine grained, dry		14-15		1.0		4
20	- tan, orange, fine grained, some caliche, dry		19-20		1.0		3
25	- tan, orange, fine grained, moist		24-25		1.0		3
30	END OF BOREHOLE @ 30.0ft BGS	30.00	29-30		1.0		5.8
35							
40							
45							
50							
55							
60							
65							
70							
75							
80							
85							
90							
95							

NOTES: Stratigraphy descriptions are based on split spoon samples.

OVERBURDEN LOG 089861.GPJ CRA_CORP.GDT 11/4/18

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
MW-1		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Chevron Midcontinent, L.P.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6320 Rothway St, Ste. 100	Houston	Tx	77040

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	35	51.5940	N
	LONGITUDE	103	18	38.8116	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW/4 of SE/4 of Section 1, T-20-S, R-36-E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1757	David Draybuck	Envirotech Drilling Services

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/15/2017	11/15/2017	40ft.	40ft.	

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT)

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	25	8.1/4	Riser	Flush Joint	2	0.40	
25	40	8.1/4	Screen	Flush Joint	2	0.40	0.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	2	8.1/4	Cement		Poured
2	21	8.1/4	Grout		Poured
21	23	8.1/4	Bentonite		Poured
23	40	8.1/4	Sand 20/40		Poured

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1		FN. SILTY SAND - Brown Dry.	Y N	
1	4		HYDRO-VAC	Y N	
4	5		FN. SILTY SAND - Tan Olive, Moist.	Y N	
5	10		FN. SILTY SAND - Olive, Orange, Moist.	Y N	
10	15		FN. SILTY SAND - Tan Dry.	Y N	
15	20		FN. SAND- Tan, Orange, Dry.	Y N	
20	25		FN. SAND- Orange, Dry.	Y N	
25	30		FN. SAND - Tan, Moist.	Y N	
30	35		FN. SAND - Tan, Wet @ 33ft. No sample taken (Caliche Cabbles)	✓ Y N	
35	40		FN. SAND - Brow/tan, Wet	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Mario Moya

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
MW-2		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Chevron Midcontinent, L.P.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6320 Rothway St, Ste. 100	Houston	Tx	77040

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	35	51.5940	N
	LONGITUDE	103	18	38.8116	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW/4 of SE/4 of Section 1, T-20-S, R-36-E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1757	David Draybuck	Envirotech Drilling Services

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/15/2017	11/15/2017	45ft.	45ft.	

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT)

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	30	8.1/4	Riser	Flush Joint	2	0.40	
30	45	8.1/4	Screen	Flush Joint	2	0.40	0.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	2	8.1/4	Cement		Poured
2	26	8.1/4	Grout		Poured
26	28	8.1/4	Bentonite		Poured
28	45	8.1/4	Sand 20/40		Poured

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1		FN. SILTY SAND - Brown Traces Caliche Dry.	Y N	
1	4		HYDRO-VAC	Y N	
4	5		FN. SILTY SAND - Brown, Orange, Gray, Dry.	Y N	
5	10		FN. SILTY SAND - Brown, Gray, Dry.	Y N	
10	15		FN. SILTY SAND - Tan, White, Dry.	Y N	
15	20		FN. SILTYSAND- Tan, Orange, Dry.	Y N	
20	25		FN. SILTY SAND- Brown, Dry.	Y N	
25	30		FN. SILTY SAND - Brown, Orange, Traces caliche, Moist @30ft.	Y N	
30	35		FN. SILTY SAND - Brown, Gray, Traces Caliche, Moist to Wet	✓ Y N	
35	40		FN. SILTY SAND - Brow, tan, Traces Caliche, Moist to Wet.	✓ Y N	
40	45		FN. SILTY SAND - Tan, Orange, Gray, Wet, Saturated.	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Mario Moya

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
MW-3		

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Chevron Midcontinent, L.P.	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6320 Rothway St, Ste. 100	Houston	Tx	77040

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	35	51.9432	N
	LONGITUDE	103	18	36.3348	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW/4 of SE/4 of Section 1, T-20-S, R-36-E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1757	David Draybuck	Envirotech Drilling Services

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/16/2017	11/16/2017	40ft.	40ft.	

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT)

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	25	8.1/4	Riser	Flush Joint	2	0.40	
25	40	8.1/4	Screen	Flush Joint	2	0.40	0.010

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	2	8.1/4	Cement		Poured
2	21	8.1/4	Grout		Poured
21	23	8.1/4	Bentonite		Poured
23	40	8.1/4	Sand 20/40		Poured

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1		FN. SILTY SAND - Brown Moist.	Y N	
1	4		HYDRO-VAC	Y N	
4	5		FN. SILTY SAND - Olive, Moist.	Y N	
5	10		FN. SILTY SAND - Orange, Moist.	Y N	
10	15		FN. SILTY SAND - Tan Dry.	Y N	
15	20		FN. SILTY SAND - Orange, Dry.	Y N	
20	25		FN. SILTY SAND- Brown, Moist.	Y N	
25	30		FN. SILTY SAND - Red, Very Moist.	Y N	
30	35		FN. SILTY SAND - Tan, Some Caliche Cobbles, Wet	✓ Y N	
35	40		FN. SILTY SAND - Tan, Some Caliche Wet.	✓ Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Mario Moya

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

Appendix B
Laboratory Analytical Reports

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-001		568958-002		568958-003		568958-004		568958-005		568958-006	
	Field Id:	SB-13-S-0-1-171113		SB-13-S-1.0-171113		SB-13-S-15-1-171113		SB-13-S-20-1-171113		SB-13-S-25-171113		SB-13-S-30-171113	
	Depth:	0-1		10-		15-		20-		25-		30-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-13-17 12:30		Nov-13-17 13:30		Nov-13-17 13:50		Nov-13-17 14:05		Nov-13-17 14:20		Nov-13-17 14:45	
Chloride by EPA 300	***Extracted:***	Dec-06-17 15:00		Dec-06-17 15:00		Nov-30-17 17:40		Nov-30-17 17:40		Nov-30-17 17:40		Nov-30-17 17:40	
	Analyzed:	Dec-06-17 17:18		Dec-06-17 17:36		Nov-30-17 22:21		Nov-30-17 22:27		Nov-30-17 22:33		Nov-30-17 22:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.92	4.92	331	5.00	728	29.2	739	5.73	963	5.44	1950	31.7
Percent Moisture	***Extracted:***												
	Analyzed:					Nov-28-17 09:00		Nov-28-17 09:00		Nov-28-17 09:00		Nov-28-17 09:00	
	Units/RL:					%	RL	%	RL	%	RL	%	RL
Percent Moisture						15.6	1.00	13.0	1.00	9.87	1.00	21.0	1.00

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-007		568958-008		568958-009		568958-010		568958-011		568958-012	
	Field Id:	SB-14-S-0-171113		SB-14-S-5-171113		SB-14-S-10-171113		SB-14-S-15-171113		SB-14-S-20-171113		SB-14-S-25-171113	
	Depth:	0-1		5-		10-		15-		20-		25-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-13-17 15:15		Nov-13-17 16:10		Nov-13-17 16:20		Nov-13-17 16:30		Nov-13-17 16:40		Nov-14-17 07:50	
Chloride by EPA 300	***Extracted:***	Dec-06-17 15:00		Dec-06-17 15:00		Nov-30-17 17:40		Nov-30-17 17:40		Dec-01-17 09:00		Dec-06-17 15:00	
	Analyzed:	Dec-06-17 17:42		Dec-06-17 17:48		Nov-30-17 22:39		Nov-30-17 23:03		Dec-01-17 13:10		Dec-06-17 17:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	339	4.90	688	5.74	1330	29.8	935	29.1	432	4.95
Percent Moisture	***Extracted:***												
	Analyzed:					Nov-28-17 09:00		Nov-28-17 09:00		Nov-28-17 09:00			
	Units/RL:					%	RL	%	RL	%	RL		
Percent Moisture						14.5	1.00	16.1	1.00	15.7	1.00		

