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Delineation Report and Remediation Plan

CDU 436 Injection Line
New Mexico Oil Conservation Division (NMOCD) Incident ID No. nAPP2107443361

Prepared For:
Chevron Mid-Continent Business Unit (MCBU)

Prepared By:
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June 2021

Delineation Report and Remediation Plan

CDU 436 Injection Line
Produced Water Spill Site
Lea County, New Mexico
NMOCD Incident ID No. nAPP2107443361

Chevron Mid-Continent Business Unit (MCBU)

June 2021
AECOM Project No. 60657235

Prepared by: Wally Gilmore, P.G.
Senior Project Manager

Reviewed by: Brad Wynne, PMP
Project Manager

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1. Introduction

On behalf of Chevron Mid-Continent Business Unit (MCBU), AECOM Technical Services, Inc. (AECOM) has prepared this Delineation Report and Remediation Plan to describe the delineation soil sampling activities that have been conducted to characterize potential impacts to environmental media (soil and groundwater) resulting from a produced water spill that occurred at the CDU 436 Injection Line site in Lea County, New Mexico ("the Site").

2. Background

The Site is located at Latitude 32.45533° North, Longitude 103.19034° West in Lea County, New Mexico (**Figure 1**).

On March 4, 2021, approximately 22.23 barrels (bbls) of produced were released due to corrosion of the injection line. As required by the New Mexico Oil Conservation Division (NMOCD) under 19.15.29 New Mexico Administrative Code (NMAC), Chevron's initial response to the release included:

- Stopping the release at the source;
- Securing the impacted soil area to protect human health and the environment;
- Containing the released produced water;
- Recovering an unknown volume of produced water; and
- Excavation of impacted soil in an approximately 6 foot by 10 ft area to a depth of approximately 4 feet to repair the injection line from which the release occurred.

A Release Notification, Form C-141, dated March 15, 2021, was submitted to the NMOCD. The Form C-141 documents the responsible party, location of the release source, nature, and volume of the release, and initial response to the release. NMOCD assigned Incident ID No. nAPP2107443361 to the release. An updated Form C-141 is provided as **Appendix A**.

3. Site Characterization

The findings from an initial desktop assessment/characterization of the Site are summarized as follows:

- Online Water Column/Average Depth to Water data from the New Mexico Water Rights Reporting System (NMWRRS) identified no water wells within ½ mile of the Site. However, the New Mexico Office of the State Engineer (OSE) Point of Diversion (POD) Online Mapping Tool indicated the presence of five permitted wells within ½ mile of the Site, including wells CP-01511-POD2 and CP-01511-POD3, which are monitor wells located approximately 1,850 feet northeast of the Site. The reports for each of these wells indicate depth to groundwater at about 99 ft below ground surface (bgs). The groundwater level data from these wells are less than 25 years old and well construction details are included in the well reports. This information meets NMOCD criteria for establishing depth to groundwater beneath a site. Online Depth to Groundwater Information is provided in **Appendix B**.
- The underlying soils at the Site are comprised of fine sand (0-30 inches bgs) and fine sand loam starting at 30 inches bgs. Soil sampling has been initiated to characterize potential chloride and petroleum hydrocarbon impacts to the Site.
- There are no continuously flowing watercourses or other significant watercourses within ½ mile of the Site.
- The Site is not located within 200 ft of any lakebed, known sinkhole, or playa lake.

- The nearest occupied permanent residence, school, hospital, institution, or church is approximately 1.8 miles from the Site (Eunice High School).
- There are no springs or wells used for domestic or stock watering purposes within ½ mile of the Site.
- There are five known wells within ½ mile of the Site. These wells are all reported to be monitor wells and the closest wells are located approximately 1,850 feet northeast of the Site as described above.
- The closest incorporated municipal boundaries or defined municipal fresh water well fields are located approximately 2 miles east of the Site, which is the approximate distance from the Site to Eunice, NM.
- A review of the online U.S. Fish & Wildlife Wetlands Mapper tool indicates no wetland areas present within 0.5 miles of the Site.
- No subsurface mines are located beneath the Site.
- No karst geology features or other unstable areas are known to be located near the Site.
- A 100-year floodplain was not identified near the site.
- Operations near the Site are for oil and gas exploration, development, production, or storage only, and no impacts to areas that are not on an exploration, development, production, or storage site are expected.

In summary, no sensitive environmental and/or ecological receptors were identified within the search criteria distances described in 19.25.29.11 and 19.15.29.12.C.(4) NMAC. **Figure 1** shows the location of the Site and surrounding area on a topographic map. Based on information obtained during the initial desktop assessment/characterization, the volume of produced water released and recovered, and depth to groundwater of approximately 99 ft bgs, no impact to groundwater, surface water, springs, or other sources of fresh water is currently suspected.

4. Soil Delineation

On April 28, 2021, soil delineation activities were conducted at the Site, which included collection of soil samples from five hand auger boring locations (SB-1 through SB-5) drilled to depths of 4 to 5 ft bgs at the locations shown on **Figure 2**. The delineation boring locations were chosen based on information provided by MCBU regarding the approximate area of surface soil impacted by the release, as observed by on-site personnel. Hand auger boring SB-1 was drilled immediately adjacent to the reported leak location. Horizontal delineation borings SB-1, SB-2, SB-3 and SB-4 were drilled immediately east, north, west and south of the spill area, respectively. Site photographs are provided **in Appendix C**.

In each of the hand auger borings, reddish-brown silty sand was encountered from the ground surface to depths of 3 to 4 ft bgs, where caliche was then encountered to the total depths of the borings. Soil samples were collected from each of the borings and field-screened for petroleum hydrocarbons using a photoionization detector (PID) to measure volatile organic vapor concentrations. A Summary of Field Sample Collection and Screening Activities is provided in **Appendix D**.

Two soil samples from each boring were selected for laboratory analysis of petroleum hydrocarbons, including the depth interval that exhibited the highest PID reading (0 to 1 ft bgs for each boring) and the interval at the borehole terminus. In addition, each of the depth interval samples from hand auger borings SB-1 through SB-5 were selected for laboratory analysis of chloride.

In addition to the samples collected from the hand auger borings, grab samples were collected from the east, south and west walls of the soil excavation where the injection line was repaired. During the time of the sampling activities, the excavation area created to repair the line leak, was open. The samples collected from the excavation walls were submitted for laboratory analysis of chloride.

The soil samples selected for laboratory analysis were transferred into clean, laboratory-provided sample containers, labeled and placed on ice in laboratory-provided coolers. Chain of Custody forms were completed, and the samples were delivered directly to the Eurofins-Xenco laboratory in Midland, Texas for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8021B, Total Petroleum Hydrocarbon (TPH) by EPA Method 8015B and chloride by EPA Method 300.0. The laboratory results are summarized in **Table 1** and the laboratory analytical report is provided as **Appendix E**.

At the conclusion of drilling and soil sampling activities, the soil cuttings were returned to the boreholes, which were then sealed near the surface with bentonite chips.

4.1 Soil Delineation Sampling Results

The soil analytical results were compared to *Table I, Closure Criteria for Soils Impacted by a Release* provided in 19.15.29.12 NMAC, which includes the following:

Table I
Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/L TDS	Constituent	Limit
≤ 50 feet bgs	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
51 feet – 100 feet bgs	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg

The regulatory limits in Table I above are associated with protection of sensitive receptors, which are primarily water resources for this Site. As described above in *Section 3*, it is currently anticipated that depth to groundwater is greater than 50 feet bgs at the Site. None of the constituent concentrations reported for the shallow soil samples exceed the regulatory limits shown above in Table I for sites where groundwater depth is between 51 and 100 ft bgs.

The soil analytical results for the Site were also compared to the chloride regulatory limit of 600 milligrams per kilogram (mg/kg) specified for the upper four feet of soil under 19.15.29.13.D.(1) NMAC for *RESTORATION, RECLAMATION AND RE-VEGETATION*. The chloride concentrations reported for hand auger soil boring SB-1 and excavation wall samples South Side Wall, East Side Wall and West Side Wall exceed the soil reclamation regulatory limit of 600 mg/kg. The highest chloride concentration of 3,600 mg/kg was reported for sample East Side Wall associated with injection line repair excavation.

The soil sample locations along with the analytical results are presented on **Figure 3**.

5. Site Assessment Conclusions

The Site assessment and soil delineation results include the following:

- No sensitive environmental and/or ecological receptors were identified within the search criteria distances described in 19.15.29.11 and 19.15.29.12.C.(4) NMAC.
- BTEX and TPH concentrations were reported below the sample detection limit for all samples collected and analyzed.
- Constituent concentrations in soil are below the applicable regulatory limits based on anticipated depth to groundwater between 51 and 100 ft bgs as described above in *Section 3*.

- The chloride concentrations reported for hand auger soil boring SB-1 and excavation wall samples South Side Wall, East Side Wall and West Side Wall exceed the soil reclamation regulatory limit of 600 mg/kg. Groundwater at the Site is anticipated to be deeper than 50 feet bgs and the reported chloride concentrations do not exceed the 10,000 mg/kg limit for protection of sensitive receptors associated with Table I (19.15.29.12 NMAC).
- The release impacts have been fully delineated both vertically and horizontally based on the Criteria for groundwater greater than 50 ft bgs.

6. Proposed Remediation Plan

Future Site remediation activities will be conducted to address soil reclamation requirements under 19.15.29.13.D.(1) NMAC.

6.1 Proposed Soil Remediation/Reclamation Approach

Soil remediation is proposed for the immediate area of the release to a maximum depth of 4 ft bgs. The approximate lateral extent of the proposed soil remediation area is shown on **Figure 4**. Soil remediation will be conducted through excavation and offsite disposal as further described below in *Section 6.2*.

Soil excavation will not be conducted within 10 feet of the north-south trending subsurface line as shown on **Figure 4**. This line is not operated by Chevron. Chevron MCBU requests NMOCD approval for deferral of remediation/reclamation for impacted soil within this setback area in accordance with 19.15.29.12(C)(2) NMAC.

The Remediation Plan and formal deferral request is included in **Appendix A**, as page 6 of the Form C-141.

6.2 Soil Excavation and Confirmation Sampling associated with Site Remediation/Reclamation

Remediation/reclamation will be performed by excavation and off-site disposal of impacted soil. The impacted soil will be excavated to depths of 2 to 4 ft bgs in the approximate area shown on **Figure 4** and it is currently estimated that approximately 85 cubic of yards of impacted soil will be removed. The actual extent of the soil excavation will be determined based on the laboratory analytical results for confirmation soil samples collected from the walls and bottom of the excavation as described below. The excavated soil will be characterized and transported off site for disposal at a Chevron approved waste disposal facility that accepts oil and gas exploration and production (E&P) exempt wastes.

In conjunction with excavation of impacted soil, confirmation samples will be collected from the walls and bottom of the excavation according to NMOCD requirements. The soil samples will be submitted for laboratory analysis of chloride by EPA Method 300.0. The soil samples will be collected in clean, laboratory-provided sample containers, labeled, and placed on ice in laboratory-provided coolers. AECOM will complete Chain of Custody forms and arrange for shipment/transportation of the samples to Eurofins Xenco in Midland, Texas for laboratory analysis.

Excavation activities will continue as necessary until confirmation sample results are within the required regulatory limits. A liner will then be placed within the area of the excavation footprint and clean fill will be used to backfill the excavated areas and photos will be taken prior to backfilling.

6.3 Site Closure Report

Upon completion of soil remediation/reclamation activities for each event, a Site Closure Report will be submitted to the NMOCD describing the soil excavation and disposal activities, and the closure confirmation sampling results.

6.4 Schedule

Depending on receipt of approval from the NMOCD, the soil remediation/reclamation activities will be scheduled for the third or fourth quarter of 2021. The schedule for future soil remediation/reclamation of the deferred setback areas will be determined once the production well has been taken out of service.

7. References

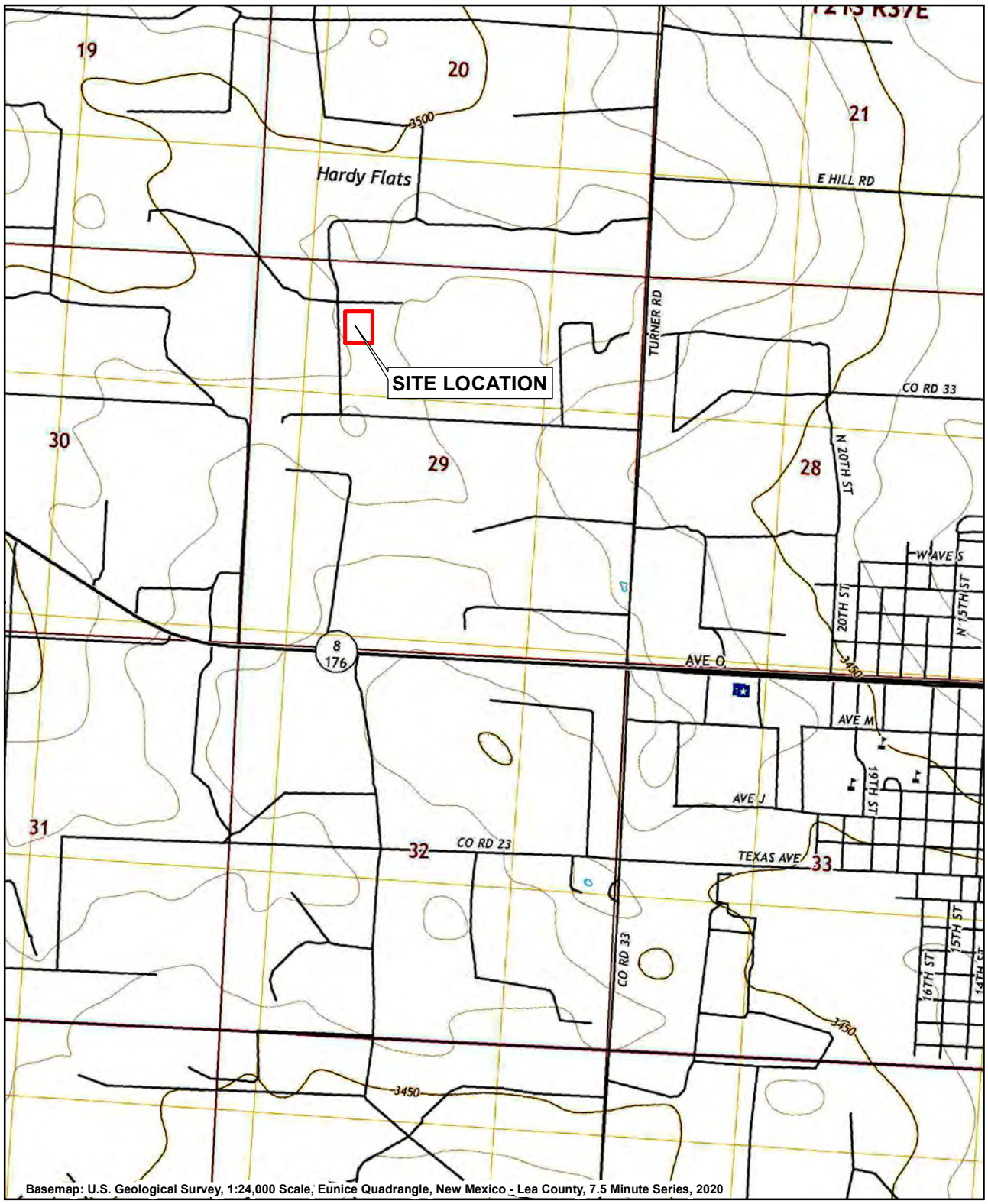
New Mexico Water Rights Reporting System (NMWRRS), Water Column/Average Depth to Water Report. http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html .

National Wetlands Inventory, surface waters and wetlands. https://www.fws.gov/wetlands/data/mapper.html

Google Earth Pro.

United States Department of Agriculture – Natural Resources Conservation Service. Web Soil Survey. Available on line at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Figures



N

0 2,000 '

AECOM

13355 Noel Road, Suite 400
Dallas, TX 75240

FIGURE 1

SITE LOCATION MAP

Chevron MCBU
CDU 436 Injection Line
Lea County, New Mexico

Drawn By: AP	Checked By: WG	Scale: 1 " = 2,000 '	Date: 6/17/21	File: Site Location Map.mxd

C:\USERS\POPAA\AECOM DIRECTORY\GDS GIS SERVICES - GIS CAD PROJECTS\DCS AMERICAS\CHEVRON\MCBU NM\WORKSPACE\CDU 436\SITE LOCATION MAP.MXD

N

W E

S

Legend

- Soil Boring
- Excavation Wall Soil Sample
- Approximate Release Area
- Aboveground Flow Line (Other Operator)
- Underground Injection Line (Chevron)

0 25 50 100 Feet

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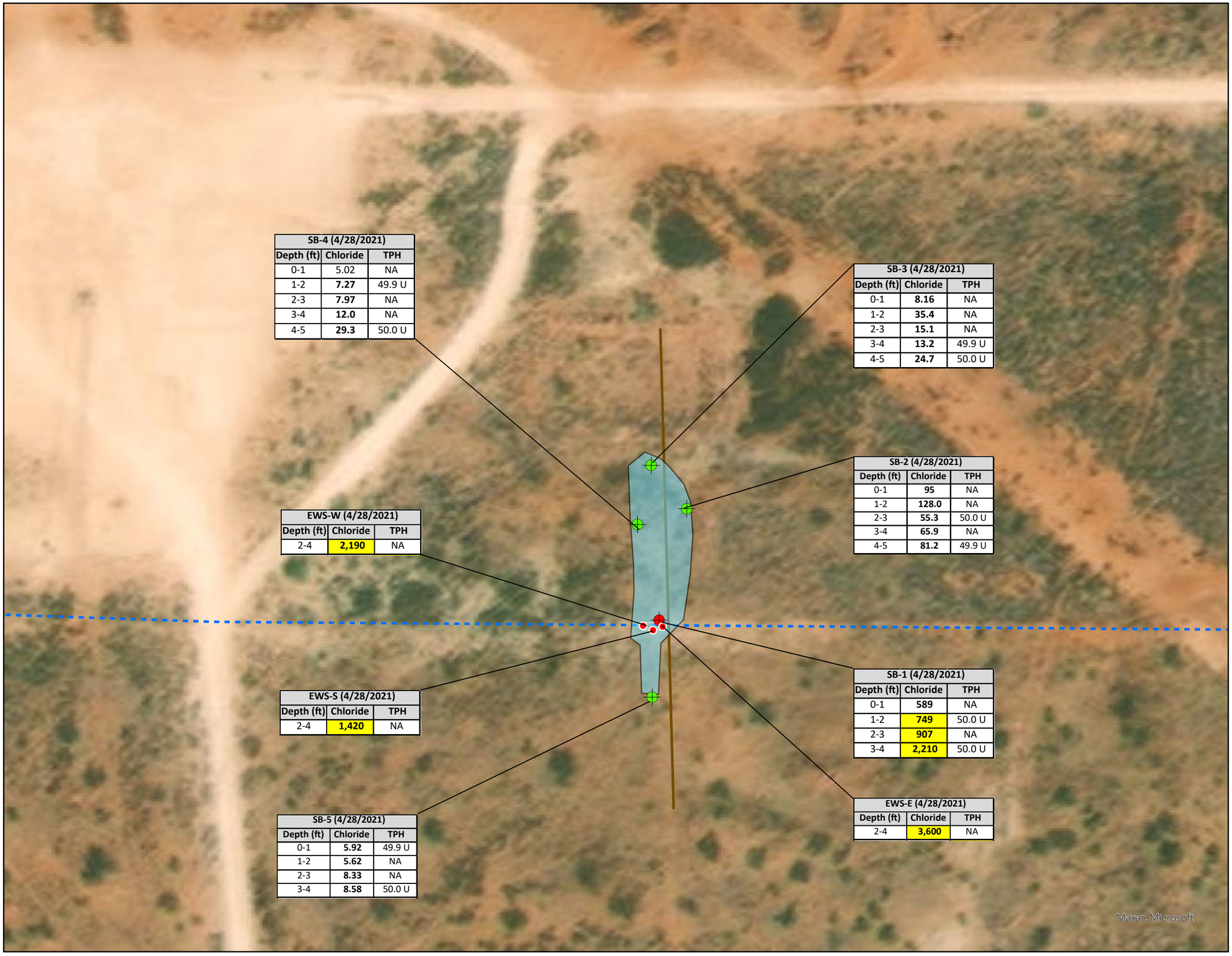
Sample Location Map

Chevron MCBU
CDU 436 Injection Line
Lea County, New Mexico

Date:	Proj. No.:	Figure:
6/17/2021	60657235	2



SB-4 (4/28/2021)		
Depth (ft)	Chloride	TPH
0-1	5.02	NA
1-2	**7.27**	49.9 U
2-3	**7.97**	NA
3-4	**12.0**	NA
4-5	**29.3**	50.0 U

SB-3 (4/28/2021)		
Depth (ft)	Chloride	TPH
0-1	**8.16**	NA
1-2	**35.4**	NA
2-3	**15.1**	NA
3-4	**13.2**	49.9 U
4-5	**24.7**	50.0 U

SB-2 (4/28/2021)		
Depth (ft)	Chloride	TPH
0-1	**95**	NA
1-2	**128.0**	NA
2-3	**55.3**	50.0 U
3-4	**65.9**	NA
4-5	**81.2**	49.9 U

EWS-W (4/28/2021)		
Depth (ft)	Chloride	TPH
2-4	**2,190**	NA

EWS-S (4/28/2021)		
Depth (ft)	Chloride	TPH
2-4	**1,420**	NA

SB-1 (4/28/2021)		
Depth (ft)	Chloride	TPH
0-1	**589**	NA
1-2	**749**	50.0 U
2-3	**907**	NA
3-4	**2,210**	50.0 U

SB-5 (4/28/2021)		
Depth (ft)	Chloride	TPH
0-1	**5.92**	49.9 U
1-2	**5.62**	NA
2-3	**8.33**	NA
3-4	**8.58**	50.0 U

EWS-E (4/28/2021)		
Depth (ft)	Chloride	TPH
2-4	**3,600**	NA

N

W E

S

Legend

- Soil Boring with no exceedance
- Soil Boring with chloride exceedance
- Excavation wall soil sample with chloride exceedance
- Approximate Release Area
- Aboveground Flow Line (Other Operator)
- Underground Injection Line (Chevron)

U — Analyte not detected at or above the Laboratory Sample Detection Limit (SDL)

NA — Not Analyzed

Regulatory Limits:

