

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	nAPP2320149908
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Garrett Green	Contact Telephone 575-200-0729
Contact email garrett.green@exxonmobil.com	Incident # (assigned by OCD)
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.19305 Longitude -103.91875
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 442/443 Battery	Site Type Tank Battery
Date Release Discovered 07/06/2023	API# (if applicable)

Unit Letter	Section	Township	Range	County
B	30	24S	30E	Eddy

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) 32.00	Volume Recovered (bbls) 32.00
	Is the concentration of total dissolved solids (TDS) 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 caused a pinhole in the water tank to release fluids into impermeable lined containment. All fluids were recovered. A 48-hour advance liner inspection notice was sent to NMOCD District 2. Liner was inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation purposes.

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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? A release equal to or greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by Melanie Collins to ocd.enviro@emnrd.nm.gov, Bratcher, Michael, EMNRD, Hamlet, Robert, EMNRD, and Harimon, Jocelyn, EMNRD, on 07/07/23 via email.	

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 <u>not</u> been undertaken, explain why: NA	
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: <u>Garrett Green</u>	Title: <u>SSHE Coordinator</u>
Signature: <u></u>	Date: <u>7/20/2023</u>
email: <u>garrett.green@exxonmobil.com</u>	Telephone: <u>575-200-0729</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Location:	PLU 442/443 Battery	
Spill Date:	7/6/2023	
Area 1		
Approximate Area =	179.67	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	32.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	32.00	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =	0.00	bbls
Total Produced Water =	32.00	bbls

Incident ID	nAPP2320149908
District RP	
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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?	<u><50</u> (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

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.

State of New Mexico
Oil Conservation Division

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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: Garrett GreenTitle: Environmental Coordinator

Signature: _____

Date: 10/4/2023email: garrett.green@exxonmobil.comTelephone: 575-200-0729**OCD Only**Received by: Shelly WellsDate: 10/4/2023

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 10/4/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 10/4/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



Incident Number: nAPP2320149908

Release Assessment and Closure

Poker Lake Unit 442/443 Battery

Section 30, Township 24 South, Range 30 East

County: Eddy

Vertex File Number: 23E-04617

Prepared for:

XTO Energy

Prepared by:

Vertex Resource Services Inc.

Date:

September 2023

XTO Energy
Poker Lake Unit 442/443 Battery

Release Assessment and Closure
September 2023

Release Assessment and Closure
Poker Lake Unit 442/443 Battery
Section 30, Township 24 South, Range 30 East
County: Eddy

Prepared for:
XTO Energy
3104 E Greene Street
Carlsbad, New Mexico 88220

New Mexico Oil Conservation Division – District 2
811 S. 1st Street
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220

Fernando Rodriguez
Fernando Rodriguez, B. Sc.
INTERMEDIATE BIOLOGIST, REPORTING

9/22/2023
Date

Chance Dixon
Chance Dixon, B.Sc.
PROJECT MANAGER, REPORT REVIEW

9/22/2023
Date

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1.0 Introduction

XTO Energy (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a crude oil release that occurred on July 6, 2023, at Poker Lake Unit 442/443 Battery (hereafter referred to as the “site”). XTO submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on July 7, 2023. Incident ID number nAPP2320149908 was assigned to this incident.

This report provides a description of the release assessment associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for the closure of this release.

2.0 Incident Description

The release occurred on July 6, 2023, due to corrosion forming a pinhole in one of the water tanks and causing the release of produced water into the lined containment. The incident was reported on July 7, 2023, and involved the release of approximately 32 barrels of produced water onto the lined containment. All fluids were recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report and the 24-Hour Notification of Release included in Appendix A. The Daily Field Report (DFR) and site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 9.25 miles southeast of Malaga, New Mexico (Google Inc., 2023). The legal location for the site is Section 30, Township 24 South, Range 30 East in Eddy County, New Mexico. The release area is located on Federal property. An aerial photograph and site schematic are presented on Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area on the constructed pad (Figure 1).