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-013		568958-014		568958-015		568958-016		568958-017		568958-018	
	Field Id:	SB-14-S-30-171113		SB-15-S-0-1-171113		SB-15-S-5-171113		SB-15-S-10-171113		SB-15-S-15-171113		SB-15-S-20-171113	
	Depth:	30-		0-1		5-		10-		15-		20-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-17 08:05		Nov-14-17 08:45		Nov-14-17 09:30		Nov-14-17 09:40		Nov-14-17 09:55		Nov-14-17 10:05	
Chloride by EPA 300	***Extracted:***	Dec-01-17 09:00		Dec-06-17 15:00		Dec-06-17 15:00		Dec-06-17 15:00		Dec-01-17 09:00		Dec-01-17 09:00	
	Analyzed:	Dec-01-17 13:16		Dec-06-17 18:11		Dec-06-17 18:17		Dec-06-17 18:23		Dec-01-17 13:22		Dec-01-17 11:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		705	5.30	<4.99	4.99	163	4.95	51.9	4.81	966	5.73	947	5.58
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 09:00								Nov-28-17 09:00		Nov-28-17 09:00	
	Units/RL:	%	RL							%	RL	%	RL
Percent Moisture		7.05	1.00							12.8	1.00	12.2	1.00

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-019		568958-020		568958-021		568958-022		568958-023		568958-024	
	Field Id:	SB-15-S-25-171113		SB-15-S-30-171113		SB-16-S-0-1-171113		SB-16-S-5-171113		SB-16-S-10-171113		SB-16-S-15-171113	
	Depth:	25-		30-		0-1		5-		10-		15-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-17 10:25		Nov-14-17 10:40		Nov-14-17 11:05		Nov-14-17 12:30		Nov-14-17 12:40		Nov-14-17 12:50	
Chloride by EPA 300	***Extracted:***	Dec-01-17 09:00		Dec-01-17 09:00		Dec-06-17 15:00		Dec-06-17 15:00		Dec-06-17 15:00		Dec-01-17 09:00	
	Analyzed:	Dec-01-17 11:17		Dec-01-17 11:35		Dec-06-17 18:29		Dec-06-17 18:35		Dec-06-17 18:59		Dec-01-17 11:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		642	5.53	629	5.73	<4.99	4.99	482	4.97	996	24.8	9280	58.2
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 09:00		Nov-28-17 11:20								Nov-28-17 11:20	
	Units/RL:	%	RL	%	RL							%	RL
Percent Moisture		11.1	1.00	13.7	1.00							15.8	1.00

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-025		568958-026		568958-027		568958-028		568958-029		568958-030	
	Field Id:	SB-16-S-20-171113		SB-16-S-25-171113		SB-16-S-30-171113		SB-17-S-0-1-171113		SB-17-S-5-171113		SB-17-S-10-171113	
	Depth:	20-		25-		30-		0-1		5-		10-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-17 13:00		Nov-14-17 13:15		Nov-14-17 13:30		Nov-14-17 14:00		Nov-14-17 14:45		Nov-14-17 14:55	
Chloride by EPA 300	***Extracted:***	Dec-01-17 09:00		Dec-01-17 09:00		Dec-01-17 09:00		Dec-06-17 15:00		Dec-06-17 15:00		Dec-01-17 09:00	
	Analyzed:	Dec-01-17 11:47		Dec-01-17 11:53		Dec-01-17 11:59		Dec-06-17 18:41		Dec-06-17 19:05		Dec-01-17 12:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2090	28.0	518	5.43	629	5.52	<4.98	4.98	5.19	4.97	73.3	5.57
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20						Nov-28-17 11:20	
	Units/RL:	%	RL	%	RL	%	RL					%	RL
Percent Moisture		12.0	1.00	9.03	1.00	9.91	1.00					11.1	1.00

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-031		568958-032		568958-033		568958-034		568958-035		568958-036	
	Field Id:	SB-17-S-15-171113		SB-17-S-20-171113		SB-17-S-25-171113		SB-17-S-30-171113		SB-18-S-0-1-171113		SB-18-S-5-171113	
	Depth:	15-		20-		25-		30-		0-1		5-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-14-17 15:10		Nov-14-17 15:20		Nov-14-17 15:40		Nov-14-17 15:55		Nov-15-17 07:35		Nov-15-17 08:00	
Chloride by EPA 300	***Extracted:***	Dec-01-17 09:00		Dec-06-17 15:00		Dec-01-17 09:00		Dec-01-17 09:00		Dec-06-17 15:00		Dec-01-17 09:00	
	Analyzed:	Dec-01-17 12:23		Dec-06-17 19:22		Dec-01-17 12:29		Dec-01-17 12:46		Dec-06-17 19:28		Dec-01-17 12:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		873	5.92	324	4.99	433	5.59	719	5.60	331	4.93	552	5.47
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 11:20				Nov-28-17 11:20		Nov-28-17 11:20				Nov-28-17 11:20	
	Units/RL:	%	RL			%	RL	%	RL			%	RL
Percent Moisture		15.6	1.00			11.8	1.00	10.8	1.00			8.55	1.00

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-037		568958-038		568958-041		568958-042		568958-043		568958-044	
	Field Id:	SB-18-S-10-171113		SB-18-S-15-171113		SB-18-S-30-171113		MW-2-S-0-1-171115		MW-2-S-5-171115		MW-2-S-10-171115	
	Depth:	10-		15-		30-		0-1		5-		10-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-17 08:05		Nov-15-17 08:15		Nov-15-17 08:50		Nov-15-17 09:15		Nov-15-17 09:45		Nov-15-17 10:00	
Chloride by EPA 300	***Extracted:***	Dec-01-17 09:00		Dec-01-17 09:00		Dec-01-17 11:00		Dec-06-17 15:00		Dec-01-17 11:00		Dec-01-17 11:00	
	Analyzed:	Dec-01-17 12:58		Dec-01-17 13:04		Dec-01-17 16:31		Dec-06-17 19:34		Dec-01-17 16:37		Dec-01-17 16:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		659	5.43	677	5.76	1940	30.9	106	4.93	2120	27.0	1680	26.7
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20				Nov-28-17 11:20		Nov-28-17 11:20	
	Units/RL:	%	RL	%	RL	%	RL			%	RL	%	RL
Percent Moisture		8.96	1.00	14.6	1.00	20.7	1.00			9.06	1.00	8.29	1.00

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-045		568958-046		568958-047		568958-048		568958-049		568958-050	
	Field Id:	MW-2-S-15-171115		MW-2-S-20-171115		MW-2-S-25-171115		MW-2-S-30-171115		MW-2-S-35-171115		MW-2-S-40-171115	
	Depth:	15-		20-		25-		30-		35-		40-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-17 10:15		Nov-15-17 10:25		Nov-15-17 10:40		Nov-15-17 11:05		Nov-15-17 11:35		Nov-15-17 12:05	
Chloride by EPA 300	***Extracted:***	Dec-01-17 11:00		Dec-01-17 11:00		Dec-01-17 11:00		Dec-01-17 11:00		Dec-01-17 11:00		Dec-01-17 11:00	
	Analyzed:	Dec-01-17 14:27		Dec-01-17 14:33		Dec-01-17 13:57		Dec-01-17 14:15		Dec-01-17 14:21		Dec-01-17 14:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1990	27.8	1180	27.5	476	5.30	472	5.30	975	5.49	1040	28.1
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20		Nov-28-17 11:20	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		11.7	1.00	11.0	1.00	7.53	1.00	7.52	1.00	9.43	1.00	12.0	1.00

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-051		568958-052		568958-053		568958-054		568958-055		568958-056	
	Field Id:	MW-1-S-0-1-171115		MW-1-S-5-171115		MW-1-S-10-171115		MW-1-S-15-171115		MW-1-S-20-171115		MW-1-S-25-171115	
	Depth:	0-1		5-		10-		15-		20-		25-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-17 14:20		Nov-15-17 14:55		Nov-15-17 15:05		Nov-15-17 15:15		Nov-15-17 15:20		Nov-15-17 15:50	
Chloride by EPA 300	***Extracted:***	Dec-06-17 15:00		Dec-06-17 15:00		Dec-01-17 11:00		Dec-01-17 11:00		Dec-06-17 15:00		Dec-06-17 15:00	
	Analyzed:	Dec-06-17 19:40		Dec-06-17 19:46		Dec-01-17 14:57		Dec-01-17 15:03		Dec-06-17 19:52		Dec-06-17 19:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	216	4.93	2880	37.1	1070	28.3	577	4.96	469	4.91
Percent Moisture	***Extracted:***												
	Analyzed:					Nov-28-17 11:20		Nov-28-17 11:20					
	Units/RL:					%	RL	%	RL				
Percent Moisture						32.7	1.00	12.8	1.00				