TPH = 100 mg/kg
Chloride = 600 mg/kg

Bold & Highlighted — Exceeds Regulatory Limit

0 25 50 100 Feet

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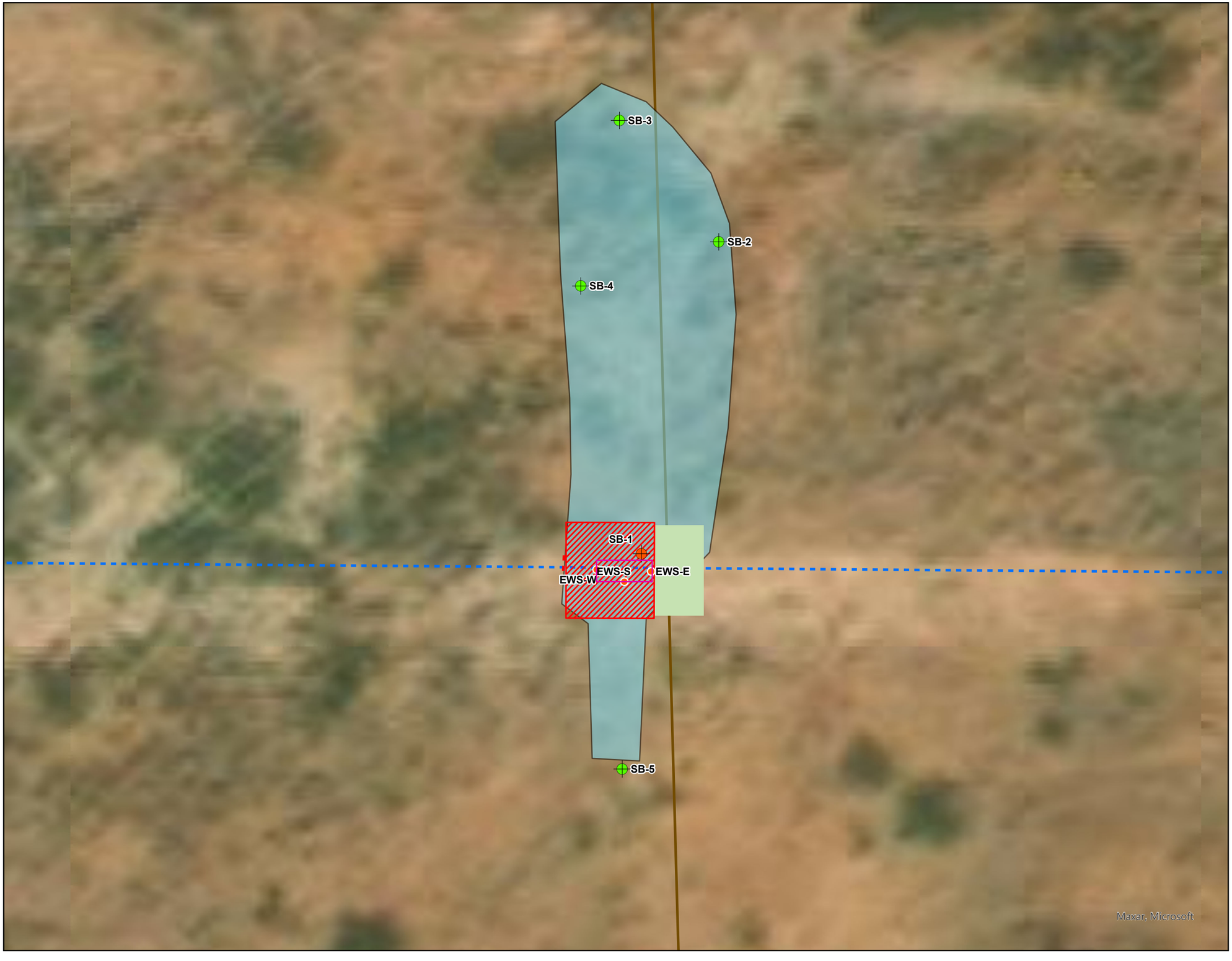
Dallas, TX 75240

Soil Analytical Results Map

Chevron MCBU
CDU 436 Injection Line
Lea County, New Mexico

Date:	Proj. No.:	Figure:
6/17/2021	60657235	3



N
W E
S

Legend

- Soil Boring with no exceedance
- Soil Boring with chloride exceedance
- Excavation wall soil sample with chloride exceedance
- Approximate Release Area
- Approximate Area of Injection Line Repair Excavation
- Proposed Excavation Area
- Proposed Deferral Area
- Aboveground Flow Line (Other Operator)
- Underground Injection Line (Chevron)

0 10 20 40 Feet

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Dallas, TX 75240

Proposed Remediation Map

Chevron MCBU
CDU 436 Injection Line
Lea County, New Mexico

Date:	Proj. No.:	Figure:
6/17/2021	60657235	4

Tables

AECOM

Table 1
CDU 436 Injection Line - Soil Analytical Results
Chevron MCBU NM Spill Sites
Lea County, NM

Sample ID	Sample Date	Sample Depth (ft bgs)	Total Petroleum Hydrocarbons (EPA Method 8015B)				Volatile Organic Compounds (EPA Method 8021B)					Chloride (EPA Method 300.0 Anions, Ion Chromatography)
			GRO (C6-C10)	DRO (C10-C28)	MRO (C28-C36)	TPH GRO+DRO+MRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	
0-4 ft Reclamation Criteria & GW ≤50 ft (mg/kg)			--	--	--	100	10	--	--	--	50	600
Criteria for GW 51-100 ft (mg/kg)			--	--	--	2,500	10	--	--	--	50	10,000
CDU-436 SB-1	4/28/2021	0-1'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**589**
		1-2'	50.0 U	50.0 U	50.0 U	50.0 U	0.00199 U	0.00199 U	0.00199 U	0.00398 U	0.00398 U	**749**
		2-3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**907**
		3-4'	50.0 U	50.0 U	50.0 U	50.0 U	0.00199 U	0.00199 U	0.00199 U	0.00398 U	0.00398 U	**2,210**
CDU-436 SB-2	4/28/2021	0-1'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**94.9**
		1-2'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**128**
		2-3'	50.0 U	50.0 U	50.0 U	50.0 U	0.00200 U	0.00200 U	0.00200 U	0.00399 U	0.00399 U	**55.3**
		3-4'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**65.9**
		4-5'	49.9 U	49.9 U	49.9 U	49.9 U	0.00202 U	0.00202 U	0.00202 U	0.00404 U	0.00404 U	**81.2**
CDU-436 SB-3	4/28/2021	0-1'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.16**
		1-2'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**35.4**
		2-3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.1**
		3-4'	49.9 U	49.9 U	49.9 U	49.9 U	0.00200 U	0.00200 U	0.00200 U	0.00401 U	0.00401 U	**13.2**
		4-5'	50.0 U	50.0 U	50.0 U	50.0 U	0.00200 U	0.00200 U	0.00200 U	0.00401 U	0.00401 U	**24.7**
CDU-436 SB-4	4/28/2021	0-1'	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.02 U
		1-2'	49.9 U	49.9 U	49.9 U	49.9 U	0.00200 U	0.00200 U	0.00200 U	0.00399 U	0.00399 U	**7.27** F1
		2-3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.97**
		3-4'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12.0**
		4-5'	50.0 U	50.0 U	50.0 U	50.0 U	0.00198 U	0.00198 U	0.00198 U	0.00397 U	0.00397 U	**29.3**
CDU-436 SB-5	4/28/2021	0-1'	49.9 U	49.9 U	49.9 U	49.9 U	0.00201 U	0.00201 U	0.00201 U	0.00402 U	0.00402 U	**5.92**
		1-2'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.62**
		2-3'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.33**
		3-4'	50.0 U	50.0 U	50.0 U	50.0 U	0.00199 U	0.00199 U	0.00199 U	0.00398 U	0.00398 U	**8.58**
Excavation Wall Samples												
South Side Wall	4/28/2021	2-4'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1,420**
East Side Wall	4/28/2021	2-4'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3,600**
West Side Wall	4/28/2021	2-4'	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2,190**

Notes:

1. Soil analyses performed by Eurofins Xenco Laboratories, LLC. in Midland, Texas.
2. Units for all analytical data provided are mg/Kg (milligrams per kilogram).
3. Regulatory Limits are from 19.15.29 New Mexico Administrative Code (NMAC) - "Closure Criteria for Soils Impacted by a Release."
4. "--" Indicates that no applicable regulatory limit exists for that analyte.
5. "ft bgs" - feet below ground surface.
6. "GRO" - Gasoline Range Organic Compounds
7. "DRO" - Diesel Range Organic Compounds
8. "MRO" - Motor Oil/Lube Range Organic Compounds
9. "NA" - Not analyzed.
10. U - Indicates that the analyte was analyzed for but not detected at or above the laboratory SDL.
11. F1 - Indicates that associated matrix spike/matrix spike duplicate sample recovery exceeds laboratory control limits.
12. **Bold** - Detectable concentration that exceeds laboratory method reporting limits.
13. **Bold and Shaded** - Reported concentration exceeds 0-4 ft reclamation criteria
14. **Bold and Shaded** - Reported concentration exceeds criteria for GW 51 ft to 100 ft bgs

Appendix A

Form C-141 – CDU 436 Injection Line

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2107443361
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Chevron USA Inc	OGRID: 4323
Contact Name: Amy Barnhill	Contact Telephone: 432-687-7108
Contact email: ABarnhill@chevron.com	Incident # *(assigned by OCD)*
Contact mailing address: 6301 Deauville Blvd Midland, Tx 79706	

Location of Release Source

Latitude 32.45533 Longitude -103.19034
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: CDU 436 Injection Line	Site Type: Injection
Date Release Discovered: 3-4-21	API# *(if applicable):* 30-025-39095

Unit Letter	Section	Township	Range	County
D	29	21S	37E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 22.23	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release: Corrosion		

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill_____ Title: Water Specialist_____

Signature:_____ Date: 3-15-21

email: ABarnhill@chevron.com_____ Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2107443361
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	99 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☑ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☑ Field data
- ☑ Data table of soil contaminant concentration data
- ☑ Depth to water determination
- ☑ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☑ Boring or excavation logs
- ☑ Photographs including date and GIS information
- ☑ Topographic/Aerial maps
- ☑ Laboratory data including chain of custody

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2107443361
District RP	
Facility ID	
Application ID	

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill Title: Water Specialist

Signature: Amy Barnhill Date: 7-20-21

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2107443361
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- [X] Detailed description of proposed remediation technique
- [X] Scaled sitemap with GPS coordinates showing delineation points
- [X] Estimated volume of material to be remediated
- [X] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [X] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [X] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [X] Extents of contamination must be fully delineated.
- [X] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amy Barnhill Title: Water Specialist

Signature: Amy Barnhill Date: 7-20-21

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: Chad Hensley Date: 08/24/2021

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Chad Hensley Date: 08/24/2021

Appendix B

Online Depth to Groundwater Information

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

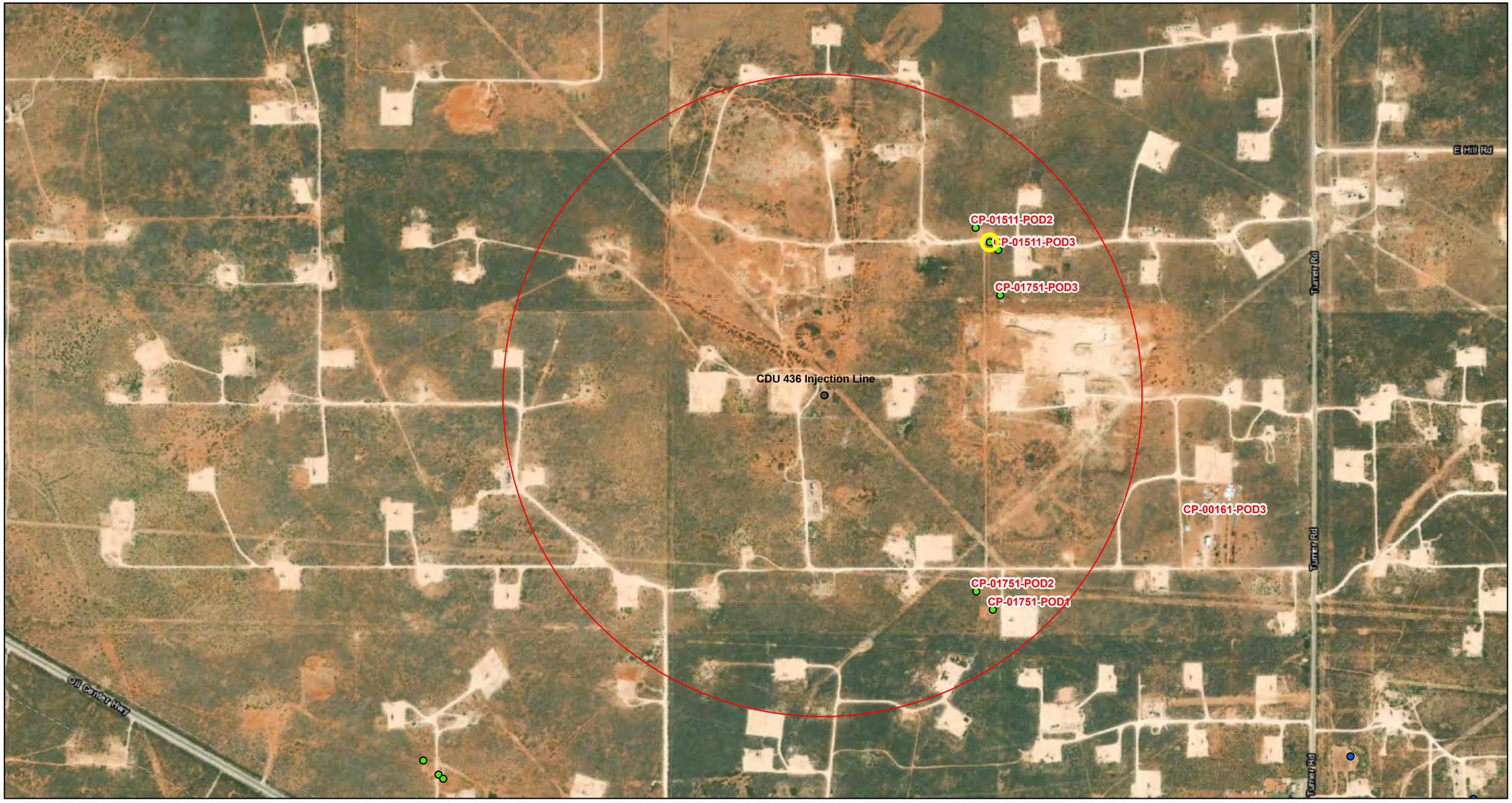
Basin/County Search:

Basin: Lea County

UTMNAD83 Radius Search (in meters):

Easting (X): 670094 **Northing (Y):** 3592349 **Radius:** 800

OSE POD LOCATIONS



6/24/2021, 9:50:56 AM

GIS WATERS PODs

- Active
- Pending
- 0.5 mile buffer

1:11,137

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Printed from Public Web Map
Unofficial Map from OSE POD Locations Web Application

File No. CP-1511

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Rice Operating Co. as Agent for the BD SWD System	Name: Katie Jones Davis
Contact or Agent: Katie Jones Davis, Env. Manager — check here if Agent ☐	Contact or Agent: — check here if Agent ☐
Mailing Address: 112 West Taylor	Mailing Address:
City: Hobbs	City:
State: NM — Zip Code: 88240	State: — Zip Code:
Phone: 575-393-9174 — ☐ Home ☐ Cell; Phone (Work):	Phone: 575-602-1336 — ☐ Home ☒ Cell; Phone (Work):
E-mail (optional): kjones@riceswd.com	E-mail (optional):

FOR OSE INTERNAL USE — Application for Permit, Form WR-07, Rev 11/17/16

File No.: CP-1511	Trn. No.: 660638	Receipt No.: 2-41279
Trans Description (optional): CP-1511-POD2		
Sub-Basin: CP	PCW/LOG Due Date: 10/10/20	

2. **WELL(S)** Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
CP-1511-POD2 MW-2	-103.185445	32.459038	SENESESW, Section 20, T21S, R37E
	103,11,7.60	32,27, 32.54	

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ☐ No **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: Chevron USA, Inc.

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. **Attached?** ☐ Yes ■ No
If yes, how many_____

Approximate depth of well (feet): 120 ft	Outside diameter of well casing (inches): 2 Inches
Driller Name: HCI (Kenny Cooper)	Driller License Number: WD-1731

3. **ADDITIONAL STATEMENTS OR EXPLANATIONS**

Installation of one Monitor Well (MW-2) for sampling purposes.

See attached NMOCD approved Corrective Action Plan.

2019 OCT -1 PM 3:04 STATE ENGINEER OFFICE ROSWELL, NEW MEXICO

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: CP-1511 Trn No.: 660638

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: ☐ Include a description of any proposed pump test, if applicable.	**Pollution Control and/or Recovery:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	**Construction De-Watering:** ☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	**Mine De-Watering:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Katie Jones Davis
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Katie Jones Davis
Applicant Signature

Applicant Signature

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2019 OCT -1 PM 1:30

ACTION OF THE STATE ENGINEER

This application is:

☑ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 11th day of October 20 19, for the State Engineer,

John R. D'Antonio Jr., P.E., State Engineer

By: Signature Juan Hernandez Print

Title: Water Resources Manager I
Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: CP-1511	Trn No.: 660638

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-1B Depth of the well shall not exceed the thickness of the Ogallala formation.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: CP 01511 POD2

File Number: CP 01511
Trn Number: 660638

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

LOG The Point of Diversion CP 01511 POD2 must be completed and the Well Log filed on or before 10/10/2020.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 10/01/2019 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 11 day of Oct A.D., 2019

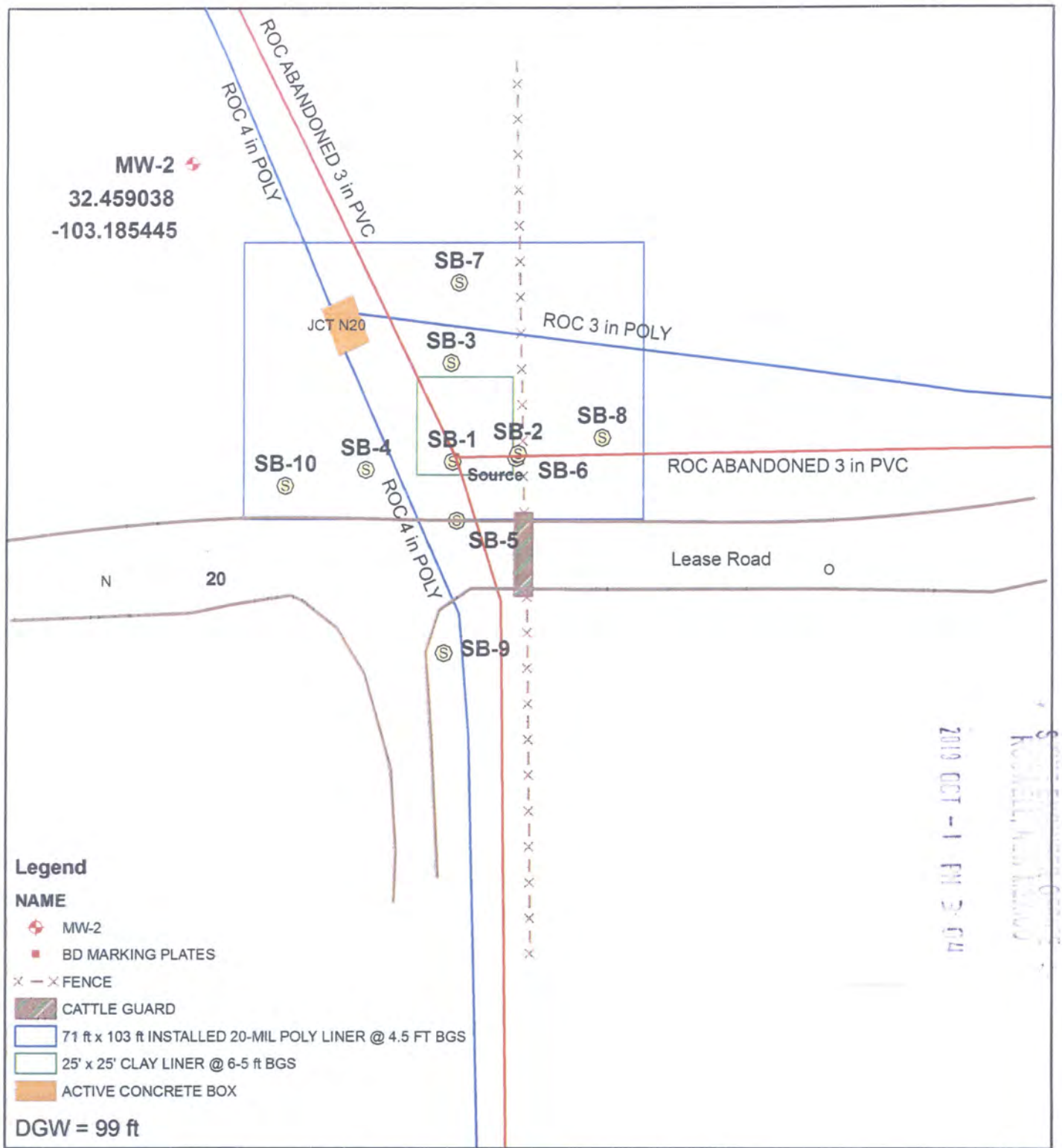
John R. D Antonio, Jr., P.E., State Engineer

By: Juan Hernandez

Trn Desc: CP 01511 POD2

File Number: CP 01511
Trn Number: 660638

page: 2



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

BD Jct. N-20

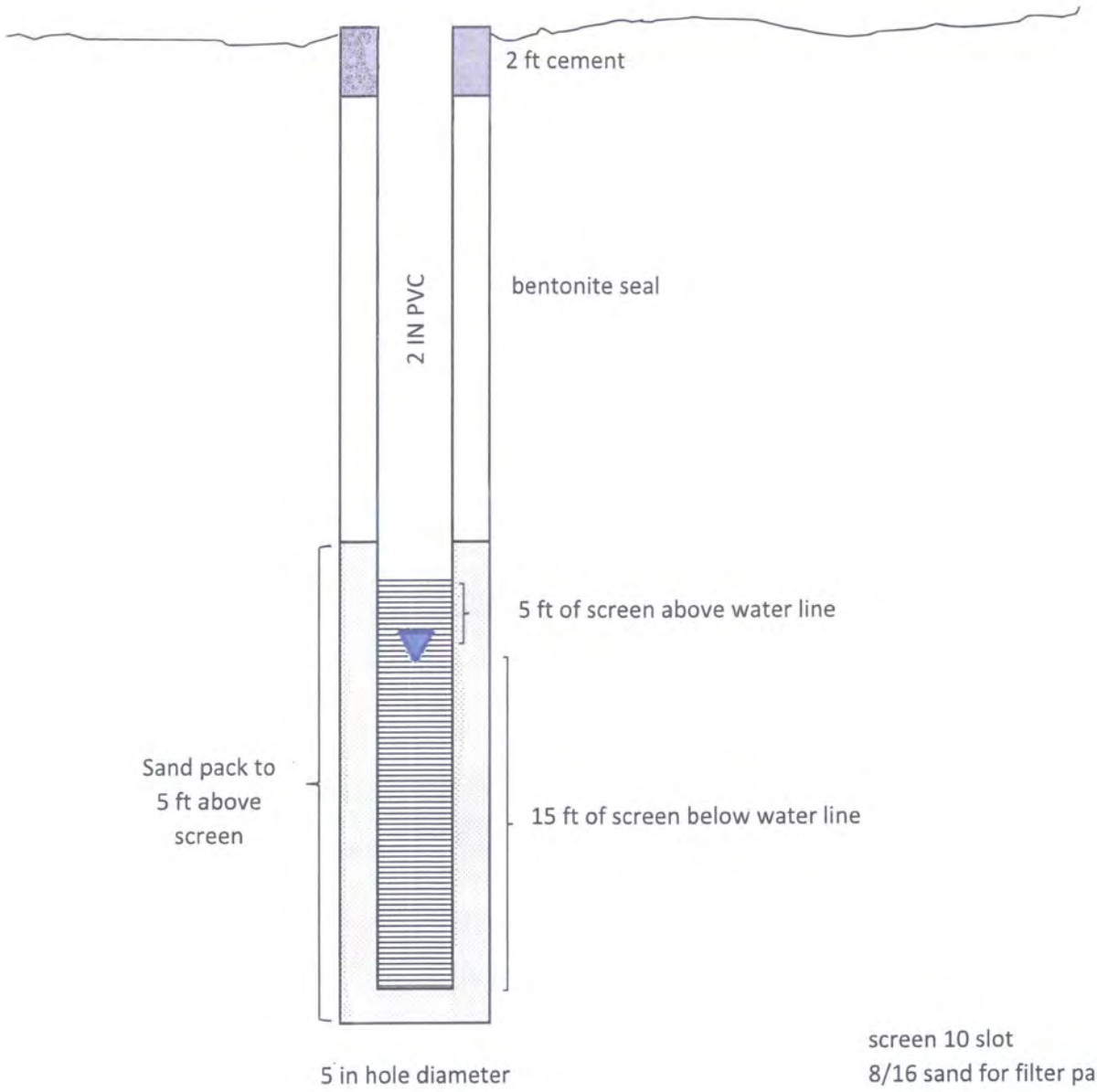
Legals: UL/N sec. 20
T-21-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R426-215

N
W E
S

0 25 50
Feet

Drawing date: 8/7/14
Drafted by: B. Cooper



2 in Monitor Well Installation Diagram

SURFACE ACCESS AND RELEASE AGREEMENT

This SURFACE ACCESS AND RELEASE AGREEMENT ("Agreement") dated as of the 1st day of July, 2018 (the "Effective Date") is made by and between **RICE OPERATING COMPANY**, with an address at 122 West Taylor, Hobbs, New Mexico 88240 ("Company") and **CHEVRON U.S.A. INC.**, a Pennsylvania corporation, with its principal offices at 6301 Deauville Boulevard, Midland, Texas 79706 ("Surface Owner").