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site’s surface geology primarily comprises Qoa – Older alluvial deposits of upland plains and piedmont areas, and calcic soils and eolian cover sediments of High Plains regions. May locally include middle to lower Pleistocene deposits. The predominant soil texture on the site is fine sandy loam and sandy loam. Soil can be classified as excessively drained with a very high runoff class. The karst geology potential for the site is characterized as low (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with uplands, plains, dunes, fan piedmonts, terraces, and inter-dunal areas with elevations ranging between 2,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the historic plant community is dominated by Black grama (*Bouteloua eriopoda*) and dropseeds (*Sporobolus* spp.). Blue grama (*B. gracilis*)

also occurs as a subdominant species (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow near the compacted production pad.

4.0 Closure Criteria Determination

The nearest depth to groundwater reference to the site is a New Mexico Office of the State Engineer monitoring well (C 02109) located approximately 0.68 miles north of the site (New Mexico Office of the State Engineer, 2023c). This groundwater reference is more than 25 years old and located more than 0.5 miles away from the release site; therefore, the depth to groundwater cannot be determined accurately. Information pertaining to the depth to groundwater determination is included in both Table 1 and Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 2.9 miles east of the site (United States Fish and Wildlife Service, 2023).

At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

XTO Energy
Poker Lake Unit 442/443 Battery

Release Assessment and Closure
September 2023

Table 1. Closure Criteria Determination			
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	<50	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	15,307	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	27,596	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	17,266	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or	449	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	1,010	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Kermit-Berino fine sands and Tonuco loamy sand	
12	Ecological Classification	Deep Sand, Loamy Sand, and Sandy	
13	Geology	Qoa	
NMAC 19.15.29.12 E (Table 1) Closure Criteria		<50'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2. The criteria was chosen based on the amount of impact in the area and to meet the requirements of 19.15.29.13 NMAC.

Table 2. 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	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Release Assessment

XTO first assessed the site by submitting a notification to NMOC on July 10, 2023, that a liner inspection was scheduled to be completed. Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. As described in the C-141 Report (Appendix A), liner integrity was determined to not be operating as designed as there was a small puncture at the base of the liner near the northeast corner of the containment. As a result, XTO retained Vertex to conduct sampling activities under and around the containment. The Liner Inspection Notification email is included in Appendix D.

Vertex's initial site inspection of the release area began on August 11, 2023, which identified the area of the release specified in the initial C-141 Report and assessed if any contaminant concentrations were present under the containment. Horizontal delineation around the outside of the walled containment and vertical delineation under the liner were completed on August 11, 2023, with a total of five sample points established in the release area. Four of these sample points (BH23-01 to BH23-04) were established outside of the containment walls in each cardinal direction. The last sample point (BH23-05) was established in the area where the puncture in the liner was located. This was completed by cutting a 6 x 6 inch square around the puncture to allow access with a hand auger. From the sample points, 11 samples were collected and submitted to Eurofins Environment Testing under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D), and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, and the laboratory data report is included in Appendix E. The DFR associated with the site delineation is included in Appendix C.

After delineation of the release inside and outside of the liner was completed, the square in the liner where the puncture was located was patched to ensure that the liner is now fully intact and has the ability to contain any future impacts. Photo documentation regarding the liner repair is included in Appendix C.

XTO Energy
Poker Lake Unit 442/443 Battery

Release Assessment and Closure
September 2023

6.0 Closure Request

Vertex recommends no additional remedial action at the site. Laboratory analyses of characterization samples collected at the site show final concentration values below NMOCD's closure criteria for areas where depth to groundwater is below 50 feet bgs. There are no anticipated risks to human, ecological, or hydrological receptors at this site.

Vertex requests that this incident (nAPP2320149908) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. XTO certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertex.ca.