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	568958-057		568958-058		568958-059		568958-060		568958-061		568958-062	
	Field Id:	MW-1-S-30-171115		MW-3-S-0-1-171115		MW-3-S-5-171115		MW-3-S-10-171115		MW-3-S-15-171115		MW-3-S-20-171115	
	Depth:	30-		0-1		5-		10-		15-		20-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-15-17 16:05		Nov-16-17 08:20		Nov-16-17 09:10		Nov-16-17 09:25		Nov-16-17 09:35		Nov-16-17 09:45	
Chloride by EPA 300	***Extracted:***	Dec-01-17 11:00		Dec-06-17 16:20		Dec-06-17 16:20		Dec-06-17 16:20		Dec-01-17 11:00		Dec-01-17 11:00	
	Analyzed:	Dec-01-17 15:08		Dec-06-17 20:34		Dec-06-17 20:51		Dec-06-17 20:57		Dec-01-17 15:14		Dec-01-17 15:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		794	5.47	<4.99	4.99	208	4.96	285	4.95	948	30.6	693	5.61
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-28-17 11:20								Nov-28-17 11:20		Nov-28-17 11:20	
	Units/RL:	%	RL							%	RL	%	RL
Percent Moisture		9.21	1.00							18.6	1.00	11.7	1.00

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 568958

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Scott Foord
Project Location: HOBBS NM

Date Received in Lab: Sat Nov-18-17 09:00 am
Report Date: 08-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	568958-063		568958-064					
	Field Id:	MW-3-S-25-171115		MW-3-S-30-171115					
	Depth:	25-		30-					
	Matrix:	SOIL		SOIL					
	Sampled:	Nov-16-17 10:00		Nov-16-17 10:10					
Chloride by EPA 300	***Extracted:***	Dec-01-17 11:00		Dec-01-17 11:00					
	Analyzed:	Dec-01-17 15:38		Dec-01-17 16:02					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		861	5.48	881	5.48				
Percent Moisture	***Extracted:***								
	Analyzed:	Nov-28-17 11:20		Nov-28-17 11:20					
	Units/RL:	%	RL	%	RL				
Percent Moisture		10.2	1.00	10.6	1.00				

Mike Kimmel
Client Services Manager

Analytical Report 568958

for

GHD Services, INC- Midland

Project Manager: Scott Foord

New Mexico East State

089861

08-DEC-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

08-DEC-17

Project Manager: **Scott Foord**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **568958**
New Mexico East State
Project Address: HOBBS NM

Scott Foord:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 568958. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 568958 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Mike Kimmel
Client Services Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-13-S-0-1-171113	S	11-13-17 12:30	0 - 1	568958-001
SB-13-S-1.0-171113	S	11-13-17 13:30	10	568958-002
SB-13-S-15-1-171113	S	11-13-17 13:50	15	568958-003
SB-13-S-20-1-171113	S	11-13-17 14:05	20	568958-004
SB-13-S-25-171113	S	11-13-17 14:20	25	568958-005
SB-13-S-30-171113	S	11-13-17 14:45	30	568958-006
SB-14-S-0-171113	S	11-13-17 15:15	0 - 1	568958-007
SB-14-S-5-171113	S	11-13-17 16:10	5	568958-008
SB-14-S-10-171113	S	11-13-17 16:20	10	568958-009
SB-14-S-15-171113	S	11-13-17 16:30	15	568958-010
SB-14-S-20-171113	S	11-13-17 16:40	20	568958-011
SB-14-S-25-171113	S	11-14-17 07:50	25	568958-012
SB-14-S-30-171113	S	11-14-17 08:05	30	568958-013
SB-15-S-0-1-171113	S	11-14-17 08:45	0 - 1	568958-014
SB-15-S-5-171113	S	11-14-17 09:30	5	568958-015
SB-15-S-10-171113	S	11-14-17 09:40	10	568958-016
SB-15-S-15-171113	S	11-14-17 09:55	15	568958-017
SB-15-S-20-171113	S	11-14-17 10:05	20	568958-018
SB-15-S-25-171113	S	11-14-17 10:25	25	568958-019
SB-15-S-30-171113	S	11-14-17 10:40	30	568958-020
SB-16-S-0-1-171113	S	11-14-17 11:05	0 - 1	568958-021
SB-16-S-5-171113	S	11-14-17 12:30	5	568958-022
SB-16-S-10-171113	S	11-14-17 12:40	10	568958-023
SB-16-S-15-171113	S	11-14-17 12:50	15	568958-024
SB-16-S-20-171113	S	11-14-17 13:00	20	568958-025
SB-16-S-25-171113	S	11-14-17 13:15	25	568958-026
SB-16-S-30-171113	S	11-14-17 13:30	30	568958-027
SB-17-S-0-1-171113	S	11-14-17 14:00	0 - 1	568958-028
SB-17-S-5-171113	S	11-14-17 14:45	5	568958-029
SB-17-S-10-171113	S	11-14-17 14:55	10	568958-030
SB-17-S-15-171113	S	11-14-17 15:10	15	568958-031
SB-17-S-20-171113	S	11-14-17 15:20	20	568958-032
SB-17-S-25-171113	S	11-14-17 15:40	25	568958-033
SB-17-S-30-171113	S	11-14-17 15:55	30	568958-034
SB-18-S-0-1-171113	S	11-15-17 07:35	0 - 1	568958-035
SB-18-S-5-171113	S	11-15-17 08:00	5	568958-036
SB-18-S-10-171113	S	11-15-17 08:05	10	568958-037
SB-18-S-15-171113	S	11-15-17 08:15	15	568958-038
SB-18-S-30-171113	S	11-15-17 08:50	30	568958-041
MW-2-S-0-1-171115	S	11-15-17 09:15	0 - 1	568958-042
MW-2-S-5-171115	S	11-15-17 09:45	5	568958-043
MW-2-S-10-171115	S	11-15-17 10:00	10	568958-044
MW-2-S-15-171115	S	11-15-17 10:15	15	568958-045

MW-2-S-20-171115	S	11-15-17 10:25	20	568958-046
MW-2-S-25-171115	S	11-15-17 10:40	25	568958-047
MW-2-S-30-171115	S	11-15-17 11:05	30	568958-048
MW-2-S-35-171115	S	11-15-17 11:35	35	568958-049
MW-2-S-40-171115	S	11-15-17 12:05	40	568958-050
MW-1-S-0-1-171115	S	11-15-17 14:20	0 - 1	568958-051
MW-1-S-5-171115	S	11-15-17 14:55	5	568958-052
MW-1-S-10-171115	S	11-15-17 15:05	10	568958-053
MW-1-S-15-171115	S	11-15-17 15:15	15	568958-054
MW-1-S-20-171115	S	11-15-17 15:20	20	568958-055
MW-1-S-25-171115	S	11-15-17 15:50	25	568958-056
MW-1-S-30-171115	S	11-15-17 16:05	30	568958-057
MW-3-S-0-1-171115	S	11-16-17 08:20	0 - 1	568958-058
MW-3-S-5-171115	S	11-16-17 09:10	5	568958-059
MW-3-S-10-171115	S	11-16-17 09:25	10	568958-060
MW-3-S-15-171115	S	11-16-17 09:35	15	568958-061
MW-3-S-20-171115	S	11-16-17 09:45	20	568958-062
MW-3-S-25-171115	S	11-16-17 10:00	25	568958-063
MW-3-S-30-171115	S	11-16-17 10:10	30	568958-064
SB-18-S-20-171113	S	11-15-17 08:25	20	Not Analyzed
SB-18-S-25-171113	S	11-15-17 08:35	25	Not Analyzed

Sample receipt non conformances and comments:

12/06/17: Per Scott Ford remove from hold and run: 568958-1,2,7,8,12,14,15,16,21,22,23,28,29,32,35,42,51,52,55,56,58,59,60.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3034777 Chloride by EPA 300