RECITALS

A. Surface Owner owns certain land described in Exhibit A – Land Description ("Land").

B. Company proposes to perform, and Surface Owner wishes to grant Company access to the Land to perform, certain activities on the Land under the terms and conditions set out in this Agreement.

C. In consideration of the mutual promises set out in this Agreement, and other valuable consideration, the receipt and sufficiency of which are acknowledged, the Parties agree as follows:

AGREEMENT

1. DEFINITIONS, INTERPRETATIONS, AND EXHIBITS

1.1 **Definitions.** As used in this Agreement, these words or expressions have the following meanings:

"Agreement" has the meaning given in the introductory paragraph.

"Affiliate" of a Party means any Person that directly or indirectly controls or is controlled by, or is under common control with, such Party. For purposes of this definition, "control" means ownership of 50% or greater of the voting interest (stock or otherwise) of such entity.

"Assessment" means the services and work to be performed by Company or its Company Group under this Agreement described in Section 6 (Description of Work), including any of the following related to historical oil and gas operations by Company or its Affiliates on and near the Land as may be required to comply with applicable state or federal law:

(A) Environmental assessment, field geoprobe work, air, soil, and water investigation, sampling, boring, and monitoring (including the installation of monitoring wells/monitoring points).

(B) Removal or replacement of Property, including buildings, structures, fixtures, landscaping, and other improvements, and trees, brush, and other vegetation, if necessary.

(C) Viewing and assessing the condition of any former wells or facilities, including those previously plugged and abandoned.

(D) Recovery, restoration, and remediation activities.

"Claim" means any claim, liability, loss, demand, damages, Lien, cause of action, obligation, cost, fees, assessments, penalties, fines, judgment, interest, or award (including recoverable legal counsel and expert witness fees and costs of litigation of the Person asserting the Claim), whether arising by Law, contract, tort, voluntary settlement, or otherwise.

"Company" has the meaning given in the introductory paragraph.

"Company Group" means Company, Company's Affiliates, Joint Interest Owners and their Affiliates, and the directors, officers, employees, consultants, and agents of all of them, and any other Person (including contractors and their subcontractors and the employees of those contractors and subcontractors) whose presence on the Land is by invitation of any other member of Company Group.

"Effective Date" has the meaning given in the introductory paragraph.

"Exhibit" means a document referred to in Section 1.1(A).

"Joint Interest Owner" means a Person (including a co-interest owner, joint venturer, partner or co-lessee of Company) who shares an economic interest in the Land in common with Company or with an Affiliate of Company.

"Land" has the meaning given in Recital A.

"Laws" means any valid federal, state, tribal, or local law, rule, regulation, or order.

"Party" means Company or Surface Owner, and "Parties" means both of them.

"Person" means an individual, corporation, company, state, statutory corporation, government entity, or any other legal entity.

"Property" of a Person means property owned, leased or furnished by that Person or in which that Person has an economic interest.

"Surface Owner" has the meaning given in the introductory paragraph.

"Term" means the period commencing on the Effective Date and ending on the date Assessment is complete.

1.2 **Interpretation.** Unless the context expressly requires otherwise, all of the following apply to the interpretation of this Agreement:

(A) Plural and singular words each include the other.

(B) Masculine, feminine, and neuter genders each include the others.

(C) The word "or" is not exclusive.

(D) The words "include(s)" and "including" are not limiting, but are terms of enlargement so other items or components are includable although not specifically expressed.

(E) References to matters "arising" (or that "arise" or "arises") "out of this Agreement" include matters that arise in connection with this Agreement or have a causal connection with or that flow from this Agreement or that would not have arisen or occurred but for the entering into this Agreement or the performance of or failure to perform obligations under this Agreement.

(F) The headings in this Agreement are included for convenience and do not affect the construction or interpretation of any provision of, or the rights or obligations of a Party under, this Agreement.

1.3 Exhibits.

(A) Exhibit A – Land Description is an integral part of this Agreement and is incorporated by reference into this Agreement.

(B) If a conflict exists between the body of this Agreement and Exhibit A – Land Description, the body prevails to the extent of the conflict.

2. RIGHT OF ENTRY

Surface Owner grants Company Group the right to enter the Land to conduct the Assessment throughout the Term on the terms and conditions set out in this Agreement. Surface Owner grants only a temporary license to enter and work upon the Land and does not grant an easement or any other interest in the Land.

3. PERFORMANCE OF ASSESSMENT

Company or Company Group must perform the Assessment in accordance with the terms and conditions of this Agreement. Company Group is solely responsible, at its own expense, for providing all materials, equipment (including vehicles and vessels), other services, personnel, supervision and expertise necessary to perform the Assessment.

4. REPORTS

At Surface Owner's written request, Company must provide Surface Owner with sampling results or reports arising from the Assessment of the Land that Company submits to any applicable regulatory authority.

5. COMPLIANCE WITH APPLICABLE LAW AND PERMITS

While on the Land, Company must comply and ensure that all members of Company Group comply with all applicable Laws. Company must require that all members of Company Group obtain and maintain all licenses, permits, certifications, consents, approvals, or other authorizations from all governmental or professional or other bodies having jurisdiction that are necessary for Company Group's performance of the Assessment.

6. DESCRIPTION OF WORK

Surface Owner grants Company Group the right to drill and construct upon the Land one groundwater monitor well to monitor contaminants in the groundwater. Surface Owner further grants Company the right during the Term to routinely visit, sample, test, and inspect the groundwater monitor well following the initial drilling and construction, including all necessary ingress and egress to and across the Land for foregoing purposes.

7. SURFACE OWNER MAY BE PRESENT DURING ASSESSMENT

Surface Owner may have one representative present during the performance of the Assessment, if the presence or conduct of the Surface Owner's representative does not result in either: (A) unreasonable

interference with the Assessment, or (B) risk of harm to the health or safety of any Person or Property located on the Land at the time of the Assessment.

8. COMPANY OBLIGATIONS UPON COMPLETION OF ASSESSMENT

Upon completion of the Assessment, Company must restore the Land to as near its physical condition before the Assessment was begun to the extent reasonably practicable if the Land was changed by Company's Assessment, and then to vacate the Land.

9. TERM OF AGREEMENT

Unless otherwise agreed in writing by the Parties, this Agreement will remain in full force and effect from the Effective Date to the completion of the Assessment.

10. RELEASE AND INDEMNIFICATION

10.1 **By Company. COMPANY AGREES FULLY TO DEFEND, PROTECT, INDEMNIFY, AND HOLD HARMLESS THE SURFACE OWNER FROM ALL CLAIMS ARISING OUT OF COMPANY GROUP'S ACTIVITIES PERFORMED UNDER THIS AGREEMENT, EXCEPT CLAIMS ATTRIBUTABLE TO THE NEGLIGENCE, RECKLENESSNESS, OR INTENTIONAL ACTS OF SURFACE OWNER.**

10.2 **Limitation on Classes of Damages.** Surface Owner and Company mutually waive and release to the fullest extent permitted by applicable Law, all of the following Claims for damages arising out of this Agreement, except for Claims arising from the obligation of a Party to indemnify the other Party for third-party Claims:

(A) Indirect or consequential loss, including:

(1) Loss of production, including production of petroleum or petroleum products.

(2) Loss of prospective economic advantage or benefit.

(3) Loss of business opportunity.

(B) Punitive or exemplary damages.

10.3 **Defense of Claims.**

(A) Whenever Company indemnifies Surface Owner against Claims, Company must defend and hold Surface Owner harmless against those Claims and against all reasonable costs, expenses, and fees of any kind (including attorneys' fees and expert witness fees) incurred by Surface Owner in defending those Claims.

(B) Any costs, expenses, and fees of any kind (including attorneys' fees and expert witness fees) indemnified by Company under this Section are in addition to any amounts indemnified under this Agreement that are subject to a maximum liability amount.

(C) A Person seeking to rely on an indemnity has the right to reasonably object to counsel selected by the indemnifying Party and select alternative counsel at the cost of the indemnifying Party.

10.4 Survival. The provisions of this Article 10 will survive termination of this Agreement.

11. GENERAL PROVISIONS

11.1 **Conflict of Interest.** No director, employee, or agent of either Party will give or receive any commission, fee, rebate, gift, or entertainment of significant cost or value in connection with this Agreement. During the term of this Agreement and for two years after termination of this Agreement, any representatives authorized by either Party may audit the applicable records of the other Party solely for the purpose of determining whether there has been compliance with this provision. The provisions of this Section will survive termination of this Agreement.

11.2 **Governing Law.** This Agreement is governed by and interpreted under the Laws of the State of New Mexico, without regard to its choice of Law rules.

11.3 **Notices.** All notices required or permitted under this Agreement must be in writing and delivered by certified mail (postage prepaid), by courier service with written verification of receipt, or by hand delivery to the address of the receiving Party set forth on the signature page of this Agreement. Notices are effective when received by the recipient during the recipient's regular business hours. Notices sent by e-mail or facsimile are ineffective.

11.4 **Representatives and Contact Information.**

(A) The representatives and contact information of each Party are as set out on page 7 of this Agreement.

(B) Each Party may change its representative or contact information by giving notice to the other Party.

11.5 **Public Announcements.** Except as otherwise expressly required by Law, a Party may not issue any public announcement or statement concerning this Agreement without obtaining the other Party's prior written consent.

11.6 **Third-Party Rights.** Except as otherwise expressly stated herein, no Person who is not a party to this Agreement has any rights under this Agreement or may enforce any provision of this Agreement.

11.7 **Assignment.**

(A) **By Company.** This Agreement is personal to Company, and Company may not assign this Agreement, in whole or in part, without Surface Owner's prior written consent, which Surface Owner will not unreasonably withhold. If Surface Owner consents to an assignment, Company and its assignee(s) will be jointly and severally liable for the performance of all obligations imposed upon Company under this Agreement. Surface Owner's consent to any assignment is effective only as to the specific assignment then the express subject of that consent, and any subsequent assignment will be ineffective without Surface Owner's separate prior written consent.

(B) **By Surface Owner.** Surface Owner may assign or transfer all or part of its rights or obligations under this Agreement to any other Person at any time without Company's consent.

(C) **Successors and Assigns.** The terms of this Agreement will be binding upon and inure to the benefit of the Parties and their heirs, successors and permitted assigns.

11.8 **Prior Agreements.** This Agreement is subject to all prior agreements of record affecting the Land. Except as provided in this Section, this Agreement comprises the complete and exclusive agreement between the Parties regarding the subject matter of this Agreement, and supersedes all oral and written communications, negotiations, representations, or agreements in relation to that subject matter made or entered into before the Effective Date.

11.9 **Amendment.** This Agreement may not be amended orally or by performance. No amendment to this Agreement is effective unless made in writing and signed by authorized representatives of both Parties.

11.10 **No Waiver.** A Party's failure to pursue remedies for breach of this Agreement does not constitute a waiver of or raise any defense against Claims for breach of this Agreement. The waiver or failure to require the performance of any covenant or obligation contained in this Agreement or pursue remedies for breach of this Agreement does not waive a later breach of that covenant or obligation.

11.11 **Severability.** Each provision of this Agreement is severable, and if any provision is determined to be invalid, unenforceable, or illegal under any existing or future law by a court, arbitrator of competent jurisdiction, or by operation of any applicable law, this invalidity, unenforceability, or illegality does not impair the operation of or affect those portions of this Agreement that are valid, enforceable, and legal unless the deletion of such provision or provisions would result in such a material change that causes completion of the transaction contemplated herein to be unreasonable.

11.12 **Counterparts.** This Agreement may be executed in counterparts, each of which is considered an original of this Agreement, and which together will constitute one and the same instrument. When executed in counterparts, no Party will be bound to this Agreement unless and until all Parties have executed and delivered to each of the other Parties an executed counterpart.

11.13 **Drafting.** Preparation of this Agreement has been a joint effort of the Parties and the resulting Agreement must not be construed more severely against one of the Parties than against the other.

11.14 **Authorized Representatives.** Each Party represents and warrants that the Agreement has been duly executed and delivered by its authorized officer or other representative and constitutes its legal, valid, and binding obligation enforceable in accordance with its terms, and no consent or approval of any other Person is required in connection with its execution, delivery and performance of this Agreement.

The remainder of this page intentionally left blank

IMPORTANT NOTICE: THIS AGREEMENT CONTAINS PROVISIONS REGARDING INDEMNITIES AND WARRANTIES THAT EXPRESS THE AGREEMENT OF THE PARTIES CONCERNING CLAIMS ARISING OUT OF THIS AGREEMENT.

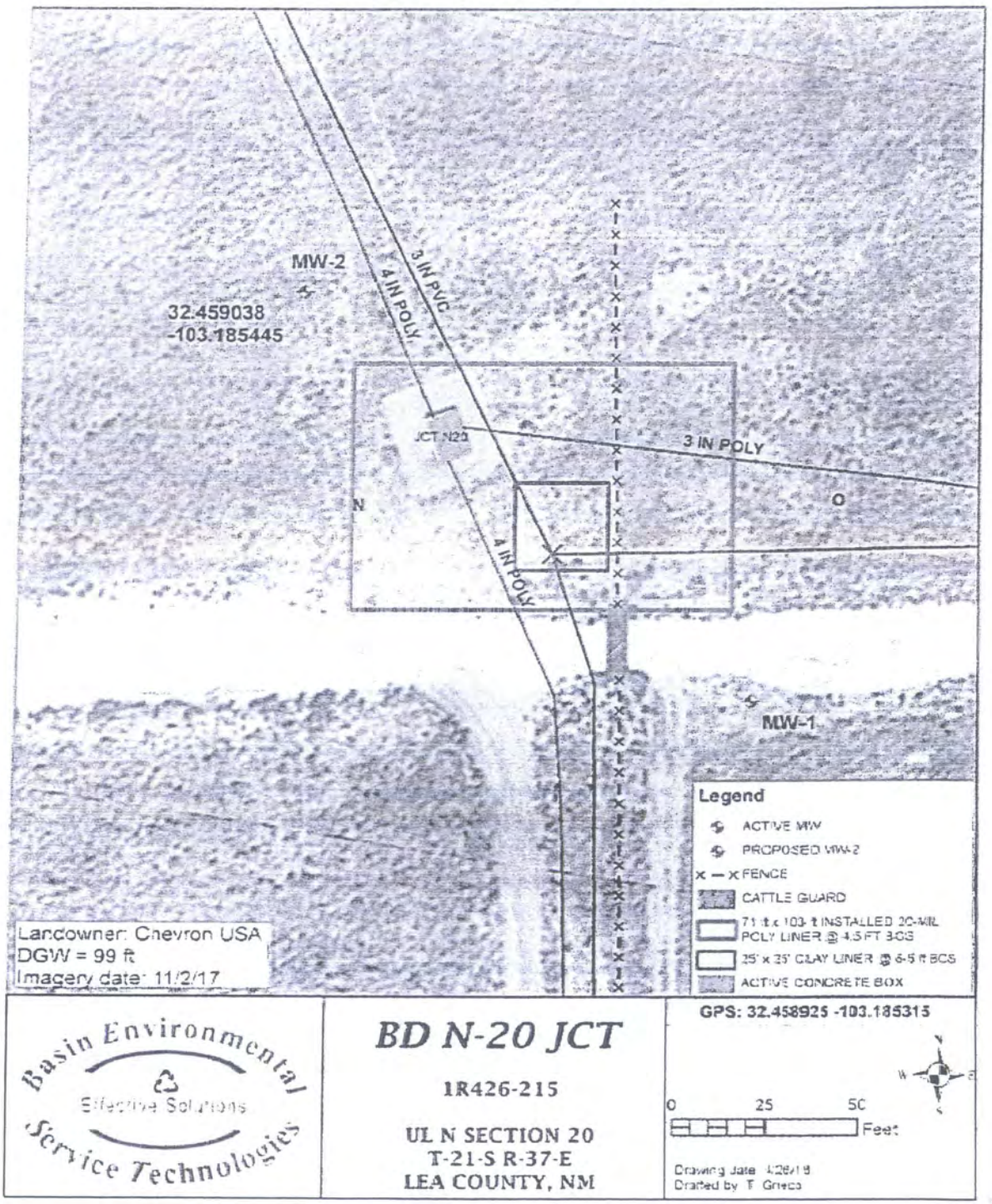
The Parties have executed this Agreement as evidenced by the following signatures of authorized representatives of the Parties:

COMPANY:	SURFACE OWNER:
RICE OPERATING COMPANY	CHEVRON U.S.A. INC.
Signature:	Signature:
Name: Katie Jones Davis	Name: Nick Brock
Title: Environmental Manager	Title: Attorney-in-Fact
ADDRESS FOR NOTICES:	**ADDRESS FOR NOTICES:**
Rice Operating Company	Chevron U.S.A. Inc.
112 West Taylor	6301 Deauville Boulevard
Hobbs, New Mexico 88240	Midland, Texas 79706
Attention: Katie Jones Davis	Attention: Land Department
Telephone: 575-393-9174	**Telephone:** 432-687-7100

EXHIBIT A – LAND DESCRIPTION

Attached and made a part of that certain Surface Access and Release Agreement effective July 1, 2018 by and between Rice Operating Company, as Company, and Chevron U.S.A. Inc., as Surface Owner.

Exhibit A - Land Description



END OF EXHIBIT A

RECS RICE ENVIRONMENTAL CONSULTING & SAFETY
PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

August 1, 2014

Mr. Leonard Lowe
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Initial CAP Report & Soil Closure Request**
Rice Operating Company – BD SWD System
BD Jct. N-20 (1R426-215): UL/N, Sec. 20, T21S, R37E

Mr. Lowe:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced sites in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work

The site is located 2 miles northwest of Eunice, New Mexico at UL/N sec. 20 T21S R37E as shown on the Geographical Location Map (Figure 1). Soil bore installation at the site show groundwater to be located at 99 +/- feet.

Backhoe Delineation
In 2007, ROC initiated work on the former BD N-20 junction box. The site was delineated using a backhoe to form a 25 ft x 25 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,070 mg/kg, a gasoline range organics (GRO) and a diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 2,000 mg/kg, a GRO and a DRO reading of non-detect. The backfill sample showed a chloride laboratory reading of 944 mg/kg, a GRO reading of non-detect and a DRO reading of 10.1 mg/kg.

The excavated soil was blended on site and sued to backfill the excavation to 6 ft bgs. At 6-5 ft bgs, a 1 ft thick clay liner was installed. The remaining blended soil was used to backfill the excavation to ground surface and contour to the surrounding area. An identification plate was placed on the surface of the site to mark its location for future environmental considerations.

The site was then seeded with a blend of native vegetation. A new water-tight junction box was installed 25 ft north of the former junction box site.

To further delineate the site, two soil bores were installed on April 18th, 2007. SB-1 was installed at the source of the former junction box and SB-2 was installed 15 ft east of the former junction box. While the bores were being advanced, samples were taken every 5 ft and field tested for chlorides and hydrocarbons. The deepest sample from each bore, located at 75 ft bgs, was taken to a commercial laboratory for analysis. SB-1 returned a laboratory chloride result of 624 mg/kg and SB-2 returned a laboratory chloride result of 752 mg/kg.

NMOCD was notified of potential groundwater impact on July 25th, 2008 and a junction box disclosure report was submitted to NMOCD with all the 2008 junction box closures and disclosures.

Investigation and Characterization Plan (ICP)

An ICP was submitted on August 5th, 2013 and approved on August 21st, 2013. A total of 8 soil bores (SB 3-10) were installed at the site. As the bores were advanced, soil samples were taken every 5 ft and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for confirmatory analysis. SB-3 returned a laboratory chloride reading of 2,720 mg/kg at 20 ft bgs, which decreased to 336 mg/kg at 95 ft bgs. SB-5 returned laboratory chloride readings of 1,840 mg/kg at 30 ft bgs, 2,000 mg/kg at 80 ft bgs and 944 mg/kg at 95 ft bgs. SB-6 returned a laboratory chloride reading of 3,840 mg/kg at 20 ft bgs, which decreased to 384 mg/kg at 95 ft bgs. SB-7 returned a laboratory chloride reading of 2,200 mg/kg at 25 ft bgs, which decreased to 64 mg/kg at 55 ft bgs. SB-8 returned a laboratory chloride reading of 1,800 mg/kg at 10 ft bgs, which decreased to 128 mg/kg at 30 ft bgs. Chloride concentrations in SB-9 were all below 48 mg/kg. SB-10 returned a laboratory chloride reading of 1,220 mg/kg at 10 ft bgs, which decreased to 144 mg/kg at 30 ft bgs. GRO and DRO readings at all depth in all bores were non-detect.