7.0 References

- Google Inc. (2023). *Google Earth Pro (Version 7.3.3)* [Software]. Retrieved from <https://earth.google.com>
- New Mexico Bureau of Geology and Mineral Resources. (2023). *Interactive Geologic Map*. Retrieved from <https://maps.nmt.edu/>
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- New Mexico Office of the State Engineer. (2023a). *Point of Diversion Location Report - New Mexico Water Rights Reporting System*. Retrieved from <http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html>
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- United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karst*. Retrieved from https://www.nm.blm.gov/shapeFiles/cfo/carlsbad_spatial_data.html
- United States Fish and Wildlife Service. (2023). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>
- United States Geological Survey. (2023). *National Water Information System: Web Interface*. Retrieved from <https://waterdata.usgs.gov/nwis>

XTO Energy
Poker Lake Unit 442/443 Battery

Release Assessment and Closure
September 2023

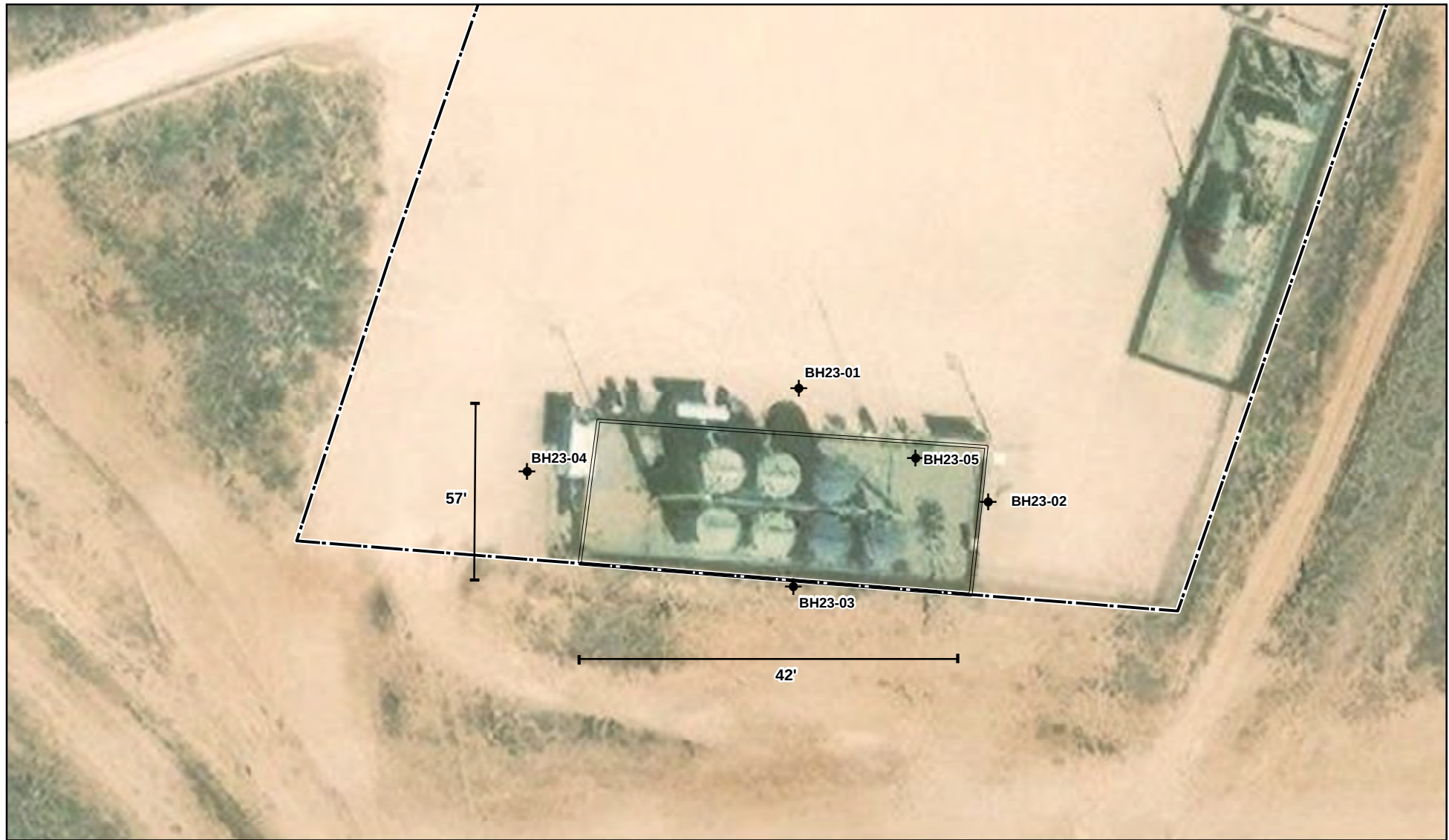
8.0 Limitations

This report has been prepared for the sole benefit of XTO Energy. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division without the express written consent of Vertex Resource Services Inc. (Vertex) and XTO Energy. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

FIGURES

Document Path: G:\Projects\US PROJECT\SXTO Energy\23E-04617 - PLU 442 443 Battery\Figure 1 Characterization Site Schematic (23E-04617)ID:17009.mxd



 Borehole
  Containment Area/Release Area
  Lease Boundary



0 10 20 40 ft
 Map Center:
 Lat/Long: 32.193062, -103.918946

NAD 1983 UTM Zone 13N
 Date: Sep 22/23



Characterization Schematic PLU 442/443 Battery

FIGURE:

1



Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

TABLES

Client Name: XTO Energy
 Site Name: PLU 442 443 Battery
 NMOCD Tracking #: nAPP2320149908
 Project #: 23E-04617
 Lab Report: 890-5106-1

Table 3. Characterization/Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Table 3. Characterization/Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs													
Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Volatile		Extractable					
						Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	August 11, 2023	-	83	140	ND	ND	ND	ND	ND	ND	ND	98.2
	2	August 11, 2023	-	28	68	ND	ND	ND	ND	ND	ND	ND	63.7
BH23-02	0	August 11, 2023	-	44	100	ND	ND	ND	ND	ND	ND	ND	50
	2	August 11, 2023	-	29	113	ND	ND	ND	ND	ND	ND	ND	62
BH23-03	0	August 11, 2023	-	43	130	ND	ND	ND	ND	ND	ND	ND	42
	2	August 11, 2023	-	31	105	ND	ND	ND	ND	ND	ND	ND	56
BH23-04	0	August 11, 2023	-	54	160	ND	ND	ND	ND	ND	ND	ND	55.1
	2	August 11, 2023	-	42	200	ND	ND	ND	ND	ND	ND	ND	69
BH23-05	0	August 11, 2023	-	-	2,550	ND	ND	ND	ND	ND	ND	ND	588
	2	August 11, 2023	-	26	220	ND	ND	ND	ND	ND	ND	ND	71
	4	August 11, 2023	-	51	145	ND	ND	ND	ND	ND	ND	ND	83.4

"ND" Not Detected at the Reporting Limit

"-" indicates not analyzed/assessed

Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)

APPENDIX A - NMOCD C-141 Report

Collins, Melanie

From: Collins, Melanie
Sent: Friday, July 7, 2023 8:31 AM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov)
Cc: Green, Garrett J; Pennington, Shelby G; DelawareSpills /SM
Subject: 24-hour notification PLU 442/443 Battery 7-6-23

All,

This is notification of a release greater than 25 barrels that occurred yesterday, 07/06/2023, at the PLU 442/443 Battery. Details will be provided with a Form C-141. Please reach out if you have questions or concerns.