Lab Sample ID 568958-062 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 568958-041, -043, -044, -045, -046, -047, -048, -049, -050, -053, -054, -057, -061, -062, -063, -064.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3035189 Chloride by EPA 300

Lab Sample ID 568958-028 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 568958-001, -002, -007, -008, -012, -014, -015, -016, -021, -022, -023, -028, -029, -032, -035, -042, -051, -052, -055, -056.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-0-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-001	Date Collected:	11.13.17 12.30	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	12.06.17 17.18	U	1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-1.0-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-002	Date Collected:	11.13.17 13.30	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**331**	5.00	mg/kg	12.06.17 17.36		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-15-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-003	Date Collected:	11.13.17 13.50	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	15.6
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**728**	29.2	mg/kg	11.30.17 22.21		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-20-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-004	Date Collected:	11.13.17 14.05	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	13.04
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**739**	5.73	mg/kg	11.30.17 22.27		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-25-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-005	Date Collected:	11.13.17 14.20	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.87
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**963**	5.44	mg/kg	11.30.17 22.33		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-13-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-006	Date Collected:	11.13.17 14.45	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	21.04
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1950**	31.7	mg/kg	11.30.17 22.57		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-0-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-007	Date Collected:	11.13.17 15.15	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	12.06.17 17.42	U	1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-5-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-008	Date Collected:	11.13.17 16.10	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**339**	4.90	mg/kg	12.06.17 17.48		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-10-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-009	Date Collected:	11.13.17 16.20	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	14.45
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**688**	5.74	mg/kg	11.30.17 22.39		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-15-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-010	Date Collected:	11.13.17 16.30	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	16.05
Analyst:	MNV	Date Prep:	11.30.17 17.40	Basis:	Dry Weight
Seq Number:	3034718				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1330**	29.8	mg/kg	11.30.17 23.03		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-20-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-011	Date Collected:	11.13.17 16.40	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	15.68
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**935**	29.1	mg/kg	12.01.17 13.10		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-25-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-012	Date Collected:	11.14.17 07.50	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**432**	4.95	mg/kg	12.06.17 17.54		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-14-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-013	Date Collected:	11.14.17 08.05	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	7.05
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**705**	5.30	mg/kg	12.01.17 13.16		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-0-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-014	Date Collected:	11.14.17 08.45	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	12.06.17 18.11	U	1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-5-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-015	Date Collected:	11.14.17 09.30	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**163**	4.95	mg/kg	12.06.17 18.17		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-10-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-016	Date Collected:	11.14.17 09.40	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.9**	4.81	mg/kg	12.06.17 18.23		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-15-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-017	Date Collected:	11.14.17 09.55	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	12.76
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**966**	5.73	mg/kg	12.01.17 13.22		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-20-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-018	Date Collected:	11.14.17 10.05	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	12.18
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**947**	5.58	mg/kg	12.01.17 11.11		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-25-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-019	Date Collected:	11.14.17 10.25	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.14
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**642**	5.53	mg/kg	12.01.17 11.17		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-15-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-020	Date Collected:	11.14.17 10.40	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	13.67
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**629**	5.73	mg/kg	12.01.17 11.35		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-0-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-021	Date Collected:	11.14.17 11.05	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	12.06.17 18.29	U	1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-5-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-022	Date Collected:	11.14.17 12.30	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**482**	4.97	mg/kg	12.06.17 18.35		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-10-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-023	Date Collected:	11.14.17 12.40	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**996**	24.8	mg/kg	12.06.17 18.59		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-15-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-024	Date Collected:	11.14.17 12.50	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	15.84
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9280**	58.2	mg/kg	12.01.17 11.41		10

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-20-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-025	Date Collected:	11.14.17 13.00	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.96
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2090**	28.0	mg/kg	12.01.17 11.47		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-25-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-026	Date Collected:	11.14.17 13.15	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.03
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**518**	5.43	mg/kg	12.01.17 11.53		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-16-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-027	Date Collected:	11.14.17 13.30	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.91
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**629**	5.52	mg/kg	12.01.17 11.59		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-0-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-028	Date Collected:	11.14.17 14.00	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	12.06.17 18.41	U	1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-5-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-029	Date Collected:	11.14.17 14.45	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.19**	4.97	mg/kg	12.06.17 19.05		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-10-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-030	Date Collected:	11.14.17 14.55	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.1
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.3**	5.57	mg/kg	12.01.17 12.05		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-15-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-031	Date Collected:	11.14.17 15.10	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	15.55
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**873**	5.92	mg/kg	12.01.17 12.23		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-20-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-032	Date Collected:	11.14.17 15.20	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**324**	4.99	mg/kg	12.06.17 19.22		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-25-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-033	Date Collected:	11.14.17 15.40	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.82
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**433**	5.59	mg/kg	12.01.17 12.29		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-17-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-034	Date Collected:	11.14.17 15.55	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	10.77
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**719**	5.60	mg/kg	12.01.17 12.46		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-18-S-0-1-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-035	Date Collected:	11.15.17 07.35	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**331**	4.93	mg/kg	12.06.17 19.28		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-18-S-5-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-036	Date Collected:	11.15.17 08.00	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	8.55
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**552**	5.47	mg/kg	12.01.17 12.52		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-18-S-10-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-037	Date Collected:	11.15.17 08.05	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	8.96
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**659**	5.43	mg/kg	12.01.17 12.58		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-18-S-15-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-038	Date Collected:	11.15.17 08.15	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	14.63
Analyst:	MNV	Date Prep:	12.01.17 09.00	Basis:	Dry Weight
Seq Number:	3034715				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**677**	5.76	mg/kg	12.01.17 13.04		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**SB-18-S-30-171113**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-041	Date Collected:	11.15.17 08.50	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	20.68
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1940**	30.9	mg/kg	12.01.17 16.31		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-0-1-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-042	Date Collected:	11.15.17 09.15	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**106**	4.93	mg/kg	12.06.17 19.34		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-5-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-043	Date Collected:	11.15.17 09.45	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.06
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2120**	27.0	mg/kg	12.01.17 16.37		5

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New Mexico East State

Sample Id:	**MW-2-S-10-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-044	Date Collected:	11.15.17 10.00	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	8.29
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1680**	26.7	mg/kg	12.01.17 16.43		5

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New Mexico East State

Sample Id:	**MW-2-S-15-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-045	Date Collected:	11.15.17 10.15	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.72
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1990**	27.8	mg/kg	12.01.17 14.27		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-20-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-046	Date Collected:	11.15.17 10.25	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	10.96
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1180**	27.5	mg/kg	12.01.17 14.33		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-25-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-047	Date Collected:	11.15.17 10.40	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	7.53
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**476**	5.30	mg/kg	12.01.17 13.57		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-30-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-048	Date Collected:	11.15.17 11.05	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	7.52
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**472**	5.30	mg/kg	12.01.17 14.15		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-35-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-049	Date Collected:	11.15.17 11.35	Sample Depth:	35
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.43
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**975**	5.49	mg/kg	12.01.17 14.21		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-2-S-40-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-050	Date Collected:	11.15.17 12.05	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	12.02
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	28.1	mg/kg	12.01.17 14.51		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-0-1-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-051	Date Collected:	11.15.17 14.20	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	12.06.17 19.40	U	1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-5-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-052	Date Collected:	11.15.17 14.55	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**216**	4.93	mg/kg	12.06.17 19.46		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-10-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-053	Date Collected:	11.15.17 15.05	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	32.67
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2880**	37.1	mg/kg	12.01.17 14.57		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-15-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-054	Date Collected:	11.15.17 15.15	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	12.8
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1070**	28.3	mg/kg	12.01.17 15.03		5

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-20-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-055	Date Collected:	11.15.17 15.20	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**577**	4.96	mg/kg	12.06.17 19.52		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-25-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-056	Date Collected:	11.15.17 15.50	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 15.00	Basis:	Dry Weight
Seq Number:	3035189				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**469**	4.91	mg/kg	12.06.17 19.58		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-1-S-30-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-057	Date Collected:	11.15.17 16.05	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	9.21
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**794**	5.47	mg/kg	12.01.17 15.08		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-0-1-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-058	Date Collected:	11.16.17 08.20	Sample Depth:	0 - 1
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 16.20	Basis:	Dry Weight
Seq Number:	3035193				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	12.06.17 20.34	U	1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-5-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-059	Date Collected:	11.16.17 09.10	Sample Depth:	5
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 16.20	Basis:	Dry Weight
Seq Number:	3035193				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**208**	4.96	mg/kg	12.06.17 20.51		1