On October 17th, 2013, an ICP Report and CAP was submitted to NMOCD and was approved on October 30, 2013. The CAP recommended that ROC install a 20-mil reinforced poly liner measuring 71x103-ft at a depth of approximately 4-5 ft bgs. The liner would extend 10 ft beyond the last soil bore to the North, East and West, and would stop at the edge of the lease road to the south. The soils placed above the liner would have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Upon completion of backfilling, the site would be seeded with a native vegetative mix and soil amendments added as necessary. The CAP also recommended that ROC install a monitor well (MW-1) located south of the lease road and an up-gradient well (MW-2) approximately 100 ft up-gradient.

CAP Report for Soils

On May 19th, 2014, RECS personnel were on site to begin liner installation CAP work. The site was excavated in two sections, to overall dimensions of 71x103-ft to a depth of 5 ft bgs (Figure 2). The western half of the site was completed first to dimensions of 52x71-ft to a depth of 5 ft bgs. The excavated soil was blended on site and the bottom of the excavation was padded with 6 inches of the blended backfill. Then a 52x71-ft 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs. The top of the liner was padded with an additional 6 inches of

blended backfill and the excavation was backfilled. A w. 8 pt. comp blended backfill was field analyzed for hydrocarbons using a PID, resulting in a reading of 3.1 ppm. The sample was also analyzed by a commercial laboratory for chloride, resulting in a concentration of 288 mg/kg. The eastern half of the site was completed second to dimensions of 51x71-ft to a depth of 5 ft bgs. The bottom of the excavation was padded with 6 inches of the excavated soil, and a 51x71-ft 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs. The top of the liner was padded with an additional 6 inches of the excavated soil and the excavation was backfilled with the excavated soil. An east 8 pt.comp backfill was field analyzed for hydrocarbons using a PID, resulting in a reading of 20.7 ppm. The sample was also analyzed by a commercial laboratory for chloride, resulting in a concentration of 240 mg/kg.

The site was contoured to the surrounding area, and the site was tilled with soil amendments and seeded with a blend of native vegetation. A silt net fence was place around the site to reduce erosion and maintain soil integrity. Documentation of the CAP activities can be found in Appendix A.

Groundwater Remedy

According to the NMOCD approved CAP, ROC will install a near-source monitor well (MW-1) and an up-gradient well (MW-2) to determine groundwater quality. Once groundwater quality has been determined, ROC will submit a report to NMOCD with recommendations.

ROC acknowledges they have met the soil requirements as approved by NMOCD in the Corrective Action Plan (CAP), and the newly installed 20-mil reinforced liner will prohibit the migration of any residual chlorides. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater. As such, ROC requests 'Soil Closure' for this site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 if you have any questions or wish to discuss the site.

Sincerely,

L Flores

Laura Flores
Rice Environmental Consulting & Safety (RECS)
Project Manager

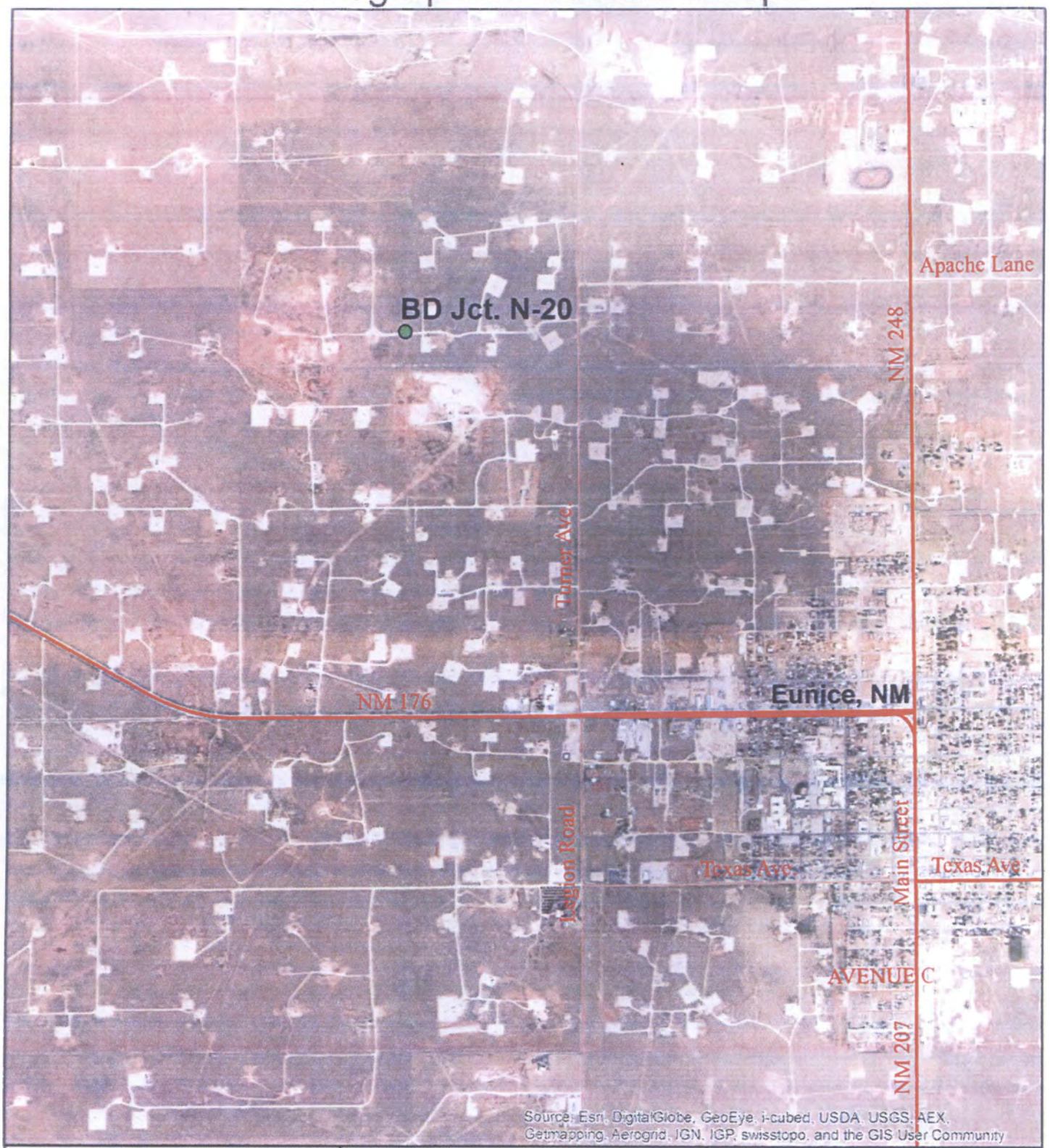
Attachments:

Figure 1 – Geographical Location Map
Figure 2 – Installed Liner & NMOCD Approved MW Locations
Appendix A – Liner Installation Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

[redacted]ographical Location [redacted]Map



RECS
RICE ENVIRONMENTAL

BD Jct. N-20

Legals: UL/N sec. 20
T-21-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R426-215

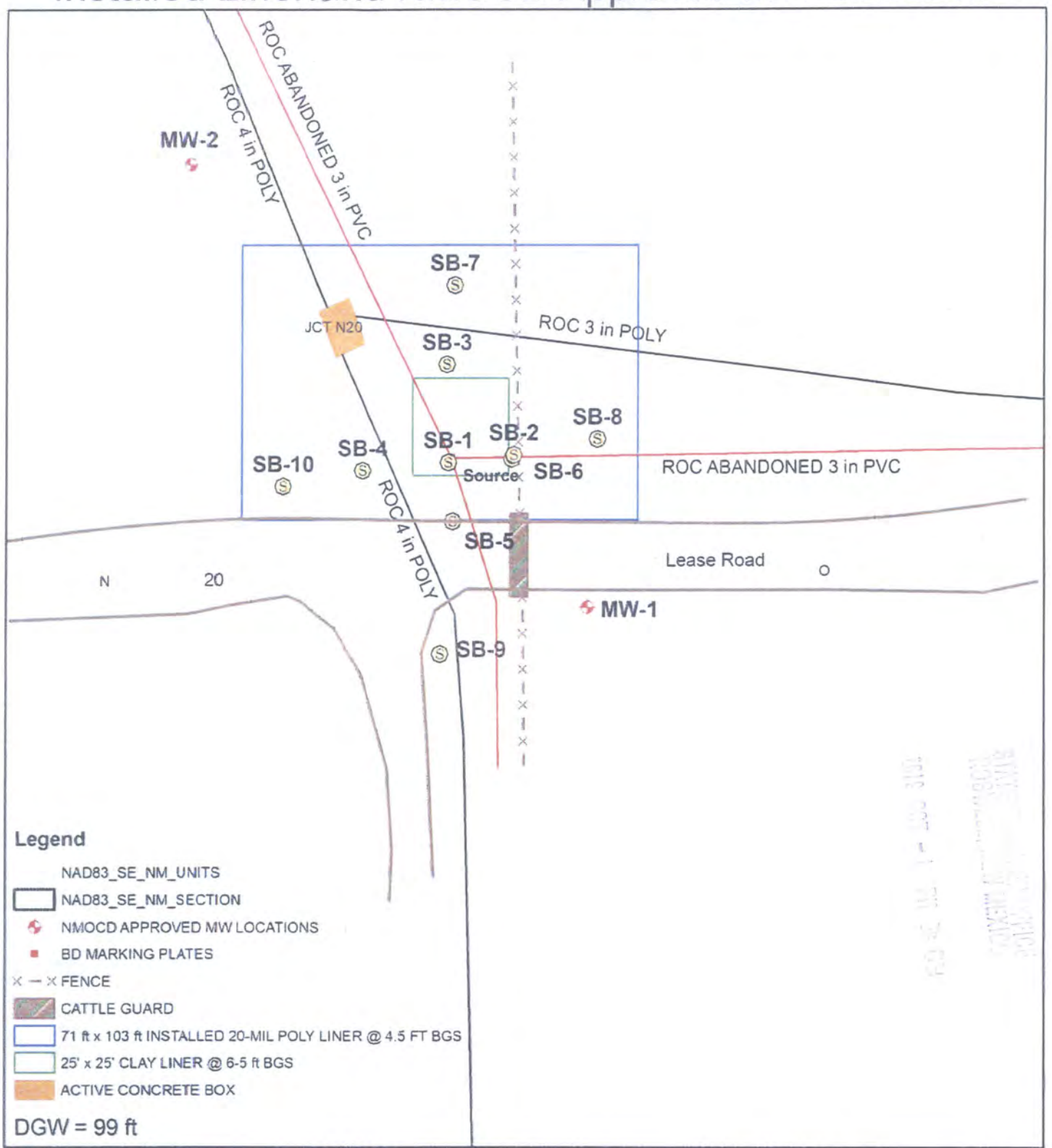
Figure 1

N
W E
S

0 0.3 0.6
Miles

Drawing date: 8/1/13
Drafted by: L. Weinheimer

Installed Liner and NMOCD Approved MW Locations



RECS
RICE ENVIRONMENTAL

BD Jct. N-20

Legals: UL/N sec. 20
T-21-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R426-215

Figure 2

N
W E
S

0 30 60
Feet

Drawing date: 10/7/13
Drafted by: L. Weinheimer

NMOCD Response/Results from Meeting

OCD/RECS Meeting

September 18, 2014 Santa Fe, NM

AGENDA/NOTES 9:30 AM

ROC

A. Termination Requests

1. EME H-24 EOL (1R427-361): CAP Report and Termination Request submitted 4/7/2014.
   OCD approves the closure request for EME H-24 EOL, 1R427-361

2. Vacuum State H-35 EOL (1R425-46): CAP Report and Termination Request submitted 5/21/2014.
   OCD approves the Termination request for Vacuum State H - 35 EOL, 1R425-46

3. Vacuum G-28 vent (1R425-65): CAP Reort and Termination Request submitted 7/22/2014.
   OCD approves the Termination request for Vacuum G - 28 Vent, 1R425-65

4. BD N-32 vent (1R426-153): Termination Request submitted 8/20/2014.
   OCD approves the closure request for BD N - 32, 1R426-153

B. Soil Closure

1. BD F-29 (1R426-16) & F-29-1 (1R426-15) : Initial CAP Report and Soil Closure Request submitted 7/23/2014.
   OCD approves SOIL CLOSURE request for BD - F - 29 (1R426 - 16)
   OCD approves SOIL CLOSURE request for BD F - 29 - 1 (1R426 - 15)

2. BD Jct. N-20 (1R426-215) : Initial CAP Report and Soil Closure Request submitted 8/1/2014.
   OCD approves SOIL CLOSURE for BD Jct. N - 20 (1R426 - 215)

3. Vacuum N-6-1 (1R0479) : Vadose zone CAP Report and Soil Closure Request submitted 8/12/2014.
OCD approves SOIL CLOSURE for Vacuum N - 6 -1 (1R426 - 479)

4. Vacuum Jct. C-31 (1R425-84) : Initial CAP Report and Soil Closure Request submitted 8/15/2014.
OCD approves SOIL CLOSURE for Vacuum Jct. C - 31 (1R425 - 84)

C. CAP

1. EME Jct. F-32 (1R427-407): ICP Report & CAP submitted 6/26/2014.
OCD approved, at time of meeting, CAP for EME Jct. F - 32 (1R427 - 407)

2. EME N-28 EOL (1R427-410): Approval to commence soil excavation received 8/28/14. Official OCD approval not on OCD website.
OCD approved CAP EME N - 28 (1R - 427 - 410). Previously approval given verbally.

3. EME C-33 EOL (1R427-405): Approval to commence soil excavation received 8/28/2014. Official OCD approval not on OCD website.
OCD approves CAP for EME C - 33 EOL (1R427 - 405)

4. EME Jct. E-2 (1R427-165): Proposed CAP plat.
OCD approved CAP for EME Jct. E - 2 (1R427 - 165), verbal approval give at time of Meeting.

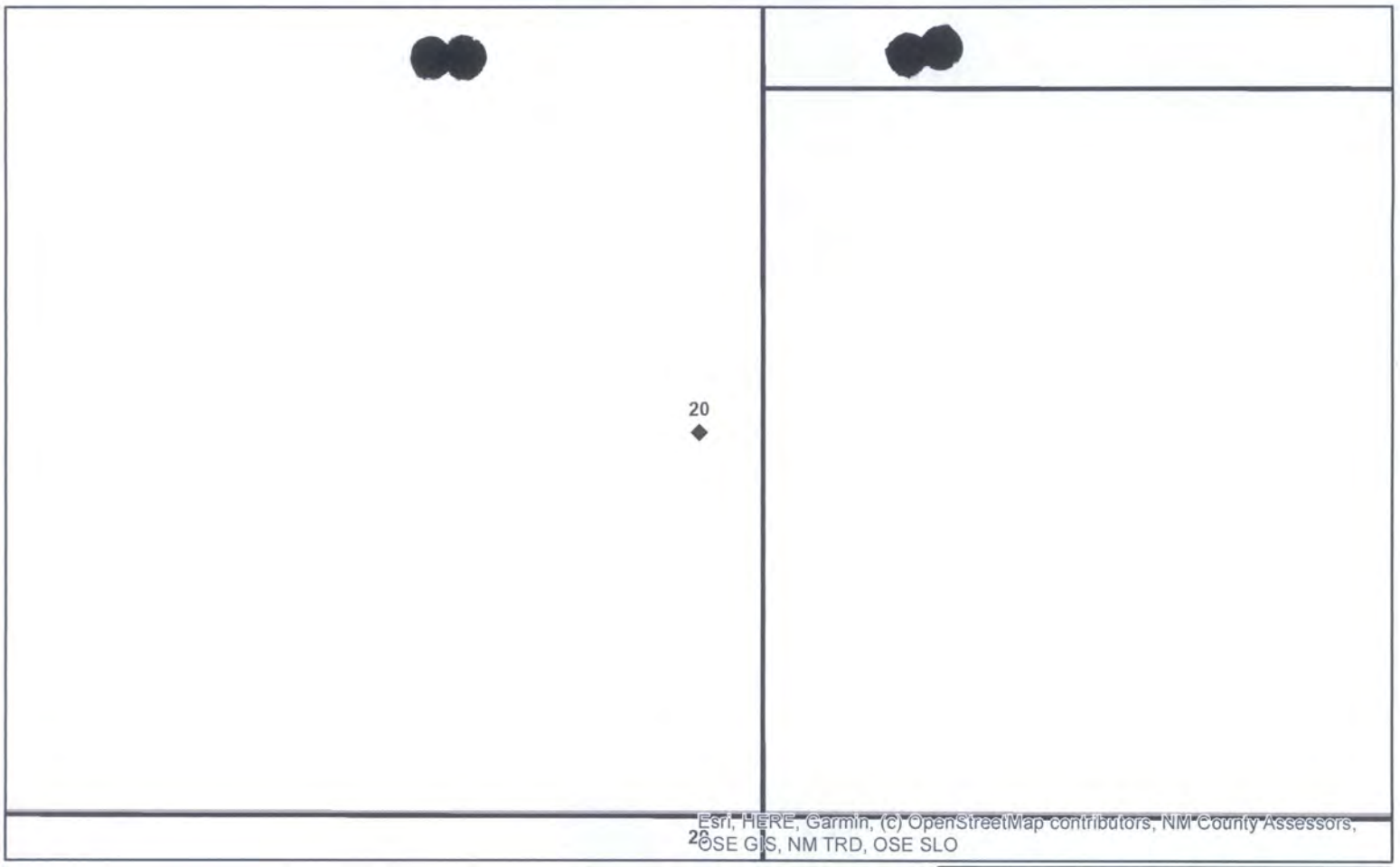
5. EME O-3 EOL (1R427-289): Proposed CAP plat.
OCD approved CAP for EME O - 3 EOL (1R427 - 289), verbal approval give at time of Meeting.

RECS

A. Termination Requests

1. Apache Walter Lynch tank battery (1R-2498): Termination Request submitted 9/4/2014.
Signed at time of Meeting. OCD requested a copy of signed C - 141.

Notes



Coordinates

UTM - NAD 83 (m) - Zone 13
Easting 670548.053
Northing 3592767.561

State Plane - NAD 83 (f) - Zone E
Easting 895397.907
Northing 532630.670

Degrees Minutes Seconds
Latitude 32 : 27 : 32.536800
Longitude -103 : 11 : 7.602000

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:4,514

ft
0 90 180 360

N

A. Dennis 10/11/2019

Office of the State Engineer
Interstate Stream Commission

Spatial Information

County: Lea
Groundwater Basin: Capitan
Abstract Area: Capitan

Land Grant:
Not in Land Grant
Restrictions:
NA
PLSS Description
SENESESW Qtr of Sec 20 of 021S 037E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum: 4910120110418
Parcel Owner: CHEVRON U S A INC
Address:

Legal:

POD Information

Owner: Rice Operating Co
File Number: CP1511-POD2
POD Status: NoData
Permit Status: NoData
Permit Use: NoData
Purpose: Recovery Well

◆ Coord Search Location

WRAB Abstract Project Areas

☐ Lea County Parcels 2018

☐ Sections

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 660638
File Nbr: CP 01511

Oct. 11, 2019

KATIE JONES DAVIS
RICE OPERATING COMPANY
122 W TAYLOR
HOBBS, NM 88240

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Andrew Dennis
(575)622-6521

Enclosure

explore

File No. CP- 1511

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Rice Operating Co. as Agent for the BD SWD System	Name: Katie Jones Davis
Contact or Agent: check here if Agent ☐ Katie Jones Davis, Env. Manager	Contact or Agent: check here if Agent ☐
Mailing Address: 112 West Taylor	Mailing Address:
City: Hobbs	City:
State: Zip Code: NM 88240	State: Zip Code:
Phone: 575-393-9174 ☐ Home ☐ Cell Phone (Work):	Phone: 575-602-1336 ☐ Home ☒ Cell Phone (Work):
E-mail (optional): kjones@riceswd.com	E-mail (optional):

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.: CP 1511	Trn. No.: 663220	Receipt No.: 241387
Trans Description (optional): Monitoring		
Sub-Basin: CP	PCW/LOG Due Date: 11/24/2020	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves, Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-3 CP-1511 POD3	-103.~~468537~~ 184843	32.458537	Section 20, T21S, R37E
	*According to Applicant. CEG		

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ☐ No **If yes, how many**_____

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: Apache Corporation

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. **Attached?** ☐ Yes ■ No
If yes, how many_____

Approximate depth of well (feet): 120 ft	Outside diameter of well casing (inches): 2 Inches
Driller Name: HCI (Kenny Cooper)	Driller License Number: WD-1731

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Installation of one Monitor Well (MW-3) for sampling purposes.

See attached NMOCD approved Corrective Action Plan.

FOR OSE INTERNAL USE — Application for Permit, Form WR-07

File No.: CP-1511 Trn No.: 663220

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: ☐ Include a description of any proposed pump test, if applicable.	**Pollution Control and/or Recovery:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	**Construction De-Watering:** ☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	**Mine De-Watering:** ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Katie Jones Davis
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 25th day of Nov 20 19, for the State Engineer,

John R. D'Antonio Jr., P.E., State Engineer

By: Andy Morley
Signature Print

Title: District II Manager
Print

FOR OSE INTERNAL USE Application for Permit, Form WR-07

File No.: CP-511 Trn No.: 663220

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: CP 01511 POD3 File Number: CP 01511
Trn Number: 663220

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

Trn Desc: CP 01511 POD3 File Number: CP 01511
Trn Number: 663220

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion CP 01511 POD3 must be completed and the Well Log filed on or before 11/24/2020.

IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 10/25/2019 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

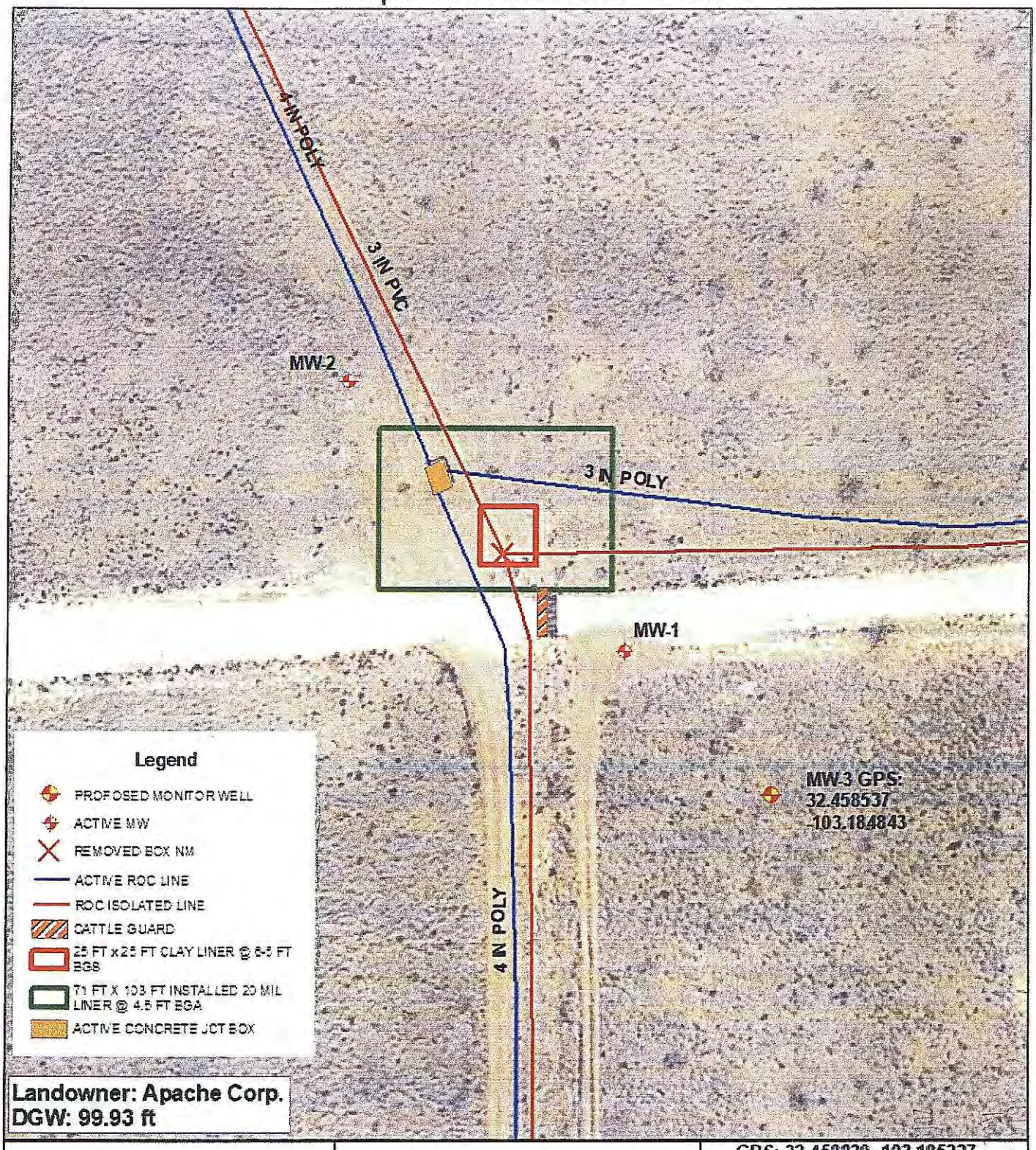
Witness my hand and seal this 25 day of Nov A.D., 2019

John R. D'Antonio, Jr., P.E., State Engineer

By: _____
ANDY MOLEY

Trn Desc: CP 01511 POD3 File Number: CP 01511
Trn Number: 663220

Proposed Monitor Well



ROC OPERATING COMPANY
ROC
SINCE 1955

BD N-20 JCT

1R426-215

UL N SECTION 20
T-21-S R-37-E
LEA COUNTY, NM

GPS: 32.458830 -103.185227
NAD 83 STATE PLANE PROJECTION
NM EAST ZONE

0 50 100 Feet

Drawing date: 10/22/19
Drafted by: T Grieco

32790

MONITOR OR RECOVERY WELL EASEMENT

THE STATE OF NEW MEXICO §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF LEA §

THAT, for and in consideration of the sum of Ten and no/100 Dollars ($10.00) and other good and valuable consideration paid to Apache Corporation, hereinafter called "GRANTOR", the receipt of which is hereby acknowledged, GRANTOR does hereby grant, convey, and transfer unto Rice Operating Company, as operator of the Blinebry-Drinkard Salt Water Disposal System, its successors and assigns, hereinafter called "GRANTEE", the right to drill, complete, construct, operate, maintain, inspect, repair, replace, and remove monitor or recovery well(s) for ground water testing or recovery, with fittings, equipment and all equipment and appurtenances as may be necessary or incidental for such operations ("Permitted Uses") in whole or in part, upon, over, and through certain tract(s) of land which are situated in the SW/4SE/4, Section 20, T21S, R37E, Lea County, New Mexico. The actual tracts of land which are to be used for the Permitted Uses is attached hereto by as Exhibit "A" and is incorporated herein for all purposes.

AND, BY THE ACCEPTANCE HEREOF, the GRANTEE agrees to use only as much of the surface as is reasonably necessary during the drilling, construction, and operation of said wells and Permitted Uses.

THE GRANTEE, at any and all reasonable times, shall have the right of ingress to and egress from such monitor or recovery well(s) for all purposes of this grant. Each monitor or recovery well(s) will be properly plugged and abandoned when no longer needed.

TO HAVE AND TO HOLD said right-of-way(s) and easement(s) unto GRANTEE until such right-of-way(s) and easement(s) are abandoned.

SIGNATURE AND ACKNOWLEDGEMENT
EASEMENT FOR MONITOR OR RECOVERY WELL(S)
Lea County, NM.

GRANTOR

Apache Corporation

Title: Amy D. Lindsey, Region Land Manager

GRANTEE
RICE OPERATING COMPANY

By: Jon Rampone

Title: Operations Manager

STATE OF TEXAS
COUNTY MIDLAND

This instrument was acknowledged before me on February 18, 2015 by Amy D. Lindsey, *Attorney-in-Fact* for **Apache Corporation**, a Delaware Corporation, on behalf of said corporation.

My Commission Expires:

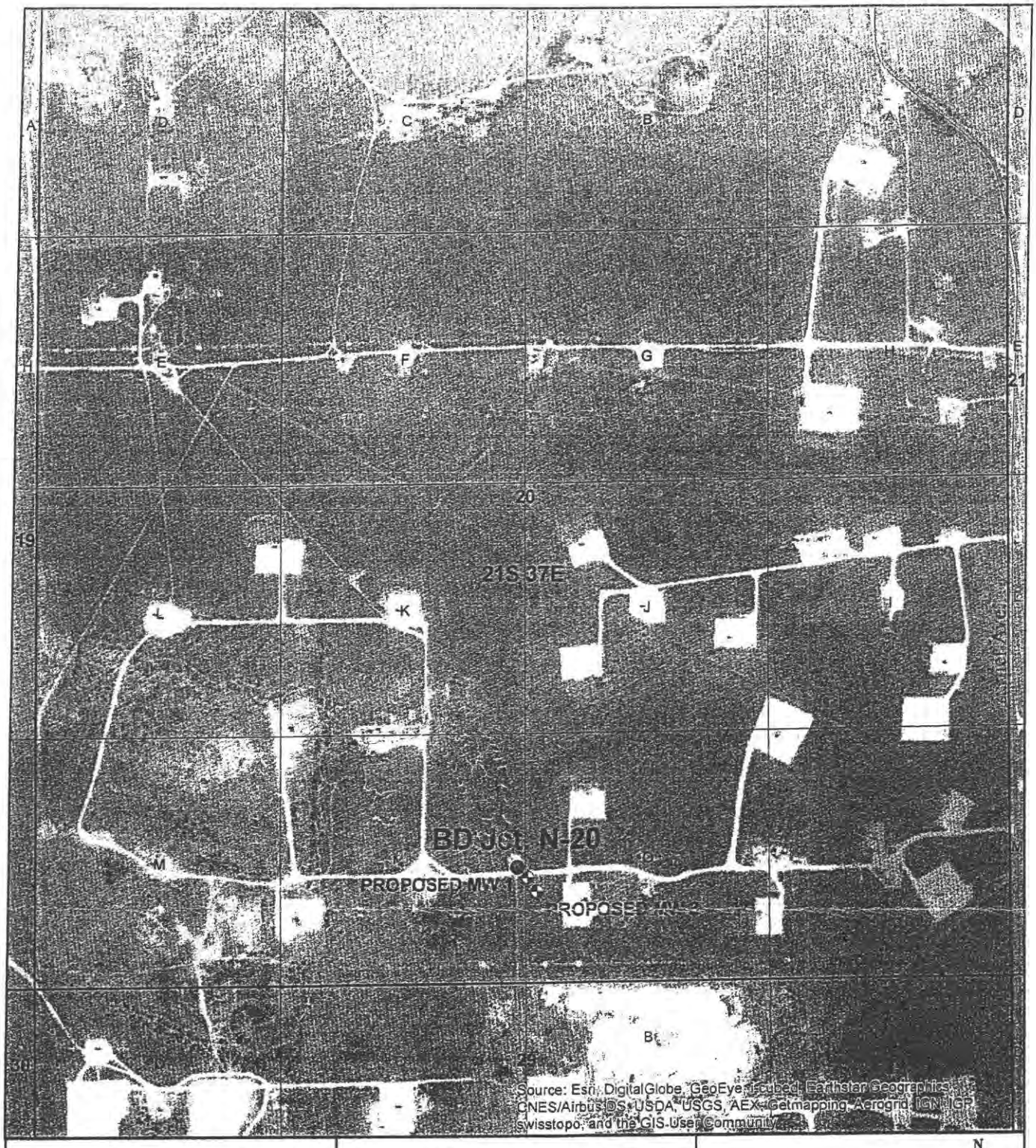
01-15-2017

Notary Public

TONI P. ISBELL
NOTARY PUBLIC STATE OF TEXAS
COMMISSION EXPIRES:
01-15-2017

BOOK 1949 PAGE 72

Exhibit A



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

BD Jct. N-20

Legals: UL/O sec. 20
T-21-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R426-215

N
W E
S

0 500 1,000
Feet

Drawing date: 2/12/15
Drafted by: T. Grieco

BOOK 1949 PAGE 73

RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY
PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

August 1, 2014

Mr. Leonard Lowe
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Initial CAP Report & Soil Closure Request**
Rice Operating Company – BD SWD System
BD Jct. N-20 (1R426-215): UL/N, Sec. 20, T21S, R37E

Mr. Lowe:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced sites in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work

The site is located 2 miles northwest of Eunice, New Mexico at UL/N sec. 20 T21S R37E as shown on the Geographical Location Map (Figure 1). Soil bore installation at the site show groundwater to be located at 99 +/- feet.

Backhoe Delineation
In 2007, ROC initiated work on the former BD N-20 junction box. The site was delineated using a backhoe to form a 25 ft x 25 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,070 mg/kg, a gasoline range organics (GRO) and a diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 2,000 mg/kg, a GRO and a DRO reading of non-detect. The backfill sample showed a chloride laboratory reading of 944 mg/kg, a GRO reading of non-detect and a DRO reading of 10.1 mg/kg.

The excavated soil was blended on site and sued to backfill the excavation to 6 ft bgs. At 6-5 ft bgs, a 1 ft thick clay liner was installed. The remaining blended soil was used to backfill the excavation to ground surface and contour to the surrounding area. An identification plate was placed on the surface of the site to mark its location for future environmental considerations.

The site was then seeded with a blend of native vegetation. A new water-tight junction box was installed 25 ft north of the former junction box site.

To further delineate the site, two soil bores were installed on April 18th, 2007. SB-1 was installed at the source of the former junction box and SB-2 was installed 15 ft east of the former junction box. While the bores were being advanced, samples were taken every 5 ft and field tested for chlorides and hydrocarbons. The deepest sample from each bore, located at 75 ft bgs, was taken to a commercial laboratory for analysis. SB-1 returned a laboratory chloride result of 624 mg/kg and SB-2 returned a laboratory chloride result of 752 mg/kg.

NMOCD was notified of potential groundwater impact on July 25th, 2008 and a junction box disclosure report was submitted to NMOCD with all the 2008 junction box closures and disclosures.

Investigation and Characterization Plan (ICP)

An ICP was submitted on August 5th, 2013 and approved on August 21st, 2013. A total of 8 soil bores (SB 3-10) were installed at the site. As the bores were advanced, soil samples were taken every 5 ft and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for confirmatory analysis. SB-3 returned a laboratory chloride reading of 2,720 mg/kg at 20 ft bgs, which decreased to 336 mg/kg at 95 ft bgs. SB-5 returned laboratory chloride readings of 1,840 mg/kg at 30 ft bgs, 2,000 mg/kg at 80 ft bgs and 944 mg/kg at 95 ft bgs. SB-6 returned a laboratory chloride reading of 3,840 mg/kg at 20 ft bgs, which decreased to 384 mg/kg at 95 ft bgs. SB-7 returned a laboratory chloride reading of 2,200 mg/kg at 25 ft bgs, which decreased to 64 mg/kg at 55 ft bgs. SB-8 returned a laboratory chloride reading of 1,800 mg/kg at 10 ft bgs, which decreased to 128 mg/kg at 30 ft bgs. Chloride concentrations in SB-9 were all below 48 mg/kg. SB-10 returned a laboratory chloride reading of 1,220 mg/kg at 10 ft bgs, which decreased to 144 mg/kg at 30 ft bgs. GRO and DRO readings at all depth in all bores were non-detect.

On October 17th, 2013, an ICP Report and CAP was submitted to NMOCD and was approved on October 30, 2013. The CAP recommended that ROC install a 20-mil reinforced poly liner measuring 71x103-ft at a depth of approximately 4-5 ft bgs. The liner would extend 10 ft beyond the last soil bore to the North, East and West, and would stop at the edge of the lease road to the south. The soils placed above the liner would have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Upon completion of backfilling, the site would be seeded with a native vegetative mix and soil amendments added as necessary. The CAP also recommended that ROC install a monitor well (MW-1) located south of the lease road and an up-gradient well (MW-2) approximately 100 ft up-gradient.

CAP Report for Soils

On May 19th, 2014, RECS personnel were on site to begin liner installation CAP work. The site was excavated in two sections, to overall dimensions of 71x103-ft to a depth of 5 ft bgs (Figure 2). The western half of the site was completed first to dimensions of 52x71-ft to a depth of 5 ft bgs. The excavated soil was blended on site and the bottom of the excavation was padded with 6 inches of the blended backfill. Then a 52x71-ft 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs. The top of the liner was padded with an additional 6 inches of

blended backfill and the excavation was backfilled. A w. 8 pt. comp blended backfill was field analyzed for hydrocarbons using a PID, resulting in a reading of 3.1 ppm. The sample was also analyzed by a commercial laboratory for chloride, resulting in a concentration of 288 mg/kg. The eastern half of the site was completed second to dimensions of 51x71-ft to a depth of 5 ft bgs. The bottom of the excavation was padded with 6 inches of the excavated soil, and a 51x71-ft 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs. The top of the liner was padded with an additional 6 inches of the excavated soil and the excavation was backfilled with the excavated soil. An east 8 pt.comp backfill was field analyzed for hydrocarbons using a PID, resulting in a reading of 20.7 ppm. The sample was also analyzed by a commercial laboratory for chloride, resulting in a concentration of 240 mg/kg.

The site was contoured to the surrounding area, and the site was tilled with soil amendments and seeded with a blend of native vegetation. A silt net fence was place around the site to reduce erosion and maintain soil integrity. Documentation of the CAP activities can be found in Appendix A.

Groundwater Remedy

According to the NMOCD approved CAP, ROC will install a near-source monitor well (MW-1) and an up-gradient well (MW-2) to determine groundwater quality. Once groundwater quality has been determined, ROC will submit a report to NMOCD with recommendations.

ROC acknowledges they have met the soil requirements as approved by NMOCD in the Corrective Action Plan (CAP), and the newly installed 20-mil reinforced liner will prohibit the migration of any residual chlorides. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater. As such, ROC requests 'Soil Closure' for this site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 if you have any questions or wish to discuss the site.

Sincerely,

L Flores

Laura Flores
Rice Environmental Consulting & Safety (RECS)
Project Manager

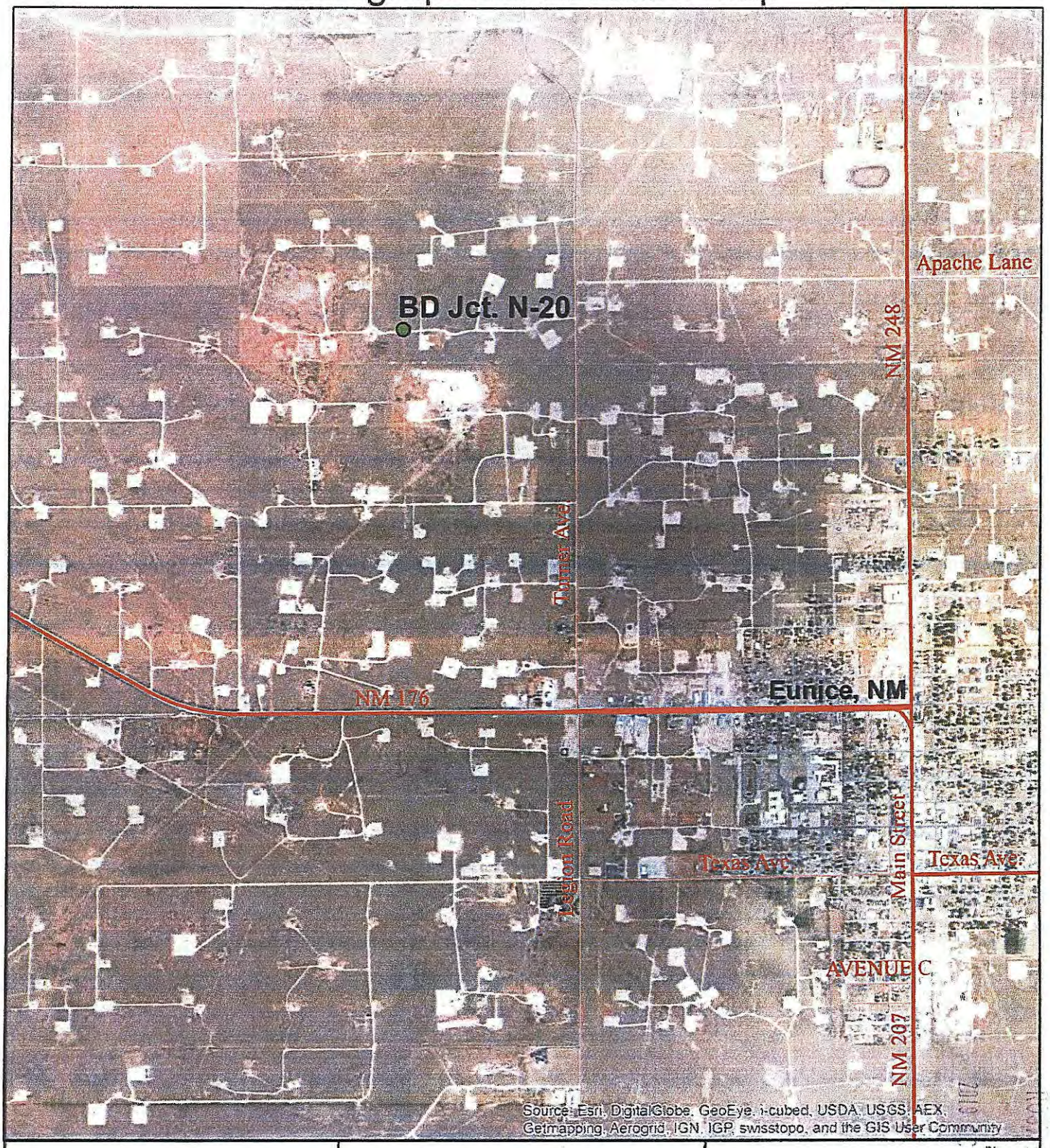
Attachments:

Figure 1 – Geographical Location Map
Figure 2 – Installed Liner & NMOCD Approved MW Locations
Appendix A – Liner Installation Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

Geographical Location Map



RECS
RICE ENVIRONMENTAL

BD Jct. N-20

Legals: UL/N sec. 20
T-21-S R-37-E
LEA COUNTY, NM

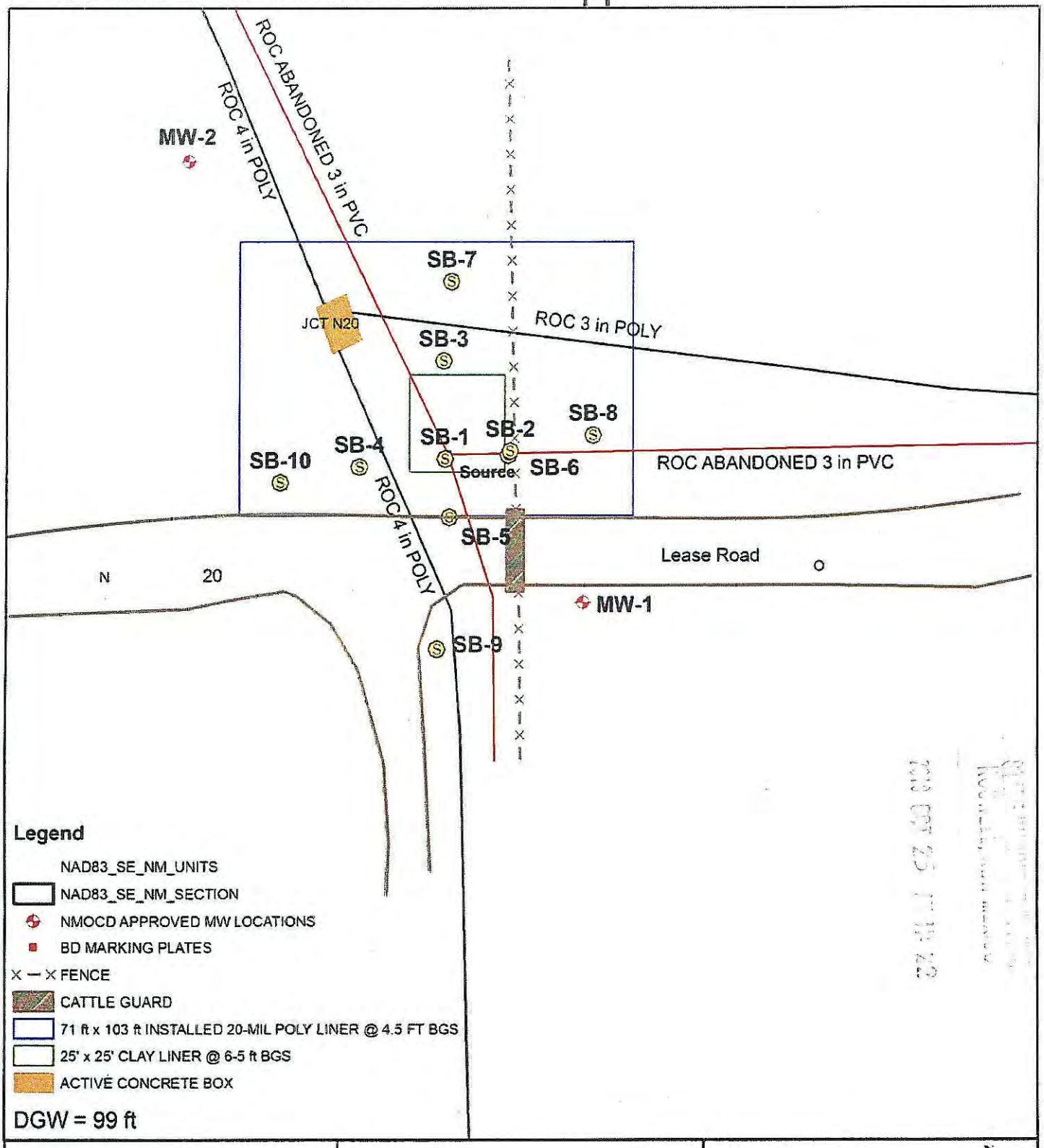
NMOCD Case #: 1R426-215

Figure 1

0 0.3 0.6 Miles

Drawing date: 8/1/13
Drafted by: L. Weinheimer

Installed Line. and NMOCD Approved MW Locations



RECS
RICE ENVIRONMENTAL

BD Jct. N-20

Legals: UL/N sec. 20
T-21-S R-37-E
LEA COUNTY, NM

NMOCD Case #: 1R426-215

Figure 2

N W E S

0 30 60
Feet

Drawing date: 10/7/13
Drafted by: L. Weinheimer

NMOCD Response Results from Meeting

OCD/RECS Meeting

September 18, 2014 Santa Fe, NM

AGENDA/NOTES 9:30 AM

ROC

A. Termination Requests

1. EME H-24 EOL (1R427-361): CAP Report and Termination Request submitted 4/7/2014.
   OCD approves the closure request for EME H-24 EOL, 1R427-361

2. Vacuum State H-35 EOL (1R425-46): CAP Report and Termination Request submitted 5/21/2014.
   OCD approves the Termination request for Vacuum State H - 35 EOL, 1R425-46

3. Vacuum G-28 vent (1R425-65): CAP Reort and Termination Request submitted 7/22/2014.
   OCD approves the Termination request for Vacuum G - 28 Vent, 1R425-65

4. BD N-32 vent (1R426-153): Termination Request submitted 8/20/2014.
   OCD approves the closure request for BD N - 32, 1R426-153

B. Soil Closure

1. BD F-29 (1R426-16) & F-29-1 (1R426-15) : Initial CAP Report and Soil Closure Request submitted 7/23/2014.
   OCD approves SOIL CLOSURE request for BD - F - 29 (1R426 - 16)
   OCD approves SOIL CLOSURE request for BD F - 29 - 1 (1R426 - 15)

2. BD Jct. N-20 (1R426-215) : Initial CAP Report and Soil Closure Request submitted 8/1/2014.
   OCD approves SOIL CLOSURE for BD Jct. N - 20 (1R426 - 215)

3. Vacuum N-6-1 (1R0479) : Vadose zone CAP Report and Soil Closure Request submitted 8/12/2014.
OCD approves SOIL CLOSURE for Vacuum N - 6 -1 (1R426 - 479)

4. Vacuum Jct. C-31 (1R425-84) : Initial CAP Report and Soil Closure Request submitted 8/15/2014.
OCD approves SOIL CLOSURE for Vacuum Jct. C - 31 (1R425 - 84)

C. CAP

1. EME Jct. F-32 (1R427-407): ICP Report & CAP submitted 6/26/2014.
OCD approved, at time of meeting, CAP for EME Jct. F - 32 (1R427 - 407)

2. EME N-28 EOL (1R427-410): Approval to commence soil excavation received 8/28/14. Official OCD approval not on OCD website.
OCD approved CAP EME N - 28 (1R - 427 - 410). Previously approval given verbally.