GPS 32.19297, -103.91889

Thank you,

Melanie Collins



Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

Collins, Melanie

From: OCDOnline@state.nm.us
Sent: Thursday, July 20, 2023 2:52 PM
To: Collins, Melanie
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 242720

External Email - Think Before You Click

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has accepted the submitted *Notification of a release* (NOR), for incident ID (n#) nAPP2320149908, with the following conditions:

- **When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.**

Please reference nAPP2320149908, on all subsequent C-141 submissions and communications regarding the remediation of this release.

NOTE: As of December 2019, NMOCD has discontinued the use of the "RP" number.

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

ocd.enviro@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

APPENDIX B – Closure Criteria Research Documentation

OSE POD Location Map



9/18/2023, 2:06:29 PM

GIS WATERS PODs

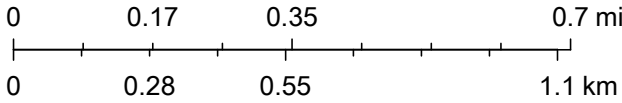
- Active
- Pending

OSE District Boundary

New Mexico State Trust Lands

- Both Estates
- SiteBoundaries

1:18,056



U.S. Department of Energy Office of Legacy Management, Maxar, Esri Community Maps Contributors, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)										(R=POD has been replaced and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE) C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)										
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q 64	q 16	q 4	Sec	Tws	Rng	X	Y	Distance	
C 04638	CUB	MON		0 SOUDER, MILLER & ASSOCIATES	ED	C 04638 POD5	NA				4	1	2	30	24S	30E	602015	3562443		137
					ED	C 04638 POD4					2	1	2	30	24S	30E	602013	3562451		141
					ED	C 04638 POD1					2	1	2	30	24S	30E	602016	3562450		143
					ED	C 04638 POD3					2	1	2	30	24S	30E	602020	3562456		149
C 02109	CUB	STK		3 TYSON MAHAFFEY	ED	C 02109					1	2	4	19	24S	30E	602130	3563412		1086
C 03616	C	PRO		0 CONCHO OIL & GAS	ED	C 02109					1	2	4	19	24S	30E	602130	3563412		1086

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 601918 Northing (Y): 3562347 Radius: 1610

Sorted by: Distance

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02109	CUB	ED		1	2	4	19	24S	30E	602130	3563412	1086	130	150	-20
C 04676 POD1	CUB	ED		1	2	2	19	24S	30E	602298	3564202	1894	120		
C 03960 POD1	C	ED		1	3	2	21	24S	30E	605062	3563712	3427	475	250	225
C 03893 POD1	CUB	ED		1	1	2	21	24S	30E	605162	3564162	3718	600		
C 04474 POD1	CUB	ED		1	1	1	34	24S	30E	605830	3561045	4122			
C 02108	CUB	ED			1	3	08	24S	30E	602702	3566487*	4213	200	186	14
C 04604 POD1	CUB	ED		1	1	3	01	25S	29E	599401	3558388	4690	102		
C 04608 POD1	CUB	ED		1	1	2	12	25S	29E	600080	3557719	4979	55		

Average Depth to Water: **195 feet**

Minimum Depth: **150 feet**

Maximum Depth: **250 feet**

Record Count: 8

UTMNA83 Radius Search (in meters):

Easting (X): 601918

Northing (Y): 3562347

Radius: 5000

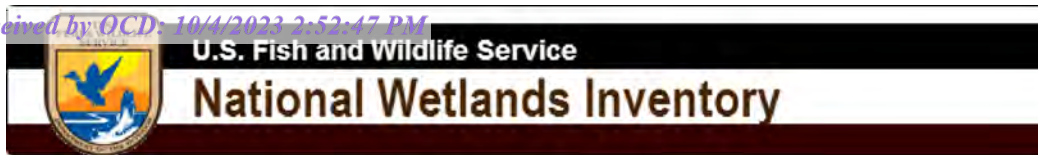
*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