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GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-10-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-060	Date Collected:	11.16.17 09.25	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	0
Analyst:	MNV	Date Prep:	12.06.17 16.20	Basis:	Dry Weight
Seq Number:	3035193				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**285**	4.95	mg/kg	12.06.17 20.57		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-15-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-061	Date Collected:	11.16.17 09.35	Sample Depth:	15
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	18.63
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**948**	30.6	mg/kg	12.01.17 15.14		5

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-20-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-062	Date Collected:	11.16.17 09.45	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	11.72
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**693**	5.61	mg/kg	12.01.17 15.20		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-25-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-063	Date Collected:	11.16.17 10.00	Sample Depth:	25
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	10.24
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**861**	5.48	mg/kg	12.01.17 15.38		1

Certificate of Analytical Results 568958

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id:	**MW-3-S-30-171115**	Matrix:	Soil	Date Received:	11.18.17 09.00
Lab Sample Id:	568958-064	Date Collected:	11.16.17 10.10	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	10.56
Analyst:	MNV	Date Prep:	12.01.17 11.00	Basis:	Dry Weight
Seq Number:	3034777				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**881**	5.48	mg/kg	12.01.17 16.02		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

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

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 568958

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034718 Matrix: Solid Date Prep: 11.30.17
MB Sample Id: 7635234-1-BLK LCS Sample Id: 7635234-1-BKS LCSD Sample Id: 7635234-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	254	102	90-110	0	20	mg/kg	11.30.17 21:04	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034715 Matrix: Solid Date Prep: 12.01.17
MB Sample Id: 7635267-1-BLK LCS Sample Id: 7635267-1-BKS LCSD Sample Id: 7635267-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	252	101	90-110	1	20	mg/kg	12.01.17 10:30	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034777 Matrix: Solid Date Prep: 12.01.17
MB Sample Id: 7635270-1-BLK LCS Sample Id: 7635270-1-BKS LCSD Sample Id: 7635270-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	259	104	90-110	2	20	mg/kg	12.01.17 13:46	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035189 Matrix: Solid Date Prep: 12.06.17
MB Sample Id: 7635547-1-BLK LCS Sample Id: 7635547-1-BKS LCSD Sample Id: 7635547-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	249	100	90-110	0	20	mg/kg	12.06.17 17:06	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035193 Matrix: Solid Date Prep: 12.06.17
MB Sample Id: 7635551-1-BLK LCS Sample Id: 7635551-1-BKS LCSD Sample Id: 7635551-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	260	104	263	105	90-110	1	20	mg/kg	12.06.17 20:22	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 568958

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034718 Matrix: Soil Date Prep: 11.30.17
Parent Sample Id: 568958-009 MS Sample Id: 568958-009 S MSD Sample Id: 568958-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	688	287	955	93	948	91	90-110	1	20	mg/kg	11.30.17 22:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034718 Matrix: Soil Date Prep: 11.30.17
Parent Sample Id: 569124-003 MS Sample Id: 569124-003 S MSD Sample Id: 569124-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	58.1	245	319	106	306	101	90-110	4	20	mg/kg	11.30.17 21:22	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034715 Matrix: Soil Date Prep: 12.01.17
Parent Sample Id: 568958-030 MS Sample Id: 568958-030 S MSD Sample Id: 568958-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.3	278	368	106	370	107	90-110	1	20	mg/kg	12.01.17 12:11	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034777 Matrix: Soil Date Prep: 12.01.17
Parent Sample Id: 568958-047 MS Sample Id: 568958-047 S MSD Sample Id: 568958-047 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	476	265	696	83	685	79	90-110	2	20	mg/kg	12.01.17 14:03	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3034777 Matrix: Soil Date Prep: 12.01.17
Parent Sample Id: 568958-062 MS Sample Id: 568958-062 S MSD Sample Id: 568958-062 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	693	280	881	67	900	74	90-110	2	20	mg/kg	12.01.17 15:26	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 568958

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035189 Matrix: Soil Date Prep: 12.06.17
Parent Sample Id: 568958-001 MS Sample Id: 568958-001 S MSD Sample Id: 568958-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	277	113	257	104	90-110	7	20	mg/kg	12.06.17 17:24	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035189 Matrix: Soil Date Prep: 12.06.17
Parent Sample Id: 568958-028 MS Sample Id: 568958-028 S MSD Sample Id: 568958-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	260	104	259	104	90-110	0	20	mg/kg	12.06.17 18:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035193 Matrix: Soil Date Prep: 12.06.17
Parent Sample Id: 568958-058 MS Sample Id: 568958-058 S MSD Sample Id: 568958-058 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	272	109	267	107	90-110	2	20	mg/kg	12.06.17 20:39	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3035193 Matrix: Soil Date Prep: 12.06.17
Parent Sample Id: 570161-004 MS Sample Id: 570161-004 S MSD Sample Id: 570161-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.01	246	275	109	255	100	90-110	8	20	mg/kg	12.06.17 22:02	

Analytical Method: **Percent Moisture**
Seq Number: 3034306 Matrix: Solid
MB Sample Id: 3034306-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	11.28.17 09:00	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 568958

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Percent Moisture**
Seq Number: 3034364 Matrix: Solid
MB Sample Id: 3034364-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034365 Matrix: Solid
MB Sample Id: 3034365-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034366 Matrix: Solid
MB Sample Id: 3034366-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034306 Matrix: Soil
Parent Sample Id: 568958-003 MD Sample Id: 568958-003 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	15.6	14.7	6	20	%	11.28.17 09:00	

Analytical Method: **Percent Moisture**
Seq Number: 3034306 Matrix: Soil
Parent Sample Id: 568958-019 MD Sample Id: 568958-019 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	11.1	11.2	1	20	%	11.28.17 09:00	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 568958

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Percent Moisture**
Seq Number: 3034364 Matrix: Soil
Parent Sample Id: 568958-020 MD Sample Id: 568958-020 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	13.7	13.5	1	20	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034364 Matrix: Soil
Parent Sample Id: 568958-038 MD Sample Id: 568958-038 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	14.6	14.9	2	20	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034365 Matrix: Soil
Parent Sample Id: 568958-041 MD Sample Id: 568958-041 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	20.7	19.6	5	20	%	11.28.17 11:20	

Analytical Method: **Percent Moisture**
Seq Number: 3034366 Matrix: Soil
Parent Sample Id: 568958-061 MD Sample Id: 568958-061 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	18.6	18.3	2	20	%	11.28.17 11:20	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

CHAIN OF CUSTODY

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XENCO LABORATORIES

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Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 568958

Client / Reporting Information

Company Name / Branch: GHD
Company Address: 6320 ROTHWAY SUITE 100 HOUSTON, TX 77040
Email:
Phone No: 713-734-3090
Project Contact: SCOTT FORD
Samplers's Name:

Project Information

Project Name/Number: 089861
Project Location: HOBBS NM
Invoice To:

Analytical Information

CHLORIDES

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SB-13-S-0-1-171113	0-1	11-13-17	1230	S	1								X	HOLD
2	SB-13-S-10-171113	10		1330		1								X	HOLD
3	SB-13-S-15-171113	15		1350		1								X	
4	SB-13-S-20-171113	20		1405		1								X	
5	SB-13-S-25-171113	25		1420		1								X	
6	SB-13-S-30-171113	30		1445		1								X	
7	SB-14-S-0-1-171113	0-1		1515		1								X	HOLD
8	SB-14-S-5-171113	5		1610		1								X	HOLD
9	SB-14-S-10-171113	10		1620		1								X	
10	SB-14-S-15-171113	15		1630		1								X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

i. 8021B-RL<=0.00100 mg/l
ii. TPH TX1005 EXT to C35- RL <= 5.00 mg/l
iii. Flag estimated concentrations

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		11-17-17	FED-X			
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						11.18.17 9:00
5	Relinquished by:	Date Time:				