3. EME C-33 EOL (1R427-405): Approval to commence soil excavation received 8/28/2014. Official OCD approval not on OCD website.
OCD approves CAP for EME C - 33 EOL (1R427 - 405)

4. EME Jct. E-2 (1R427-165): Proposed CAP plat.
OCD approved CAP for EME Jct. E - 2 (1R427 - 165), verbal approval give at time of Meeting.

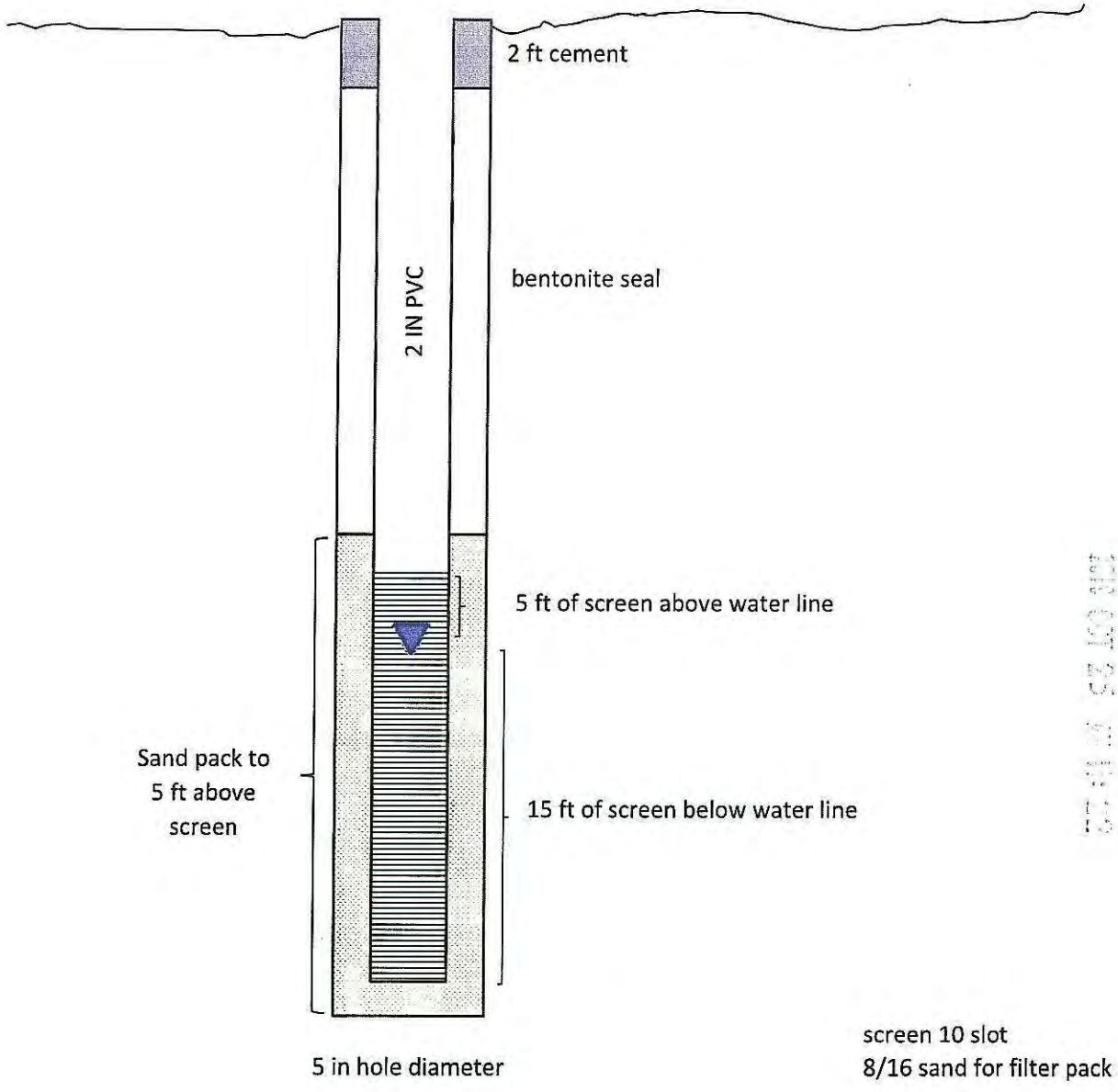
5. EME O-3 EOL (1R427-289): Proposed CAP plat.
OCD approved CAP for EME O - 3 EOL (1R427 - 289), verbal approval give at time of Meeting.

RECS

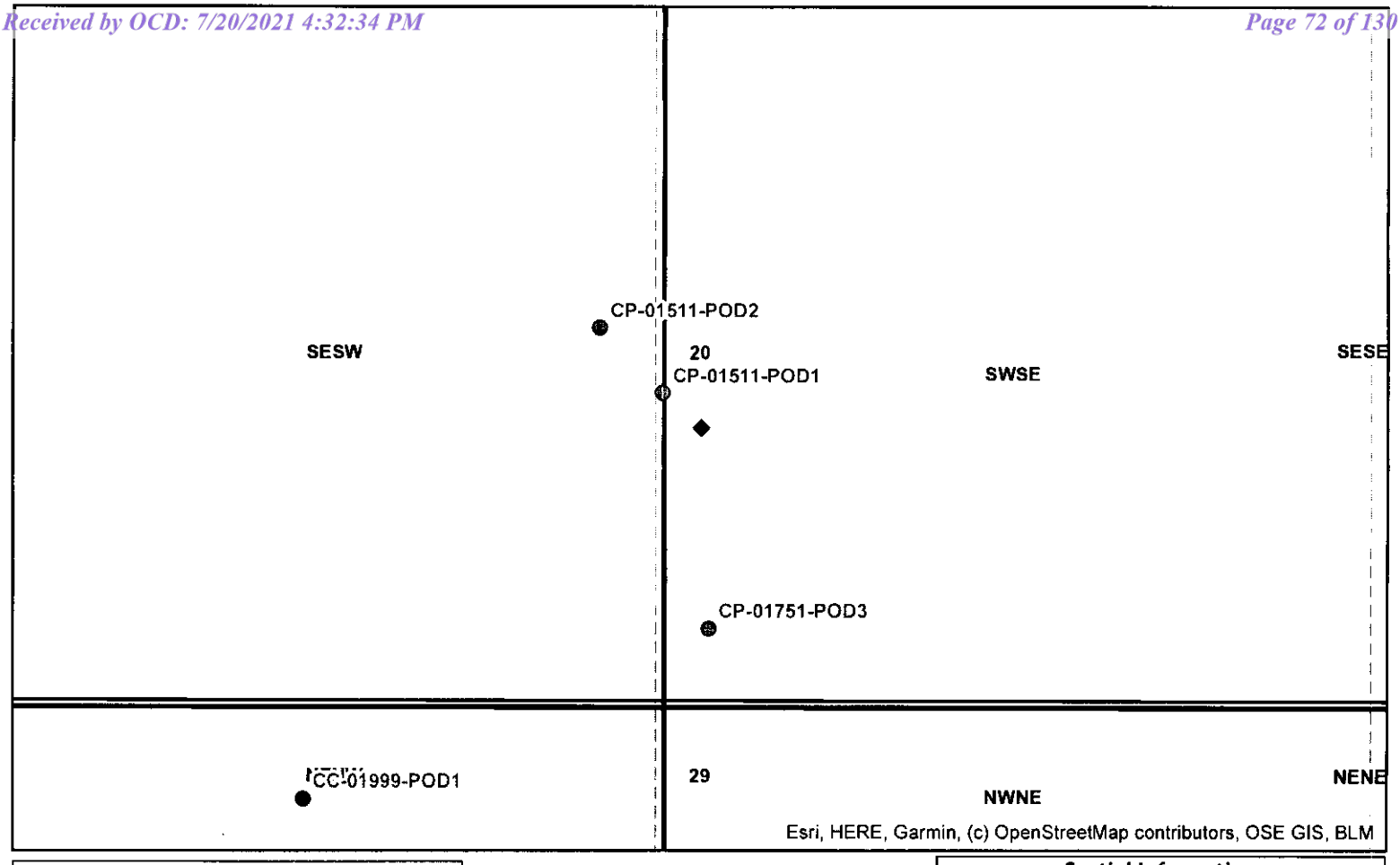
A. Termination Requests

1. Apache Walter Lynch tank battery (1R-2498): Termination Request submitted 9/4/2014.
Signed at time of Meeting. OCD requested a copy of signed C - 141.

Notes



2 in Monitor Well Installation Diagram



Coordinates

Decimal Degrees
Latitude 32.458537
Longitude -103.184843

State Plane - NAD 83 (f) - Zone E
Easting 895585.561
Northing 532450.391

Degrees Minutes Seconds
Latitude 32 : 27 : 30.733200
Longitude -103 : 11 : 5.434800

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:4,514

ft
0 90 180 360

N

GUILLEN 11/25/2019

Spatial Information

County: Lea
Groundwater Basin: Capitan
Abstract Area:Capitan

Land Grant:
Not in Land Grant
Restrictions:
NA
PLSS Description
NWSWSWSE Qtr of Sec 20 of 021S 037E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum: 4990908083416
Parcel Owner: APACHE CORPORATION
Address:

Legal:

POD Information

Owner: RICE OPERATING
File Number: CP-1511
POD Status: NoData
Permit Status: NoData
Permit Use: NoData
Purpose: MONITORING WELL

◆ Coord Search Location

GIS WATERS PODs

● ACT
● PEN

Lea County Parcels 2018
BLM Land Grant
PLSSTownship
PLSSFirstDiv...
PLSSSecond...

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 663220
File Nbr: CP 01511

November 25, 2019

KATIE JONES DAVIS
RICE OPERATING COMPANY
122 W TAYLOR
HOBBS, NM 88240

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Claudia Guillen
(575)622-6521

Enclosure

explore

Appendix C

Photographic Documentation

Client: Chevron MCBU	Project Number: 60657235
Project Name: CDU 436 Injection Line	Site Location: Lea County, New Mexico

RELEASE AREA	
Photograph No. 1	
Photographer: M. Moore	
Date: 6/24/2021	
Comments: Looking east across line leak location following repair and backfilling of leak.	
Photograph No. 2	
Photographer: M. Moore	
Date: 6/24/2021	
Comments: Looking north from former leak location.	

Client: Chevron MCBU	Project Number: 60657235
Project Name: CDU 436 Injection Line	Site Location: Lea County, New Mexico

Photograph No. 3	
Photographer: M. Moore	
Date: 6/24/2021	
Comments: Looking south from former leak location.	

Appendix D

Summary of Field Sample Collection and Screening Activities

April 2021 Sample Collection and Screening
CDU 436 Injection Line

Date	Boring ID	Depth (ft bgs)	Latitude	Longitude	Lithology	Time	PID (ppm)	Analysis
4/28/2021	SB-1	0-1	32.4548416	-103.1894648	Reddish-Brown silty sand mix	9:45	9.0	
		1-2			SAA	9:50	13.3	TPH, BTEX
		2-3			SAA	9:55	11.5	
		3-4			SAA mixed with white caliche	10:00	7.7	TPH, BTEX
		4-5			Refusal @ 4 ft bgs	-	-	
4/28/2021	SB-2	0-1	32.4549872	-103.1893322	Reddish-Brown silty sand mix	10:25	7.6	
		1-2			SAA	10:30	5.8	
		2-3			SAA	10:35	8.8	TPH, BTEX
		3-4			SAA	10:40	7.0	
		4-5			SAA	10:45	3.0	TPH, BTEX
4/28/2021	SB-3	0-1	32.4551689	-103.1895308	Reddish-Brown silty sand mix	11:25	3.6	
		1-2			SAA	11:30	5.4	
		2-3			SAA	11:35	4.8	
		3-4			SAA	11:40	7.7	TPH, BTEX
		4-5			SAA mixed with white caliche	11:45	4.7	TPH, BTEX
4/28/2021	SB-4	0-1	32.4550346	-103.1896253	Reddish-Brown silty sand mix	12:15	9.8	
		1-2			SAA	12:20	10.2	TPH, BTEX
		2-3			SAA	12:25	9.0	
		3-4			SAA	12:30	8.1	
		4-5			SAA mixed with white caliche	12:35	7.5	TPH, BTEX
4/28/2021	SB-5	0-1	32.454317	-103.189446	Reddish-Brown silty sand mix	13:25	12.2	TPH, BTEX
		1-2			SAA	13:30	12.0	
		2-3			SAA	13:35	8.0	
		3-4			SAA mixed with white caliche	13:40	7.5	TPH, BTEX
		4-5			Refusal @ 4 ft bgs	-	-	
4/28/2021	North Side Wall	2-4	-	-	Reddish-Brown silty sand mix	13:45	-	Chloride
4/28/2021	South Side Wall	2-4	-	-	Reddish-Brown silty sand mix	13:50	-	Chloride
4/28/2021	East Side Wall	2-4	-	-	Reddish-Brown silty sand mix	13:55	-	Chloride

Appendix E

Laboratory Analytical Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-1778-1
Client Project/Site: CDU 436

For:
AECOM
19219 Katy Freeway
Suite 100
Houston, Texas 77094

Attn: Mr. Wallace Gilmore

Authorized for release by:
5/6/2021 2:57:54 PM

John Builes, Project Manager
(281)240-4200
john.builes@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM
Project/Site: CDU 436

Laboratory Job ID: 880-1778-1

Table of Contents

Definitions/Glossary

Client: AECOM Job ID: 880-1778-1
Project/Site: CDU 436

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Job ID: 880-1778-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-1778-1

Comments
No additional comments.

Receipt
The samples were received on 4/30/2021 1:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: CDU-436 SB-2 (2-3) (880-1778-7) and CDU-436 SB-4 (1-2) (880-1778-16). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8015B NM: The continuing calibration verification (CCV) associated with batch 880-2593 recovered above the upper control limit for < Diesel Range Organics (Over C10-C28)>. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-2677 and analytical batch 880-2700 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-1 (0-1)

Lab Sample ID: 880-1778-1
Matrix: Solid
Date Collected: 04/28/21 09:45
Date Received: 04/30/21 13:35
Sample Depth: 0 - 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	589		5.05		mg/Kg			05/04/21 09:55	1

Client Sample ID: CDU-436 SB-1 (1-2)

Lab Sample ID: 880-1778-2
Matrix: Solid
Date Collected: 04/28/21 09:50
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/30/21 14:57	05/02/21 02:58	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/30/21 14:57	05/02/21 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*04/30/21 14:57*	*05/02/21 02:58*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*04/30/21 14:57*	*05/02/21 02:58*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:13	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:13*	*1*
o-Terphenyl	*124*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	749		4.99		mg/Kg			05/04/21 10:00	1

Client Sample ID: CDU-436 SB-1 (2-3)

Lab Sample ID: 880-1778-3
Matrix: Solid
Date Collected: 04/28/21 09:55
Date Received: 04/30/21 13:35
Sample Depth: 2 - 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	907		4.99		mg/Kg			05/04/21 10:17	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-1 (3-4)

Lab Sample ID: 880-1778-4
Matrix: Solid
Date Collected: 04/28/21 10:00
Date Received: 04/30/21 13:35
Sample Depth: 3 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/01/21 23:48	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/01/21 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*04/30/21 15:09*	*05/01/21 23:48*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/30/21 15:09*	*05/01/21 23:48*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:35	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:35*	*1*
o-Terphenyl	*128*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2210**		24.8		mg/Kg			05/04/21 10:07	5

Client Sample ID: CDU-436 SB-2 (0-1)

Lab Sample ID: 880-1778-5
Matrix: Solid
Date Collected: 04/28/21 10:25
Date Received: 04/30/21 13:35
Sample Depth: 0 - 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94.9**		5.03		mg/Kg			05/05/21 20:27	1

Client Sample ID: CDU-436 SB-2 (1-2)

Lab Sample ID: 880-1778-6
Matrix: Solid
Date Collected: 04/28/21 10:30
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**128**		5.03		mg/Kg			05/05/21 20:32	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-2 (2-3)

Lab Sample ID: 880-1778-7
Matrix: Solid
Date Collected: 04/28/21 10:35
Date Received: 04/30/21 13:35
Sample Depth: 2 - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 00:08	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:08*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:08*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:57	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:57*	*1*
o-Terphenyl	*123*		*70 - 130*	*04/30/21 16:12*	*05/01/21 19:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.3**		5.00		mg/Kg			05/05/21 20:37	1

Client Sample ID: CDU-436 SB-2 (3-4)

Lab Sample ID: 880-1778-8
Matrix: Solid
Date Collected: 04/28/21 10:40
Date Received: 04/30/21 13:35
Sample Depth: 3 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.9**		5.02		mg/Kg			05/05/21 20:52	1

Client Sample ID: CDU-436 SB-2 (4-5)

Lab Sample ID: 880-1778-9
Matrix: Solid
Date Collected: 04/28/21 10:45
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/30/21 15:09	05/02/21 00:29	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/30/21 15:09	05/02/21 00:29	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/30/21 15:09	05/02/21 00:29	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/30/21 15:09	05/02/21 00:29	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/30/21 15:09	05/02/21 00:29	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/30/21 15:09	05/02/21 00:29	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-2 (4-5)

Lab Sample ID: 880-1778-9
Matrix: Solid
Date Collected: 04/28/21 10:45
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg		04/30/21 15:09	05/02/21 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:29*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:29*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:18	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:18	1
Total TPH	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/30/21 16:12*	*05/01/21 20:18*	*1*
o-Terphenyl	*129*		*70 - 130*	*04/30/21 16:12*	*05/01/21 20:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**81.2**		5.03		mg/Kg			05/05/21 20:58	1

Client Sample ID: CDU-436 SB-3 (0-1)

Lab Sample ID: 880-1778-10
Matrix: Solid
Date Collected: 04/28/21 11:25
Date Received: 04/30/21 13:35
Sample Depth: 0 - 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.16**		5.02		mg/Kg			05/05/21 21:13	1

Client Sample ID: CDU-436 SB-3 (1-2)

Lab Sample ID: 880-1778-11
Matrix: Solid
Date Collected: 04/28/21 11:30
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.4**		4.99		mg/Kg			05/05/21 21:18	1

Client Sample ID: CDU-436 SB-3 (2-3)

Lab Sample ID: 880-1778-12
Matrix: Solid
Date Collected: 04/28/21 11:35
Date Received: 04/30/21 13:35
Sample Depth: 2 - 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.1**		4.97		mg/Kg			05/05/21 21:23	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-3 (3-4)

Lab Sample ID: 880-1778-13
Matrix: Solid
Date Collected: 04/28/21 11:40
Date Received: 04/30/21 13:35
Sample Depth: 3 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 00:49	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:49*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/30/21 15:09*	*05/02/21 00:49*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:40	1
Total TPH	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*04/30/21 16:12*	*05/01/21 20:40*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*04/30/21 16:12*	*05/01/21 20:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.2**		4.97		mg/Kg			05/06/21 08:27	1

Client Sample ID: CDU-436 SB-3 (4-5)

Lab Sample ID: 880-1778-14
Matrix: Solid
Date Collected: 04/28/21 11:45
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 01:10	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		04/30/21 15:09	05/02/21 01:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:10*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:10*	*1*

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-3 (4-5)

Lab Sample ID: 880-1778-14
Matrix: Solid
Date Collected: 04/28/21 11:45
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 21:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 21:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 21:02	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*04/30/21 16:12*	*05/01/21 21:02*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*04/30/21 16:12*	*05/01/21 21:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.7**		4.97		mg/Kg			05/05/21 21:29	1

Client Sample ID: CDU-436 SB-4 (0-1)

Lab Sample ID: 880-1778-15
Matrix: Solid
Date Collected: 04/28/21 12:15
Date Received: 04/30/21 13:35
Sample Depth: 0 - 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.02	U	5.02		mg/Kg			05/05/21 21:34	1

Client Sample ID: CDU-436 SB-4 (1-2)

Lab Sample ID: 880-1778-16
Matrix: Solid
Date Collected: 04/28/21 12:20
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 01:30	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/30/21 15:09	05/02/21 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:30*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:30*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 21:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 21:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 21:23	1
Total TPH	<49.9	U	49.9		mg/Kg		04/30/21 16:12	05/01/21 21:23	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-4 (1-2)