Preserved where applicable [ ] On Ice [ ] Cooler Temp. Thermo. Corr. Factor

Temp: 20.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 20.5

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase o losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of X will be enforced unless previously negotiated under a fully executed client contract.

idard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any l be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms

Final 1.001

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CHAIN OF CUSTODY

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XENCO LABORATORIES

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www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote # | Xenco Job # 568958

Client / Reporting Information

Company Name / Branch: GHD
Company Address: 6320 ROTHWAY SUITE 100 HOUSTON, TX 77040
Email: | Phone No: 713-734-3090
Project Contact: SCOTT FORD
Samplers's Name:

Project Information

Project Name/Number: 089861
Project Location: HOBBS NM
Invoice To:

Analytical Information

CHLORIDES

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	SB-14-S-20-171113	20	11-13-17	1640	S	1								X	
2	SB-14-S-25-171114	25	11-14-17	0750		1								X	HOLD
3	SB-14-S-30-171114	30		0805		1								X	
4	SB-15-S-0-1-171114	0-1		0845		1								X	HOLD
5	SB-15-S-5-171114	5		0930		1								X	HOLD
6	SB-15-S-10-171114	10		0940		1								X	HOLD
7	SB-15-S-15-171114	15		0955		1								X	
8	SB-15-S-20-171114	20		1005		1								X	
9	SB-15-S-25-171114	25		1025		1								X	
10	SB-15-S-30-171114	30		1040		1								X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

i. 8021B-RL<=0.00100 mg/l
ii. TPH TX1005 EXT to C35- RL <= 5.00 mg/l
iii. Flag estimated concentrations

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature]	11-17-17	FED-X			
2						[signature] 11.18.17 9:00
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received			

served where applicable | On Ice | Cooler Temp. | Thermo. Corr. Factor

Temp: 20.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 20.5

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client co losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum will be enforced unless previously negotiated under a fully executed client contract.

nditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms

CHAIN OF CUSTODY

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Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job # 568958

Client / Reporting Information

Company Name / Branch: GHD

Company Address: 6320 ROTHWAY SUITE 100 HOUSTON, TX 77040

Email: | Phone No: 713-734-3090

Project Contact: SCOTT FORD

Samplers's Name:

Project Information

Project Name/Number: 089861

Project Location: HOBBS NM

Invoice To:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	CHLORIDES	Field Comments
1	SB-16-S-0-1-171114	0-1	11-14-17	1105	S	1								X	X	HOLD
2	SB-16-S-5-171114	5		1230		1								X	X	HOLD
3	SB-16-S-10-171114	10		1240		1								X	X	HOLD
4	SB-16-S-15-171114	15		1250		1								X	X	
5	SB-16-S-20-171114	20		1300		1								X	X	
6	SB-16-S-25-171114	25		1315		1								X	X	
7	SB-16-S-30-171114	30		1330		1								X	X	
8	SB-17-S-0-1-171114	0-1		1400		1								X	X	HOLD
9	SB-17-S-5-171114	5		1445		1								X	X	HOLD
10	SB-17-S-10-171114	10	V	1455	V	1								X	X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

i. 8021B-RL<=0.00100 mg/l
ii. TPH TX1005 EXT to C35- RL <= 5.00 mg/l
iii. Flag estimated concentrations

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature]	11-17-17	FED-X			
2						[signature]
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						11-18-17 9:00
5	Relinquished by:	Date Time:	Recei			

Temp: 20.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 20.5

Preserved where applicable | On Ice | Cooler Temp. | Thermo. Corr. Factor

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from cli losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A min will be enforced unless previously negotiated under a fully executed client contract.

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CHAIN OF CUSTODY

Page 4 Of 7

XENCO LABORATORIES

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www.xenco.com

Xenco Quote # | Xenco Job # 568958

Client / Reporting Information

Company Name / Branch: GHD
Company Address: 6320 ROTHWAY SUITE 100 HOUSTON, TX 77040
Email: | Phone No: 713-734-3090
Project Contact: SCOTT FORD
Samplers's Name:

Project Information

Project Name/Number: 089861
Project Location: HOBBS N.M.
Invoice To:

Analytical Information

CHLORIDES

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DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
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WI = Wipe
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1	SB-17-S-15-171114	15	11-14-17	1510	S	1								X	X	
2	SB-17-S-20-171114	20		1520		1								X	X	HOLD
3	SB-17-S-25-171114	25		1540		1								X	X	
4	SB-17-S-30-171114	30		1555		1								X	X	
5	SB-18-S-0-1-171115	0-1	11-15-17	0735		1								X	X	HOLD
6	SB-18-S-5-171115	5		0800		1								X	X	
7	SB-18-S-10-171115	10		0805		1								X	X	
8	SB-18-S-15-171115	15		0815		1								X	X	
9	SB-18-S-20-171115	20		0825		1								X	X	HOLD
10	SB-18-S-25-171115	25		0835		1								X	X	HOLD

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		11/17/17	FED-X			
2						Maneesh Mathur 11.18.17 9:00
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:			

served where applicable | On Ice | Cooler Temp. | Thermo. Corr. Factor

Temp: 20.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 20.5

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CHAIN OF CUSTODY

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Xenco Job # 568958

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Project Contact: SCOTT FORD
Samplers's Name:

Project Information

Project Name/Number: 089861
Project Location: HOBBS NM
Invoice To:

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2	MW-2-S-0-1-171115	0-1		0915	W	1								X	HOLD
3	MW-2-S-5-171115	5		0945	W	1								X	
4	MW-2-S-10-171115	10		1000	W	1								X	
5	MW-2-S-15-171115	15		1015	W	1								X	
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7	MW-2-S-25-171115	25		1040	W	1								X	
8	MW-2-S-30-171115	30		1105	W	1								X	
9	MW-2-S-35-171115	35		1135	W	1								X	
10	MW-2-S-40-171115	40		1205	W	1								X	

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1		11.7.17	FED-X	2		
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:			

11.18.17 9:00

Temp: 20.3 IR ID:R-8
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licable | On Ice | Cooler Temp. | Thermo. Corr. Factor

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3	MW-1-S-10-171115	10		1505		1								X	
4	MW-1-S-15-171115	15		1515		1								X	
5	MW-1-S-20-171115	20		1520		1								X	HOLD
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8															
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3	MW-3-S-10-171116	10		0925		1								X	X	HOLD
4	MW-3-S-15-171116	15		0935		1								X	X	
5	MW-3-S-20-171116	20		0945		1								X	X	
6	MW-3-S-25-171116	25		1000		1								X	X	
7	MW 3-S-30-171116	30		1010	V	1								X	X	
8																
9																
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3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						11.18.17 9:00
5	Relinquished by:	Date Time:	Received By:			

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Final 1.001

Page 91 of 92

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 11/18/2017 09:00:00 AM

Work Order #: 568958

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	20.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 11/20/2017

Shawnee Smith

Checklist reviewed by: Mike Kimmel Date: 11/27/2017

Mike Kimmel

Certificate of Analysis Summary 571045

GHD Services, INC- Midland, Midland, TX

Project Name: New Mexico East State

Project Id: 089861
Contact: Chris Knight
Project Location: Lovington New Mexico

Date Received in Lab: Wed Dec-13-17 04:50 pm
Report Date: 20-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	571045-001		571045-002		571045-003		571045-004					
	Field Id:	MW-1-W-171213		MW-2-W-171213		MW-3-W-171213		MW-1-WD-171213					
	Depth:												
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER					
	Sampled:	Dec-13-17 13:40		Dec-13-17 13:00		Dec-13-17 14:20		Dec-13-17 00:00					
Chloride by EPA 300	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	Dec-14-17 19:00		Dec-14-17 19:07		Dec-14-17 19:14		Dec-14-17 19:21					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		10900	50.0	11300	50.0	11100	50.0	11400	50.0				
TDS by SM2540C	***Extracted:***												
	Analyzed:	Dec-18-17 08:31		Dec-18-17 08:31		Dec-18-17 08:31		Dec-18-17 08:31					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Total Dissolved Solids		16900	5.00	12000	5.00	18600	5.00	16500	5.00				

Kelsey Brooks
Project Manager

Analytical Report 571045

for

GHD Services, INC- Midland

Project Manager: Chris Knight

New Mexico East State

089861

20-DEC-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

20-DEC-17

Project Manager: **Chris Knight**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **571045**
New Mexico East State
Project Address: Lovington New Mexico

Chris Knight:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 571045. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 571045 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 571045

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1-W-171213	W	12-13-17 13:40		571045-001
MW-2-W-171213	W	12-13-17 13:00		571045-002
MW-3-W-171213	W	12-13-17 14:20		571045-003
MW-1-WD-171213	W	12-13-17 00:00		571045-004

CASE NARRATIVE

Client Name: GHD Services, INC- Midland

Project Name: New Mexico East State

Project ID: *089861*
Work Order Number(s): *571045*

Report Date: *20-DEC-17*
Date Received: *12/13/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 571045

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id: **MW-1-W-171213** Matrix: Ground Water Date Received:12.13.17 16.50

Lab Sample Id: 571045-001 Date Collected: 12.13.17 13.40

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: LRI % Moisture:

Analyst: OJS Date Prep: 12.13.17 15.00

Seq Number: 3036137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10900**	50.0	mg/L	12.14.17 19.00		100

Analytical Method: TDS by SM2540C

Tech: LRI % Moisture:

Analyst: LRI

Seq Number: 3036101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**16900**	5.00	mg/L	12.18.17 08.31		1

Certificate of Analytical Results 571045

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id: **MW-2-W-171213** Matrix: Ground Water Date Received:12.13.17 16.50

Lab Sample Id: 571045-002 Date Collected: 12.13.17 13.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: LRI % Moisture:

Analyst: OJS Date Prep: 12.13.17 15.00

Seq Number: 3036137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11300**	50.0	mg/L	12.14.17 19.07		100

Analytical Method: TDS by SM2540C

Tech: LRI % Moisture:

Analyst: LRI

Seq Number: 3036101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**12000**	5.00	mg/L	12.18.17 08.31		1

Certificate of Analytical Results 571045

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id: **MW-3-W-171213** Matrix: Ground Water Date Received:12.13.17 16.50

Lab Sample Id: 571045-003 Date Collected: 12.13.17 14.20

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: LRI % Moisture:

Analyst: OJS Date Prep: 12.13.17 15.00

Seq Number: 3036137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11100**	50.0	mg/L	12.14.17 19.14		100

Analytical Method: TDS by SM2540C

Tech: LRI % Moisture:

Analyst: LRI

Seq Number: 3036101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**18600**	5.00	mg/L	12.18.17 08.31		1

Certificate of Analytical Results 571045

GHD Services, INC- Midland, Midland, TX

New Mexico East State

Sample Id: **MW-1-WD-171213** Matrix: Ground Water Date Received:12.13.17 16.50

Lab Sample Id: 571045-004 Date Collected: 12.13.17 00.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: LRI % Moisture:

Analyst: OJS Date Prep: 12.13.17 15.00

Seq Number: 3036137

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11400**	50.0	mg/L	12.14.17 19.21		100

Analytical Method: TDS by SM2540C

Tech: LRI % Moisture:

Analyst: LRI

Seq Number: 3036101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**16500**	5.00	mg/L	12.18.17 08.31		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

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

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

QC Summary 571045

GHD Services, INC- Midland

New Mexico East State

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3036137 Matrix: Water Date Prep: 12.13.17
MB Sample Id: 7636002-1-BLK LCS Sample Id: 7636002-1-BKS LCSD Sample Id: 7636002-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	27.2	109	27.3	109	90-110	0	20	mg/L	12.14.17 16:06	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3036137 Matrix: Drinking Water Date Prep: 12.13.17
Parent Sample Id: 571046-001 MS Sample Id: 571046-001 S MSD Sample Id: 571046-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.16	25.0	37.1	112	36.8	111	90-110	1	20	mg/L	12.14.17 16:27	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3036137 Matrix: Drinking Water Date Prep: 12.13.17
Parent Sample Id: 571047-001 MS Sample Id: 571047-001 S MSD Sample Id: 571047-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.7	25.0	41.3	110	43.3	118	90-110	5	20	mg/L	12.14.17 18:04	X

Analytical Method: **TDS by SM2540C**
Seq Number: 3036101 Matrix: Water
MB Sample Id: 3036101-1-BLK LCS Sample Id: 3036101-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Total Dissolved Solids	<5.00	1000	983	98	80-120	mg/L	12.18.17 08:31	

Analytical Method: **TDS by SM2540C**
Seq Number: 3036101 Matrix: Water
Parent Sample Id: 571024-001 MD Sample Id: 571024-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	2740	2720	1	10	mg/L	12.18.17 08:31	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Final 1.000

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
Service Center - San Antonio, Texas (210-509-3334)
Odessa, Texas (432-563-1800)
Norcross, Georgia (770-449-8800)
Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)
www.xenco.com

Xenco Quote #
Xenco Job # 571045

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: christopher.knight@ghd.com
Phone No: 512-506-8803
Project Contact: Christopher Knight
Samplers's Name: Justin Nixon

Project Information

Project Name/Number: New Mexico East State/089861
Project Location: Lovington New Mexico
Invoice To: GHD
PO Number:

Analytical Information

Matrix Codes

S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TDS	Chloride	Field Comments
1	mw-1-w-171213		12/13/17	1340	GW	1								Y	X	X	
2	mw-2-w-171213		↓	1300	↓	↓								↓	↓	↓	
3	mw-3-w-171213			1420													
4	mw-1 dup-171213			—													
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☒ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

Temp: 5.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.9

FED-EX / Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		12-13-17 1650	1	2		2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ☒ Cooler Temp. Thermo. Corr. Factor

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 12/13/2017 04:50:00 PM

Work Order #: 571045

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: CH

PH Device/Lot#: 213315

Checklist completed by: Connie Hernandez Date: 12/14/2017

Checklist reviewed by: Mike Kimmel Date: 12/18/2017

Appendix C
Waste Disposal Documentation

24-HOUR SERVICE

SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231 (575) 394-2511

PRC #1750108

37226
NM

AUTHORIZATION FOR WORK

DATE 12-8-17

YOUR NO. _____

COMPANY Chevron EMC

LEASE NM East Shale NCT-1 007

MAIL INVOICE TO: Chevron EMC

WELL Jase Nicholson
985-773-6746

DESCRIPTION OF WORK

Pick up 4d. spose bin. + near Monument
(32.597691, -103.310477)

Equipment Used Roller	@$	Hrs. worked	Total	
Box Rent ✓	@$	Hrs. worked	Total	
Liner	@$	Hrs. worked	Total	
Jet Out	@$	Hrs. worked	Total	
Disposal ✓	@$	Hrs. worked	Total	
Disposal Facility SSL	@$	Hrs. worked	Total	
Box No. Delivered	@$	Hrs. worked	Total	
Box No. Picked Up	@$	Hrs. worked	Total	

Driver Miguel Rivera

Approved by _____

Sub Total _____

Sales Tax _____

TOTAL _____

CHEVRON
MCBU

EMC on behalf of MCBU

NON-HAZARDOUS WASTE MANIFEST | NO. EMC 2228__ | 1. PAGE 1 OF 1 | 2. TRAILER NO.

GENERATOR

3. COMPANY NAME	4. ADDRESS	5. PICK-UP DATE
Chevron EMC	100 North Park Blvd.	12-8-17
PHONE NO. 985-773-6746	CITY Covington, LA STATE ZIP 70433	6.

7. NAME OF DESCRIPTION OF WASTE SHIPPED:	8. CONTAINERS No.	8. CONTAINERS Type	9. TOTAL QUANTITY	10. UNIT WT/Vol.	11.
a. (soil cuttings) (non-hazardous)	1		1		
b. NON REGULATED DOT					
c. MATERIAL					
d.					

12. COMMENTS OR SPECIAL INSTRUCTIONS:

13. WASTE PROFILE NO.

14. **IN CASE OF EMERGENCY OR SPILL, CONTACT**

24-HOUR EMERGENCY NO.

15. **GENERATOR'S CERTIFICATION:** Hereby declare that the contents of this consignment are fully and accurately described above.