Lab Sample ID: 880-1778-16
Matrix: Solid
Date Collected: 04/28/21 12:20
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*04/30/21 16:12*	*05/01/21 21:23*	*1*
o-Terphenyl	*120*		*70 - 130*	*04/30/21 16:12*	*05/01/21 21:23*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.27**	**F1**	4.99	mg/Kg			05/05/21 00:36	1

Client Sample ID: CDU-436 SB-4 (2-3)

Lab Sample ID: 880-1778-17
Matrix: Solid
Date Collected: 04/28/21 12:25
Date Received: 04/30/21 13:35
Sample Depth: 2 - 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.97**		4.97	mg/Kg			05/05/21 00:52	1

Client Sample ID: CDU-436 SB-4 (3-4)

Lab Sample ID: 880-1778-18
Matrix: Solid
Date Collected: 04/28/21 12:30
Date Received: 04/30/21 13:35
Sample Depth: 3 - 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.0**		4.95	mg/Kg			05/05/21 00:57	1

Client Sample ID: CDU-436 SB-4 (4-5)

Lab Sample ID: 880-1778-19
Matrix: Solid
Date Collected: 04/28/21 12:35
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
Toluene	<0.00198	U	0.00198	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		04/30/21 15:09	05/02/21 01:50	1
Total BTEX	<0.00397	U	0.00397	mg/Kg		04/30/21 15:09	05/02/21 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:50*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/30/21 15:09*	*05/02/21 01:50*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		04/30/21 16:12	05/01/21 21:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/30/21 16:12	05/01/21 21:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/30/21 16:12	05/01/21 21:45	1
Total TPH	<50.0	U	50.0	mg/Kg		04/30/21 16:12	05/01/21 21:45	1

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Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-4 (4-5)

Lab Sample ID: 880-1778-19

Date Collected: 04/28/21 12:35
Matrix: Solid
Date Received: 04/30/21 13:35
Sample Depth: 4 - 5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/30/21 16:12*	*05/01/21 21:45*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*04/30/21 16:12*	*05/01/21 21:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.3**		5.02	mg/Kg			05/05/21 01:02	1

Client Sample ID: CDU-436 SB-5 (0-1)

Lab Sample ID: 880-1778-20

Date Collected: 04/28/21 13:35
Matrix: Solid
Date Received: 04/30/21 13:35
Sample Depth: 0 - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
Toluene	<0.00201	U	0.00201	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		04/30/21 15:09	05/02/21 02:11	1
Total BTEX	<0.00402	U	0.00402	mg/Kg		04/30/21 15:09	05/02/21 02:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*04/30/21 15:09*	*05/02/21 02:11*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/30/21 15:09*	*05/02/21 02:11*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		04/30/21 16:12	05/01/21 22:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/30/21 16:12	05/01/21 22:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/30/21 16:12	05/01/21 22:07	1
Total TPH	<49.9	U	49.9	mg/Kg		04/30/21 16:12	05/01/21 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*04/30/21 16:12*	*05/01/21 22:07*	*1*
o-Terphenyl	*124*		*70 - 130*	*04/30/21 16:12*	*05/01/21 22:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.92**		5.02	mg/Kg			05/05/21 01:08	1

Client Sample ID: CDU-436 SB-5 (1-2)

Lab Sample ID: 880-1778-21

Date Collected: 04/28/21 13:30
Matrix: Solid
Date Received: 04/30/21 13:35
Sample Depth: 1 - 2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.62**		4.98	mg/Kg			05/05/21 01:24	1

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-5 (2-3)

Lab Sample ID: 880-1778-22
Matrix: Solid
Date Collected: 04/28/21 13:35
Date Received: 04/30/21 13:35
Sample Depth: 2 - 3

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.33		4.99		mg/Kg			05/05/21 01:29	1

Client Sample ID: CDU-436 SB-5 (3-4)

Lab Sample ID: 880-1778-23
Matrix: Solid
Date Collected: 04/28/21 13:40
Date Received: 04/30/21 13:35
Sample Depth: 3 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/02/21 02:31	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/30/21 15:09	05/02/21 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/30/21 15:09*	*05/02/21 02:31*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/30/21 15:09*	*05/02/21 02:31*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 22:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 22:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 22:29	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*04/30/21 16:12*	*05/01/21 22:29*	*1*
o-Terphenyl	*126*		*70 - 130*	*04/30/21 16:12*	*05/01/21 22:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.58		5.00		mg/Kg			05/05/21 01:35	1

Surrogate Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-1778-2	CDU-436 SB-1 (1-2)	129	108
880-1778-4	CDU-436 SB-1 (3-4)	97	92
880-1778-4 MS	CDU-436 SB-1 (3-4)	113	99
880-1778-4 MSD	CDU-436 SB-1 (3-4)	117	99
880-1778-7	CDU-436 SB-2 (2-3)	97	83
880-1778-9	CDU-436 SB-2 (4-5)	95	92
880-1778-13	CDU-436 SB-3 (3-4)	96	91
880-1778-14	CDU-436 SB-3 (4-5)	97	91
880-1778-16	CDU-436 SB-4 (1-2)	89	88
880-1778-19	CDU-436 SB-4 (4-5)	96	92
880-1778-20	CDU-436 SB-5 (0-1)	97	91
880-1778-23	CDU-436 SB-5 (3-4)	99	88
LCS 880-2563/1-A	Lab Control Sample	124	118
LCS 880-2567/1-A	Lab Control Sample	104	101
LCSD 880-2563/2-A	Lab Control Sample Dup	128	116
LCSD 880-2567/2-A	Lab Control Sample Dup	106	102
MB 880-2519/5-A	Method Blank	90	90
MB 880-2561/5-A	Method Blank	81	90
MB 880-2563/5-A	Method Blank	82	88
MB 880-2567/5-A	Method Blank	93	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-1778-2	CDU-436 SB-1 (1-2)	100	124
880-1778-4	CDU-436 SB-1 (3-4)	103	128
880-1778-7	CDU-436 SB-2 (2-3)	103	123
880-1778-9	CDU-436 SB-2 (4-5)	101	129
880-1778-13	CDU-436 SB-3 (3-4)	103	134 S1+
880-1778-14	CDU-436 SB-3 (4-5)	102	135 S1+
880-1778-16	CDU-436 SB-4 (1-2)	95	120
880-1778-19	CDU-436 SB-4 (4-5)	101	135 S1+
880-1778-20	CDU-436 SB-5 (0-1)	99	124
880-1778-23	CDU-436 SB-5 (3-4)	99	126
LCS 880-2570/2-A	Lab Control Sample	100	115
LCSD 880-2570/3-A	Lab Control Sample Dup	97	113
MB 880-2570/1-A	Method Blank	99	131 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-2519/5-A
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2519

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/30/21 09:09	05/01/21 12:34	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/30/21 09:09	05/01/21 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*04/30/21 09:09*	*05/01/21 12:34*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/30/21 09:09*	*05/01/21 12:34*	*1*

Lab Sample ID: MB 880-2561/5-A
Matrix: Solid
Analysis Batch: 2546

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2561

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/30/21 14:54	05/01/21 04:04	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/30/21 14:54	05/01/21 04:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*04/30/21 14:54*	*05/01/21 04:04*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/30/21 14:54*	*05/01/21 04:04*	*1*

Lab Sample ID: MB 880-2563/5-A
Matrix: Solid
Analysis Batch: 2546

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2563

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/30/21 14:57	05/01/21 17:14	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/30/21 14:57	05/01/21 17:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*04/30/21 14:57*	*05/01/21 17:14*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*04/30/21 14:57*	*05/01/21 17:14*	*1*

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-2563/1-A
Matrix: Solid
Analysis Batch: 2546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2563

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1106		mg/Kg		111	70 - 130		
Toluene			0.100	0.1119		mg/Kg		112	70 - 130		
Ethylbenzene			0.100	0.1143		mg/Kg		114	70 - 130		
m-Xylene & p-Xylene			0.200	0.2060		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1191		mg/Kg		119	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: LCSD 880-2563/2-A
Matrix: Solid
Analysis Batch: 2546

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 2563

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09799		mg/Kg		98	70 - 130	12	35
Toluene			0.100	0.09552		mg/Kg		96	70 - 130	16	35
Ethylbenzene			0.100	0.1063		mg/Kg		106	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1931		mg/Kg		97	70 - 130	6	35
o-Xylene			0.100	0.1116		mg/Kg		112	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: MB 880-2567/5-A
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/30/21 15:09	05/01/21 23:26	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/30/21 15:09	05/01/21 23:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*04/30/21 15:09*	*05/01/21 23:26*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*04/30/21 15:09*	*05/01/21 23:26*	*1*

Lab Sample ID: LCS 880-2567/1-A
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1113		mg/Kg		111	70 - 130		

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 880-2567/1-A
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene			0.100	0.1050		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1041		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2170		mg/Kg		109	70 - 130		
o-Xylene			0.100	0.1095		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-2567/2-A
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 2567

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1111		mg/Kg		111	70 - 130	0	35
Toluene			0.100	0.1045		mg/Kg		105	70 - 130	0	35
Ethylbenzene			0.100	0.1055		mg/Kg		105	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2224		mg/Kg		111	70 - 130	2	35
o-Xylene			0.100	0.1117		mg/Kg		112	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 880-1778-4 MS
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: CDU-436 SB-1 (3-4)
Prep Type: Total/NA
Prep Batch: 2567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.0992	0.09758		mg/Kg		98	70 - 130		
Toluene	<0.00199	U	0.0992	0.09377		mg/Kg		95	70 - 130		
Ethylbenzene	<0.00199	U	0.0992	0.09462		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1998		mg/Kg		101	70 - 130		
o-Xylene	<0.00199	U	0.0992	0.09970		mg/Kg		101	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-1778-4 MSD
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: CDU-436 SB-1 (3-4)
Prep Type: Total/NA
Prep Batch: 2567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.08450		mg/Kg		85	70 - 130	14	35
Toluene	<0.00199	U	0.100	0.08347		mg/Kg		83	70 - 130	12	35
Ethylbenzene	<0.00199	U	0.100	0.08577		mg/Kg		86	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1835		mg/Kg		92	70 - 130	9	35

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-1778-4 MSD
Matrix: Solid
Analysis Batch: 2544

Client Sample ID: CDU-436 SB-1 (3-4)
Prep Type: Total/NA
Prep Batch: 2567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	<0.00199	U	0.100	0.09138		mg/Kg		91	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-2570/1-A
Matrix: Solid
Analysis Batch: 2593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 2570

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 13:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 13:08	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 13:08	1
Total TPH	<50.0	U	50.0		mg/Kg		04/30/21 16:12	05/01/21 13:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*04/30/21 16:12*	*05/01/21 13:08*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*04/30/21 16:12*	*05/01/21 13:08*	*1*

Lab Sample ID: LCS 880-2570/2-A
Matrix: Solid
Analysis Batch: 2593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 2570

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1093		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1095		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-2570/3-A
Matrix: Solid
Analysis Batch: 2593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 2570

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1079		mg/Kg		108	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1081		mg/Kg		108	70 - 130	1	20

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-2570/3-A
Matrix: Solid
Analysis Batch: 2593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 2570

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	113		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-2568/1-A
Matrix: Solid
Analysis Batch: 2662

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/04/21 07:41	1

Lab Sample ID: LCS 880-2568/2-A
Matrix: Solid
Analysis Batch: 2662

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	251.3		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-2568/3-A
Matrix: Solid
Analysis Batch: 2662

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	251.0		mg/Kg		100	90 - 110	0	20

Lab Sample ID: MB 880-2677/1-A
Matrix: Solid
Analysis Batch: 2700

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/05/21 00:19	1

Lab Sample ID: LCS 880-2677/2-A
Matrix: Solid
Analysis Batch: 2700

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	235.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-2677/3-A
Matrix: Solid
Analysis Batch: 2700

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	241.2		mg/Kg		96	90 - 110	2	20

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-1778-16 MS
Matrix: Solid
Analysis Batch: 2700

Client Sample ID: CDU-436 SB-4 (1-2)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	7.27	F1	250	229.8	F1	mg/Kg		89	90 - 110

Lab Sample ID: 880-1778-16 MSD
Matrix: Solid
Analysis Batch: 2700

Client Sample ID: CDU-436 SB-4 (1-2)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7.27	F1	250	227.4	F1	mg/Kg		88	90 - 110	1	20

Lab Sample ID: MB 880-2729/1-A
Matrix: Solid
Analysis Batch: 2730

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/05/21 19:12	1

Lab Sample ID: LCS 880-2729/2-A
Matrix: Solid
Analysis Batch: 2730

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			250	247.6		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-2729/3-A
Matrix: Solid
Analysis Batch: 2730

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	248.0		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-1778-7 MS
Matrix: Solid
Analysis Batch: 2730

Client Sample ID: CDU-436 SB-2 (2-3)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	55.3		250	300.3		mg/Kg		98	90 - 110

Lab Sample ID: 880-1778-7 MSD
Matrix: Solid
Analysis Batch: 2730

Client Sample ID: CDU-436 SB-2 (2-3)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	55.3		250	300.5		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

GC VOA

Prep Batch: 2519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-2519/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 2544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-4	CDU-436 SB-1 (3-4)	Total/NA	Solid	8021B	2567
880-1778-7	CDU-436 SB-2 (2-3)	Total/NA	Solid	8021B	2567
880-1778-9	CDU-436 SB-2 (4-5)	Total/NA	Solid	8021B	2567
880-1778-13	CDU-436 SB-3 (3-4)	Total/NA	Solid	8021B	2567
880-1778-14	CDU-436 SB-3 (4-5)	Total/NA	Solid	8021B	2567
880-1778-16	CDU-436 SB-4 (1-2)	Total/NA	Solid	8021B	2567
880-1778-19	CDU-436 SB-4 (4-5)	Total/NA	Solid	8021B	2567
880-1778-20	CDU-436 SB-5 (0-1)	Total/NA	Solid	8021B	2567
880-1778-23	CDU-436 SB-5 (3-4)	Total/NA	Solid	8021B	2567
MB 880-2519/5-A	Method Blank	Total/NA	Solid	8021B	2519
MB 880-2567/5-A	Method Blank	Total/NA	Solid	8021B	2567
LCS 880-2567/1-A	Lab Control Sample	Total/NA	Solid	8021B	2567
LCSD 880-2567/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2567
880-1778-4 MS	CDU-436 SB-1 (3-4)	Total/NA	Solid	8021B	2567
880-1778-4 MSD	CDU-436 SB-1 (3-4)	Total/NA	Solid	8021B	2567

Analysis Batch: 2546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-2	CDU-436 SB-1 (1-2)	Total/NA	Solid	8021B	2563
MB 880-2561/5-A	Method Blank	Total/NA	Solid	8021B	2561
MB 880-2563/5-A	Method Blank	Total/NA	Solid	8021B	2563
LCS 880-2563/1-A	Lab Control Sample	Total/NA	Solid	8021B	2563
LCSD 880-2563/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	2563

Prep Batch: 2561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-2561/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 2563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-2	CDU-436 SB-1 (1-2)	Total/NA	Solid	5035	
MB 880-2563/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-2563/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2563/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 2567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-4	CDU-436 SB-1 (3-4)	Total/NA	Solid	5035	
880-1778-7	CDU-436 SB-2 (2-3)	Total/NA	Solid	5035	
880-1778-9	CDU-436 SB-2 (4-5)	Total/NA	Solid	5035	
880-1778-13	CDU-436 SB-3 (3-4)	Total/NA	Solid	5035	
880-1778-14	CDU-436 SB-3 (4-5)	Total/NA	Solid	5035	
880-1778-16	CDU-436 SB-4 (1-2)	Total/NA	Solid	5035	
880-1778-19	CDU-436 SB-4 (4-5)	Total/NA	Solid	5035	
880-1778-20	CDU-436 SB-5 (0-1)	Total/NA	Solid	5035	
880-1778-23	CDU-436 SB-5 (3-4)	Total/NA	Solid	5035	
MB 880-2567/5-A	Method Blank	Total/NA	Solid	5035	

QC Association Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

GC VOA (Continued)

Prep Batch: 2567 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-2567/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-2567/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-1778-4 MS	CDU-436 SB-1 (3-4)	Total/NA	Solid	5035	
880-1778-4 MSD	CDU-436 SB-1 (3-4)	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 2570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-2	CDU-436 SB-1 (1-2)	Total/NA	Solid	8015NM Prep	
880-1778-4	CDU-436 SB-1 (3-4)	Total/NA	Solid	8015NM Prep	
880-1778-7	CDU-436 SB-2 (2-3)	Total/NA	Solid	8015NM Prep	
880-1778-9	CDU-436 SB-2 (4-5)	Total/NA	Solid	8015NM Prep	
880-1778-13	CDU-436 SB-3 (3-4)	Total/NA	Solid	8015NM Prep	
880-1778-14	CDU-436 SB-3 (4-5)	Total/NA	Solid	8015NM Prep	
880-1778-16	CDU-436 SB-4 (1-2)	Total/NA	Solid	8015NM Prep	
880-1778-19	CDU-436 SB-4 (4-5)	Total/NA	Solid	8015NM Prep	
880-1778-20	CDU-436 SB-5 (0-1)	Total/NA	Solid	8015NM Prep	
880-1778-23	CDU-436 SB-5 (3-4)	Total/NA	Solid	8015NM Prep	
MB 880-2570/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-2570/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-2570/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 2593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-2	CDU-436 SB-1 (1-2)	Total/NA	Solid	8015B NM	2570
880-1778-4	CDU-436 SB-1 (3-4)	Total/NA	Solid	8015B NM	2570
880-1778-7	CDU-436 SB-2 (2-3)	Total/NA	Solid	8015B NM	2570
880-1778-9	CDU-436 SB-2 (4-5)	Total/NA	Solid	8015B NM	2570
880-1778-13	CDU-436 SB-3 (3-4)	Total/NA	Solid	8015B NM	2570
880-1778-14	CDU-436 SB-3 (4-5)	Total/NA	Solid	8015B NM	2570
880-1778-16	CDU-436 SB-4 (1-2)	Total/NA	Solid	8015B NM	2570
880-1778-19	CDU-436 SB-4 (4-5)	Total/NA	Solid	8015B NM	2570
880-1778-20	CDU-436 SB-5 (0-1)	Total/NA	Solid	8015B NM	2570
880-1778-23	CDU-436 SB-5 (3-4)	Total/NA	Solid	8015B NM	2570
MB 880-2570/1-A	Method Blank	Total/NA	Solid	8015B NM	2570
LCS 880-2570/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	2570
LCSD 880-2570/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	2570

HPLC/IC

Leach Batch: 2568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-1	CDU-436 SB-1 (0-1)	Soluble	Solid	DI Leach	
880-1778-2	CDU-436 SB-1 (1-2)	Soluble	Solid	DI Leach	
880-1778-3	CDU-436 SB-1 (2-3)	Soluble	Solid	DI Leach	
880-1778-4	CDU-436 SB-1 (3-4)	Soluble	Solid	DI Leach	
MB 880-2568/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2568/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2568/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

HPLC/IC

Analysis Batch: 2662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-1	CDU-436 SB-1 (0-1)	Soluble	Solid	300.0	2568
880-1778-2	CDU-436 SB-1 (1-2)	Soluble	Solid	300.0	2568
880-1778-3	CDU-436 SB-1 (2-3)	Soluble	Solid	300.0	2568
880-1778-4	CDU-436 SB-1 (3-4)	Soluble	Solid	300.0	2568
MB 880-2568/1-A	Method Blank	Soluble	Solid	300.0	2568
LCS 880-2568/2-A	Lab Control Sample	Soluble	Solid	300.0	2568
LCSD 880-2568/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2568

Leach Batch: 2677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-16	CDU-436 SB-4 (1-2)	Soluble	Solid	DI Leach	
880-1778-17	CDU-436 SB-4 (2-3)	Soluble	Solid	DI Leach	
880-1778-18	CDU-436 SB-4 (3-4)	Soluble	Solid	DI Leach	
880-1778-19	CDU-436 SB-4 (4-5)	Soluble	Solid	DI Leach	
880-1778-20	CDU-436 SB-5 (0-1)	Soluble	Solid	DI Leach	
880-1778-21	CDU-436 SB-5 (1-2)	Soluble	Solid	DI Leach	
880-1778-22	CDU-436 SB-5 (2-3)	Soluble	Solid	DI Leach	
880-1778-23	CDU-436 SB-5 (3-4)	Soluble	Solid	DI Leach	
MB 880-2677/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2677/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2677/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-1778-16 MS	CDU-436 SB-4 (1-2)	Soluble	Solid	DI Leach	
880-1778-16 MSD	CDU-436 SB-4 (1-2)	Soluble	Solid	DI Leach	

Analysis Batch: 2700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-16	CDU-436 SB-4 (1-2)	Soluble	Solid	300.0	2677
880-1778-17	CDU-436 SB-4 (2-3)	Soluble	Solid	300.0	2677
880-1778-18	CDU-436 SB-4 (3-4)	Soluble	Solid	300.0	2677
880-1778-19	CDU-436 SB-4 (4-5)	Soluble	Solid	300.0	2677
880-1778-20	CDU-436 SB-5 (0-1)	Soluble	Solid	300.0	2677
880-1778-21	CDU-436 SB-5 (1-2)	Soluble	Solid	300.0	2677
880-1778-22	CDU-436 SB-5 (2-3)	Soluble	Solid	300.0	2677
880-1778-23	CDU-436 SB-5 (3-4)	Soluble	Solid	300.0	2677
MB 880-2677/1-A	Method Blank	Soluble	Solid	300.0	2677
LCS 880-2677/2-A	Lab Control Sample	Soluble	Solid	300.0	2677
LCSD 880-2677/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2677
880-1778-16 MS	CDU-436 SB-4 (1-2)	Soluble	Solid	300.0	2677
880-1778-16 MSD	CDU-436 SB-4 (1-2)	Soluble	Solid	300.0	2677

Leach Batch: 2729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-5	CDU-436 SB-2 (0-1)	Soluble	Solid	DI Leach	
880-1778-6	CDU-436 SB-2 (1-2)	Soluble	Solid	DI Leach	
880-1778-7	CDU-436 SB-2 (2-3)	Soluble	Solid	DI Leach	
880-1778-8	CDU-436 SB-2 (3-4)	Soluble	Solid	DI Leach	
880-1778-9	CDU-436 SB-2 (4-5)	Soluble	Solid	DI Leach	
880-1778-10	CDU-436 SB-3 (0-1)	Soluble	Solid	DI Leach	
880-1778-11	CDU-436 SB-3 (1-2)	Soluble	Solid	DI Leach	
880-1778-12	CDU-436 SB-3 (2-3)	Soluble	Solid	DI Leach	
880-1778-13	CDU-436 SB-3 (3-4)	Soluble	Solid	DI Leach	

QC Association Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

HPLC/IC (Continued)

Leach Batch: 2729 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-14	CDU-436 SB-3 (4-5)	Soluble	Solid	DI Leach	
880-1778-15	CDU-436 SB-4 (0-1)	Soluble	Solid	DI Leach	
MB 880-2729/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-2729/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-2729/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-1778-7 MS	CDU-436 SB-2 (2-3)	Soluble	Solid	DI Leach	
880-1778-7 MSD	CDU-436 SB-2 (2-3)	Soluble	Solid	DI Leach	