PRINTED TYPED NAME	SIGNATURE	DATE
Glenn Quinney on behalf of Chevron	on behalf of chevron	

TRANSPORTERS

16. TRANSPORTER (1)	17. TRANSPORTER (2)
NAME Sundance	NAME
IN CASE OF EMERGENCY CONTACT:	IN CASE OF EMERGENCY CONTACT:
EMERGENCY PHONE	EMERGENCY PHONE
18. TRANSPORTER (1): Acknowledgement of receipt of material	**18. TRANSPORTER (2):** Acknowledgement of receipt of material
PRINTED/TYPED NAME Miguel Rivera	PRINTED/TYPED NAME
SIGNATURE DATE 12-8-17	SIGNATURE DATE

DISPOSAL FACILITY

	ADDRESS:	PHONE:
Sundance	PO Box 1607 Eunice, NM 88231	(575) 394-2811

PERMIT NO.	20. COMMENTS
2228 - 120817	

21. **DISPOSAL FACILITY'S CERTIFICATION:** I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE	CELL NO.	DATE	TIME

GENERATOR: COPY 1 DISPOSAL SITE: COPY 2 TRANSPORTERS: COPY 3

Appendix D
2018 Work Plan

May 18, 2018 Reference No. 089861-2

Ms. Olivia Yu
Environmental Specialist
New Mexico Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Re: 2018 Scope of Work
New Mexico East State NCT-1 007 – Wellhead Release (1RP-4239)
Lea County, New Mexico

Dear Ms. Yu,

1. Project Information

The Site is located in Unit N, Section 1, Township 20 South, Range 36 East, approximately 3.2 miles southwest of Monument in eastern Lea County, New Mexico. On November 17, 2010, well NM E NCT-1 #7 was in the process of being plugged and abandoned when unexpected wellhead pressure caused tubing in the well to damage the wellhead nipple connection resulting in a release of gas and well fluids around the well pad and tank battery location. The volume of fluids released was estimated at 5 to 10 barrels of an unknown fluid. Chevron submitted an initial Form C-141 to the New Mexico Oil Conservation Division (NMOCD) on November 18, 2010 which reported zero volume of fluids recovered. The wellhead and deadman anchors have been removed and surface casing cut off several feet below surface grade. GHD understands the surface land owner is the State of New Mexico.

Soil

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal, current (GHD) managed groundwater site(s) data, and the United States Geological Survey (USGS) Current Water Database for the Nation indicate:

- The depth to groundwater at the Site is less than 50-feet bgs.
- The nearest private domestic water source is greater than 200-feet from the release site.
- The nearest public/municipal water source is greater than 1,000-feet from the release site.
- The release site lies more than 1,000 horizontal feet from the nearest surface water body.

The NMOCD provides guidance for remediation of contaminants of oil field wastes or products in Guidelines for Remediation of Leaks, Spills, and Releases (August 13, 1993). Consequently, the NMOCD total ranking criteria score is twenty (20) for the Site. The site-specific RRALs applied to this location by the NMOCD are 10 milligrams per kilogram (mg/kg) for benzene; 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX); 100 mg/kg for total petroleum hydrocarbons (TPH); and an NMOCD accepted 600 mg/kg for horizontal delineation and 250 mg/kg for vertical delineation of chlorides.

GHD
6320 Rothway Street Suite 100 Houston Texas 77040 USA
T 713 734 3090 **F** 713 734 3391 **W** www.ghd.com

Groundwater

The guidance also requires remediation of groundwater to human health standards of the New Mexico Water Quality Control Commission (NMWQCC) established in New Mexico Administrative Code Section 20.6.2.3103. Standards for chloride and total dissolved solids (TDS) are listed below.

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
TDS	1,000

Soil assessment activities were performed in November 2010, September 2015, and August 2016 at the Site. Delineation activities were continued in 2017 and included the advancement of six (6) additional soil borings (SB-13 through SB-18) to 30 feet bgs, and three (3) monitoring wells (MW-1 through MW-3) were installed to assess potential groundwater impact. Analytical data obtained from the assessment performed in 2017 indicates that vertical and horizontal extent of chloride impacts in soil and groundwater are not delineated.

2. 2018 Scope of Work

On February 13, 2018, GHD and Chevron representatives met with NMOCD and New Mexico State Land Office (NMSLO) regarding further delineation activities at the Site. Recommended assessment activities are detailed below.

2.1 Task I - Monitoring Well Installation Activities

GHD is proposing the installation of nine (9) soil borings that will be completed as 4-inch diameter monitoring wells to further screen soil and groundwater chloride impact at the Site (see Figure 1). Preparation of permit applications and associated fees for the required New Mexico Office of the State Engineer (NMOSE) monitoring well permit will be submitted prior to drilling activities.

Prior to mobilizing drilling equipment to the Site, a utility notification will be made at least 48-hours prior to mobilization. In addition to the utility locate, a geophysical survey will be completed for each of the proposed monitoring well locations. Following all utility clearance activities, a Chevron Dig Plan will be prepared and approved by Chevron prior to performing any drilling activities.

A hydroexcavator or similar borehole clearance equipment will be used to clear the boring locations with a diameter at least 2 inches greater than the size of the largest drilling tool. The monitoring well locations will be cleared to 5 feet bgs or refusal. Each monitoring well boring will be drilled with a track-mounted hollow stem auger (HAS) drill rig capable of converting to mud rotary if determined necessary due to drilling conditions encountered. The rig will be operated by a New Mexico licensed water well driller retained by GHD.

Nine monitoring wells will be installed extending approximately 10 feet into the groundwater table (estimated at approximately 35 feet bgs). The total depth of the monitoring wells are estimated at approximately 45 feet bgs. A GHD geologist will record the subsurface lithology and any sample data on the well construction diagram/soil boring logs. Soils will be continuously cored if possible and field screening samples will be collected at 5 foot intervals. Soil samples will be field screened for chloride

concentrations using Hach Chloride Titration strips and evaluated by the field geologist during the sampling event.

Selected soil samples will be submitted to Xenco Laboratories, Midland, Texas for analysis of chlorides by EPA Method 300. The nature of any sampling of soils will be based on results of the chloride field screening and the professional judgment of the GHD geologist with the intent to establish the depth at which soil concentrations are below the Site RRAL's. Soil sampling will be completed in accordance with our standard Quality Assurance/ Quality Control (QA/QC) procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

The ground surface elevation of each soil boring, including the top of casing and top of pad elevations from the monitoring wells, will be determined to the nearest hundredth of a foot by a professional surveyor.

2.2 Task II – 2018 Groundwater Monitoring Activities

Following installation and development of the nine monitoring wells, all site monitoring wells (12 monitoring wells total) will be sampled. Prior to purging the wells, static fluid levels will be measured with an electric interface probe to the nearest hundredth of a foot. After recording fluid levels, monitoring wells will be profiled using a conductivity meter. Subsequent to well gauging, the monitoring wells will be purged using EPA-approved low-flow methodology.

Groundwater samples will be placed on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F). The coolers will then be sealed for shipment and proper chain-of-custody documentation will accompany the samples to Xenco Laboratories located in Midland, Texas for analysis of dissolved chloride according to method EPA 300 and for TDS by method SM 2540C.

2.3 Task III – Reporting

Following completion of the field activities detailed above, a report summarizing the results of the additional assessment will be prepared for submittal. The report will include a Site description, project history, description of field events, a discussion of results, and recommendations. A Site groundwater gradient map will be constructed from the well gauging data collected prior to sample collection. Soil and groundwater analytical results collected will be tabulated in data tables and presented graphically using concentration maps. Monitoring well construction logs for MW-4 through MW-12 will also be completed.

If you have any questions, please contact us at 713-734-3090.

Sincerely,

GHD

Scott Foord, P.G.
Project Manager

Raaj Patel, P.G.
Program Manager

SF/ag/2

Encl.

Attachment: Figure 1 – Proposed Monitoring Well Locations

Figure

Source: Bing Maps Imagery

Lat/Long: 32.597728ÁNorth, 103.310388ÁWest

0 20 60ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

Sample ID — MW-3 11/16/17 — Sample Date
Depth 15' — Sample Depth (ft)
Chloride 948 — Sample Result (mg/kg)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO
NEW MEXICO E STATE NCT-1 007

089861-00

May 16, 2018

PROPOSED MONITORING WELL LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\08----\089---\089861-CEMC-New Mexico E State\Proposal\089861-00(Proposal-02)GN-DL001.dwg