Analysis Batch: 2730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1778-5	CDU-436 SB-2 (0-1)	Soluble	Solid	300.0	2729
880-1778-6	CDU-436 SB-2 (1-2)	Soluble	Solid	300.0	2729
880-1778-7	CDU-436 SB-2 (2-3)	Soluble	Solid	300.0	2729
880-1778-8	CDU-436 SB-2 (3-4)	Soluble	Solid	300.0	2729
880-1778-9	CDU-436 SB-2 (4-5)	Soluble	Solid	300.0	2729
880-1778-10	CDU-436 SB-3 (0-1)	Soluble	Solid	300.0	2729
880-1778-11	CDU-436 SB-3 (1-2)	Soluble	Solid	300.0	2729
880-1778-12	CDU-436 SB-3 (2-3)	Soluble	Solid	300.0	2729
880-1778-13	CDU-436 SB-3 (3-4)	Soluble	Solid	300.0	2729
880-1778-14	CDU-436 SB-3 (4-5)	Soluble	Solid	300.0	2729
880-1778-15	CDU-436 SB-4 (0-1)	Soluble	Solid	300.0	2729
MB 880-2729/1-A	Method Blank	Soluble	Solid	300.0	2729
LCS 880-2729/2-A	Lab Control Sample	Soluble	Solid	300.0	2729
LCSD 880-2729/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	2729
880-1778-7 MS	CDU-436 SB-2 (2-3)	Soluble	Solid	300.0	2729
880-1778-7 MSD	CDU-436 SB-2 (2-3)	Soluble	Solid	300.0	2729

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-1 (0-1)

Lab Sample ID: 880-1778-1
Matrix: Solid
Date Collected: 04/28/21 09:45
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2568	04/30/21 15:14	CH	XM
Soluble	Analysis	300.0		1	2662	05/04/21 09:55	WP	XM

Client Sample ID: CDU-436 SB-1 (1-2)

Lab Sample ID: 880-1778-2
Matrix: Solid
Date Collected: 04/28/21 09:50
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2563	04/30/21 14:57	KL	XM
Total/NA	Analysis	8021B		1	2546	05/02/21 02:58	MR	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 19:13	AJ	XM
Soluble	Leach	DI Leach			2568	04/30/21 15:14	CH	XM
Soluble	Analysis	300.0		1	2662	05/04/21 10:00	WP	XM

Client Sample ID: CDU-436 SB-1 (2-3)

Lab Sample ID: 880-1778-3
Matrix: Solid
Date Collected: 04/28/21 09:55
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2568	04/30/21 15:14	CH	XM
Soluble	Analysis	300.0		1	2662	05/04/21 10:17	WP	XM

Client Sample ID: CDU-436 SB-1 (3-4)

Lab Sample ID: 880-1778-4
Matrix: Solid
Date Collected: 04/28/21 10:00
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/01/21 23:48	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 19:35	AJ	XM
Soluble	Leach	DI Leach			2568	04/30/21 15:14	CH	XM
Soluble	Analysis	300.0		5	2662	05/04/21 10:07	WP	XM

Client Sample ID: CDU-436 SB-2 (0-1)

Lab Sample ID: 880-1778-5
Matrix: Solid
Date Collected: 04/28/21 10:25
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 20:27	WP	XM

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-2 (1-2)

Lab Sample ID: 880-1778-6
Matrix: Solid
Date Collected: 04/28/21 10:30
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 20:32	WP	XM

Client Sample ID: CDU-436 SB-2 (2-3)

Lab Sample ID: 880-1778-7
Matrix: Solid
Date Collected: 04/28/21 10:35
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 00:08	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 19:57	AJ	XM
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 20:37	WP	XM

Client Sample ID: CDU-436 SB-2 (3-4)

Lab Sample ID: 880-1778-8
Matrix: Solid
Date Collected: 04/28/21 10:40
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 20:52	WP	XM

Client Sample ID: CDU-436 SB-2 (4-5)

Lab Sample ID: 880-1778-9
Matrix: Solid
Date Collected: 04/28/21 10:45
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 00:29	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 20:18	AJ	XM
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 20:58	WP	XM

Client Sample ID: CDU-436 SB-3 (0-1)

Lab Sample ID: 880-1778-10
Matrix: Solid
Date Collected: 04/28/21 11:25
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 21:13	WP	XM

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-3 (1-2)

Lab Sample ID: 880-1778-11

Date Collected: 04/28/21 11:30
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 21:18	WP	XM

Client Sample ID: CDU-436 SB-3 (2-3)

Lab Sample ID: 880-1778-12

Date Collected: 04/28/21 11:35
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 21:23	WP	XM

Client Sample ID: CDU-436 SB-3 (3-4)

Lab Sample ID: 880-1778-13

Date Collected: 04/28/21 11:40
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 00:49	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 20:40	AJ	XM
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/06/21 08:27	WP	XM

Client Sample ID: CDU-436 SB-3 (4-5)

Lab Sample ID: 880-1778-14

Date Collected: 04/28/21 11:45
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 01:10	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 21:02	AJ	XM
Soluble	Leach	DI Leach			2729	05/05/21 13:29	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 21:29	WP	XM

Client Sample ID: CDU-436 SB-4 (0-1)

Lab Sample ID: 880-1778-15

Date Collected: 04/28/21 12:15
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2729	05/05/21 13:32	SC	XM
Soluble	Analysis	300.0		1	2730	05/05/21 21:34	WP	XM

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-4 (1-2)

Lab Sample ID: 880-1778-16

Date Collected: 04/28/21 12:20
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 01:30	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 21:23	AJ	XM
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 00:36	WP	XM

Client Sample ID: CDU-436 SB-4 (2-3)

Lab Sample ID: 880-1778-17

Date Collected: 04/28/21 12:25
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 00:52	WP	XM

Client Sample ID: CDU-436 SB-4 (3-4)

Lab Sample ID: 880-1778-18

Date Collected: 04/28/21 12:30
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 00:57	WP	XM

Client Sample ID: CDU-436 SB-4 (4-5)

Lab Sample ID: 880-1778-19

Date Collected: 04/28/21 12:35
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 01:50	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 21:45	AJ	XM
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 01:02	WP	XM

Client Sample ID: CDU-436 SB-5 (0-1)

Lab Sample ID: 880-1778-20

Date Collected: 04/28/21 13:35
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 02:11	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 22:07	AJ	XM
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 01:08	WP	XM

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Client Sample ID: CDU-436 SB-5 (1-2)

Lab Sample ID: 880-1778-21

Date Collected: 04/28/21 13:30
Date Received: 04/30/21 13:35

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 01:24	WP	XM

Client Sample ID: CDU-436 SB-5 (2-3)

Lab Sample ID: 880-1778-22

Date Collected: 04/28/21 13:35
Date Received: 04/30/21 13:35

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 01:29	WP	XM

Client Sample ID: CDU-436 SB-5 (3-4)

Lab Sample ID: 880-1778-23

Date Collected: 04/28/21 13:40
Date Received: 04/30/21 13:35

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			2567	04/30/21 15:09	KL	XM
Total/NA	Analysis	8021B		1	2544	05/02/21 02:31	KL	XM
Total/NA	Prep	8015NM Prep			2570	04/30/21 16:12	DM	XM
Total/NA	Analysis	8015B NM		1	2593	05/01/21 22:29	AJ	XM
Soluble	Leach	DI Leach			2677	05/04/21 12:14	SC	XM
Soluble	Analysis	300.0		1	2700	05/05/21 01:35	WP	XM

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

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

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

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1778-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-1778-1	CDU-436 SB-1 (0-1)	Solid	04/28/21 09:45	04/30/21 13:35	0 - 1
880-1778-2	CDU-436 SB-1 (1-2)	Solid	04/28/21 09:50	04/30/21 13:35	1 - 2
880-1778-3	CDU-436 SB-1 (2-3)	Solid	04/28/21 09:55	04/30/21 13:35	2 - 3
880-1778-4	CDU-436 SB-1 (3-4)	Solid	04/28/21 10:00	04/30/21 13:35	3 - 4
880-1778-5	CDU-436 SB-2 (0-1)	Solid	04/28/21 10:25	04/30/21 13:35	0 - 1
880-1778-6	CDU-436 SB-2 (1-2)	Solid	04/28/21 10:30	04/30/21 13:35	1 - 2
880-1778-7	CDU-436 SB-2 (2-3)	Solid	04/28/21 10:35	04/30/21 13:35	2 - 3
880-1778-8	CDU-436 SB-2 (3-4)	Solid	04/28/21 10:40	04/30/21 13:35	3 - 4
880-1778-9	CDU-436 SB-2 (4-5)	Solid	04/28/21 10:45	04/30/21 13:35	4 - 5
880-1778-10	CDU-436 SB-3 (0-1)	Solid	04/28/21 11:25	04/30/21 13:35	0 - 1
880-1778-11	CDU-436 SB-3 (1-2)	Solid	04/28/21 11:30	04/30/21 13:35	1 - 2
880-1778-12	CDU-436 SB-3 (2-3)	Solid	04/28/21 11:35	04/30/21 13:35	2 - 3
880-1778-13	CDU-436 SB-3 (3-4)	Solid	04/28/21 11:40	04/30/21 13:35	3 - 4
880-1778-14	CDU-436 SB-3 (4-5)	Solid	04/28/21 11:45	04/30/21 13:35	4 - 5
880-1778-15	CDU-436 SB-4 (0-1)	Solid	04/28/21 12:15	04/30/21 13:35	0 - 1
880-1778-16	CDU-436 SB-4 (1-2)	Solid	04/28/21 12:20	04/30/21 13:35	1 - 2
880-1778-17	CDU-436 SB-4 (2-3)	Solid	04/28/21 12:25	04/30/21 13:35	2 - 3
880-1778-18	CDU-436 SB-4 (3-4)	Solid	04/28/21 12:30	04/30/21 13:35	3 - 4
880-1778-19	CDU-436 SB-4 (4-5)	Solid	04/28/21 12:35	04/30/21 13:35	4 - 5
880-1778-20	CDU-436 SB-5 (0-1)	Solid	04/28/21 13:35	04/30/21 13:35	0 - 1
880-1778-21	CDU-436 SB-5 (1-2)	Solid	04/28/21 13:30	04/30/21 13:35	1 - 2
880-1778-22	CDU-436 SB-5 (2-3)	Solid	04/28/21 13:35	04/30/21 13:35	2 - 3
880-1778-23	CDU-436 SB-5 (3-4)	Solid	04/28/21 13:40	04/30/21 13:35	3 - 4

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880-1778 Chain of Custody

Work Order No: 1778

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Project Manager	Brad Wynne	Bill to (if different)	SAME
Company Name	AECOM	Company Name	
Address	13355 Noel Rd Suite 400	Address	
City State ZIP	Dallas, TX 75240	City, State ZIP	
Phone	214-971-1829	Email	Bradley.wynne@AECOM.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project: New Mexico

Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables EDD ☐ ADaPT ☐ Other

Project Name	CDU 436	Turn Around	☒ Routine ☐ Rush
Project Number	60657235	Due Date	
Project Location	Eunice, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name	James Lovely		
PO #	60657235		

SAMPLE RECEIPT			
Temp Blank.	Yes (No)	Wet Ice	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID	IR8
Cooler Custody Seals.	Yes No (N/A)	Correction Factor	+0.5
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	2.6
Total Containers.		Corrected Temperature	3.1

Preservative Codes

None NO; DI Water H_2O; Cool Cool; MeOH Me; HCL HC; HNO_3 HN; H_2SO_4 H_2; NaOH Na; H_3PO_4 HP; $NaHSO_4$ NABIS; $Na_2S_2O_3$ $NaSO_3$; Zn Acetate+NaOH Zn; NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides EPA 300	TPH - 8015M	BTEX - 8021B	Sample Comments
CDU-436 SB-1 (0-1)	Soil	4/28/21	0945	0-1	Grab	1		X			
CDU-436 SB-1 (1-2)			0950	1-2		2		X	X	X	
CDU-436 SB-1 (2-3)			0955	2-3		1		X			
CDU-436 SB-1 (3-4)			1000	3-4		2		X	X	X	
CDU-436 SB-2 (0-1)			1025	0-1		1		X			
CDU-436 SB-2 (1-2)			1030	1-2		1		X			
CDU-436 SB-2 (2-3)			1035	2-3		2		X	X	X	
CDU-436 SB-2 (3-4)			1040	3-4		1		X			
CDU-436 SB-2 (4-5)			1045	4-5		2		X	X	X	
CDU-436 SB-3 (0-1)			1125	0-1		1		X			

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1			2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

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Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440 San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs NM (575) 392 7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 2 of 3

Project Manager	Brad Wynne	Bill to (if different)	SAME
Company Name	AECOM	Company Name	
Address	13355 Noel Rd Suite 400	Address	
City, State ZIP	Dallas, TX 75240	City, State ZIP	
Phone	214-971-1829	Email	Bradley.Wynne@AECOM.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project: New Mexico
Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other:

Project Name	CDU 436	Turn Around	☒ Routine ☐ Rush
Project Number	60657235		
Project Location	Eunice, NM	Due Date	
Sampler's Name	James Lovely	TAT starts the day received by the lab, if received by 4.30pm	
PO #	60657235		

SAMPLE RECEIPT				
Temp Blank.	Yes (No)	Wet Ice	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID	IR 8	
Cooler Custody Seals.	Yes No (N/A)	Correction Factor	+0.5	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading	2.6	
Total Containers.		Corrected Temperature	3.1	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides - EPA 300	TPH - 8015M	BTEX - 8021B
CDU-436 SB-3 (1-2)	Soil	4/28/21	1130	1-2	Grab	1	X		
CDU-436 SB-3 (2-3)			1135	2-3		1	X		
CDU-436 SB-3 (3-4)			1140	3-4		2	X	X	X
CDU-436 SB-3 (4-5)			1145	4-5		2	X	X	X
CDU-436 SB-4 (0-1)			1215			1	X		
CDU-436 SB-4 (1-2)			1220			2	X	X	X
CDU-436 SB4 (2-3)			1225			1	X		
CDU-436 SB-4 (3-4)			1230			1	X		
CDU-436 SB-4 (4-5)			1235			2	X	X	X
CDU-436 SB-5 (0-1)	↓	↓	1325		↓	2	X	X	X

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL. HC HNO_3 HN
H_2SO_4 H_2 NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	KGM	4/30/20 1325	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440 San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550 Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager	Brad Wynne	Bill to (if different)	Same
Company Name	AECOM	Company Name	
Address	13355 Noel Rd Suite 400	Address	
City State ZIP	Dallas, TX 75240	City State ZIP	
Phone	214-971-1829	Email	Bradley.Wynne@AECOM.com

Work Order Comments

Program. UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project: New Mexico
Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other:

Project Name	CDU 436	Turn Around	
Project Number	60657235	☒ Routine ☐ Rush	
Project Location	Eunice, NM	Due Date	
Sampler's Name	James Lovely	TAT starts the day received by the lab, if received by 4.30pm	
PO #	60657235		

SAMPLE RECEIPT				
Temp Blank.	Yes (No)	Wet Ice	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID	IR8	
Cooler Custody Seals.	Yes No (N/A)	Correction Factor	+0.5	
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	2.9	
Total Containers		Corrected Temperature	3.4	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides-EPA 300	TPH-8015M	BTEX-8021B
CDU-436 SB-5 (1-2)	Soil	4/28/21	1330	1-2	Grab	1	X		
CDU-436 SB-5 (2-3)	"	"	1335	2-3	"	1	X		
CDU-436 SB-5 (3-4)	"	"	1340	3-4	"	2	X	X	X

Preservative Codes

None NO — DI Water H_2O
Cool Cool — MeOH Me
HCL HC — HNO_3 HN
H_2SO_4 H_2 — NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245.1 / 7470 / 7471

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Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1		4/30/20 1335	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: AECOM Job Number: 880-1778-1

Login Number: 1778 **List Source: Eurofins Midland**
List Number: 1
Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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ANALYTICAL REPORT

Eurofins Xenco, Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-1780-1
Client Project/Site: CDU 436

For:
AECOM
19219 Katy Freeway
Suite 100
Houston, Texas 77094

Attn: Mr. Wallace Gilmore

Authorized for release by:
5/12/2021 6:49:23 PM

John Builes, Project Manager
(281)240-4200
john.builes@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM
Project/Site: CDU 436

Laboratory Job ID: 880-1780-1

Table of Contents

Definitions/Glossary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Job ID: 880-1780-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-1780-1

Receipt

The samples were received on 4/30/2021 1:35 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Client Sample ID: CDU-436 South Side Wall

Lab Sample ID: 880-1780-2
Matrix: Solid
Date Collected: 04/28/21 13:50
Date Received: 04/30/21 13:35

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1420		4.98		mg/Kg			05/12/21 12:30	1

Client Sample ID: CDU-436 East Side Wall

Lab Sample ID: 880-1780-3
Matrix: Solid
Date Collected: 04/28/21 13:55
Date Received: 04/30/21 13:35

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3600		25.0		mg/Kg			05/12/21 12:46	5

Client Sample ID: CDU-436 West Side Wall

Lab Sample ID: 880-1780-4
Matrix: Solid
Date Collected: 04/28/21 14:00
Date Received: 04/30/21 13:35

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2190		24.9		mg/Kg			05/12/21 12:51	5

QC Sample Results

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3019/1-A
Matrix: Solid
Analysis Batch: 3027

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/12/21 12:13	1

Lab Sample ID: LCS 880-3019/2-A
Matrix: Solid
Analysis Batch: 3027

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	230.6		mg/Kg		92	90 - 110		

Lab Sample ID: LCSD 880-3019/3-A
Matrix: Solid
Analysis Batch: 3027

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	229.7		mg/Kg		92	90 - 110	0	20

Lab Sample ID: 880-1780-2 MS
Matrix: Solid
Analysis Batch: 3027

Client Sample ID: CDU-436 South Side Wall
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1420		249	1618	E 4	mg/Kg		79	90 - 110		

Lab Sample ID: 880-1780-2 MSD
Matrix: Solid
Analysis Batch: 3027

Client Sample ID: CDU-436 South Side Wall
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1420		249	1547	E 4	mg/Kg		50	90 - 110	4	20

QC Association Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

HPLC/IC

Leach Batch: 3019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1780-2	CDU-436 South Side Wall	Soluble	Solid	DI Leach	
880-1780-3	CDU-436 East Side Wall	Soluble	Solid	DI Leach	
880-1780-4	CDU-436 West Side Wall	Soluble	Solid	DI Leach	
MB 880-3019/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3019/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3019/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-1780-2 MS	CDU-436 South Side Wall	Soluble	Solid	DI Leach	
880-1780-2 MSD	CDU-436 South Side Wall	Soluble	Solid	DI Leach	

Analysis Batch: 3027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-1780-2	CDU-436 South Side Wall	Soluble	Solid	300.0	3019
880-1780-3	CDU-436 East Side Wall	Soluble	Solid	300.0	3019
880-1780-4	CDU-436 West Side Wall	Soluble	Solid	300.0	3019
MB 880-3019/1-A	Method Blank	Soluble	Solid	300.0	3019
LCS 880-3019/2-A	Lab Control Sample	Soluble	Solid	300.0	3019
LCSD 880-3019/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3019
880-1780-2 MS	CDU-436 South Side Wall	Soluble	Solid	300.0	3019
880-1780-2 MSD	CDU-436 South Side Wall	Soluble	Solid	300.0	3019

Lab Chronicle

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Client Sample ID: CDU-436 South Side Wall

Lab Sample ID: 880-1780-2

Date Collected: 04/28/21 13:50
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3019	05/12/21 09:46	CH	XM
Soluble	Analysis	300.0		1	3027	05/12/21 12:30	CH	XM

Client Sample ID: CDU-436 East Side Wall

Lab Sample ID: 880-1780-3

Date Collected: 04/28/21 13:55
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3019	05/12/21 09:46	CH	XM
Soluble	Analysis	300.0		5	3027	05/12/21 12:46	CH	XM

Client Sample ID: CDU-436 West Side Wall

Lab Sample ID: 880-1780-4

Date Collected: 04/28/21 14:00
Matrix: Solid
Date Received: 04/30/21 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3019	05/12/21 09:46	CH	XM
Soluble	Analysis	300.0		5	3027	05/12/21 12:51	CH	XM

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Laboratory: Eurofins Xenco, Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

Method Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

Protocol References:

ASTM = ASTM International

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

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: AECOM
Project/Site: CDU 436

Job ID: 880-1780-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
880-1780-2	CDU-436 South Side Wall	Solid	04/28/21 13:50	04/30/21 13:35	
880-1780-3	CDU-436 East Side Wall	Solid	04/28/21 13:55	04/30/21 13:35	
880-1780-4	CDU-436 West Side Wall	Solid	04/28/21 14:00	04/30/21 13:35	

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C
Houston, T
Midland TX (
EL Paso TX (
Hobbs NM (5

880-1780 Chain of Custody

Work Order No: 1780

www.xenco.com Page 1 of 1

Project Manager	Brad Wynne	Bill to (if different)	Same
Company Name	AECOM	Company Name	
Address	13355 Noel Rd. Suite 400	Address	
City State ZIP	Dallas, TX 75240	City State ZIP	
Phone	214-971-1829	Email	Bradley.Wynne@AECOM.com

Work Order Comments

Program. UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project: New Mexico
Reporting Level II ☒ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables. EDD ☐ ADaPT ☐ Other

Project Name	CDU 436	Turn Around	☒ Routine ☐ Rush
Project Number	60657235	Due Date	
Project Location	Eunice, NM	TAT starts the day received by the lab, if received by 4.30pm	
Sampler's Name	James Lovely		
PO #	60657235		

SAMPLE RECEIPT			
Temp Blank.	Yes (No)	Wet Ice	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID	IR8
Cooler Custody Seals	Yes No (N/A)	Correction Factor	+0.5
Sample Custody Seals.	Yes No (N/A)	Temperature Reading	2.6
Total Containers		Corrected Temperature	3.1

Preservative Codes

None NO — DI Water H_2O
Cool Cool — MeOH Me
HCL. HC — HNO_3 HN
H_2SO_4. H_2 — NaOH Na
H_3PO_4 HP
$NaHSO_4$ NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides - EPA 300	TPH - 8015M	BTEX - 8021B	Sample Comments
CDU-436 North side wall	So.	4/28/21	1345	—	Grab	2	X	X	X	Hold
CDU-436 South side wall	"	"	1350	—	"	2	X	X	X	Hold
CDU-436 East side wall	"	"	1355	—	"	2	X	X	X	Hold
CDU-436 West side wall	"	"	1400	—	"	2	X	X	X	Hold

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1		4/30/20 1335	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: AECOM Job Number: 880-1780-1

Login Number: 1780 **List Source: Eurofins Midland**
List Number: 1
Creator: Teel, Brianna

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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

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

CONDITIONS

Action 37156

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 37156
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	The OCD requires additional sampling at SB-1 to 5 ft. on composite sampling.	8/24/2021
chensley	Horizontal delineation submitted was incomplete and did not show the full extent of the spill. Please provide composite samples that show extent of the release near SB-1.	8/24/2021