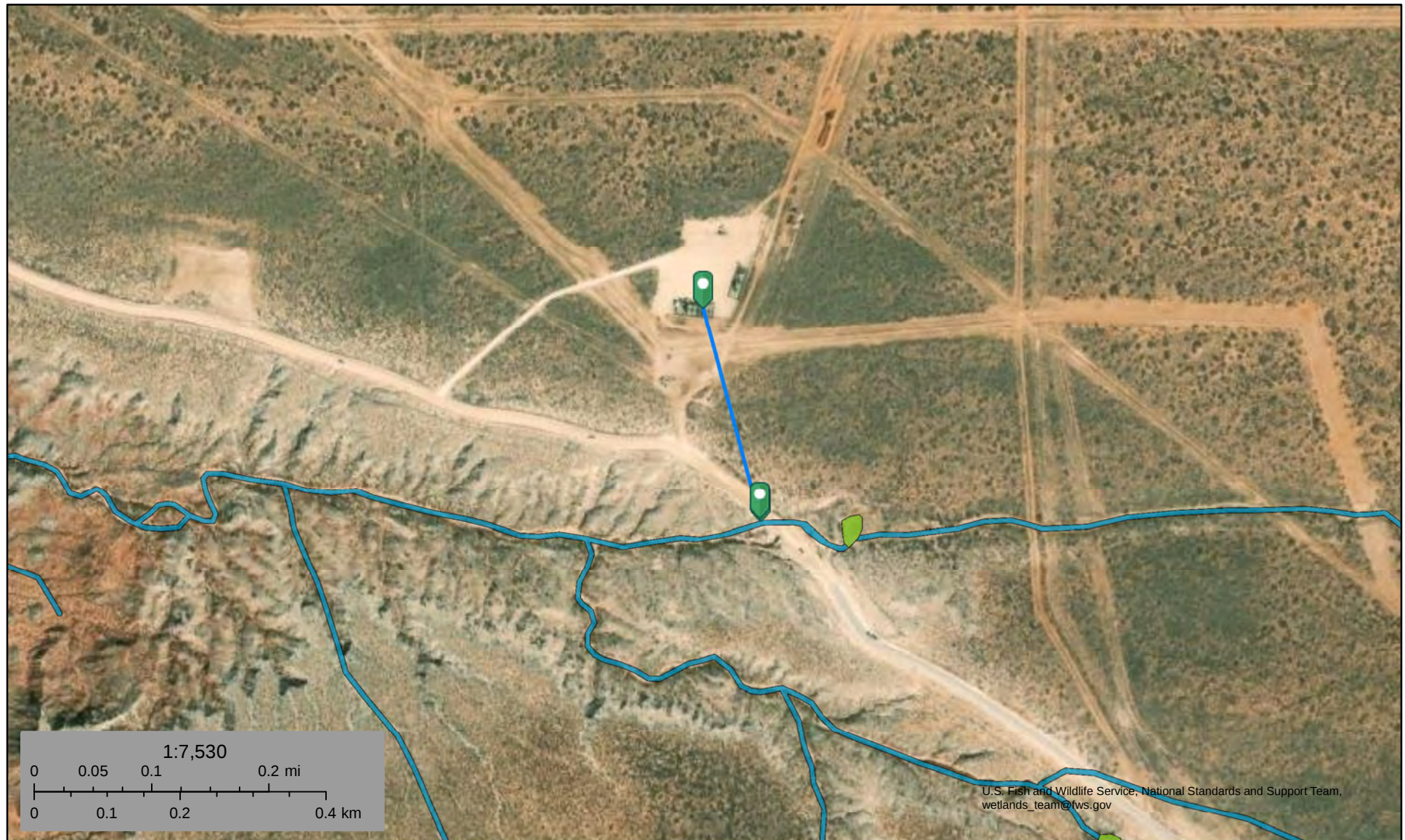
8/3/23 8:41 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



PLU 442/443 Continuously Flowing Water



September 18, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

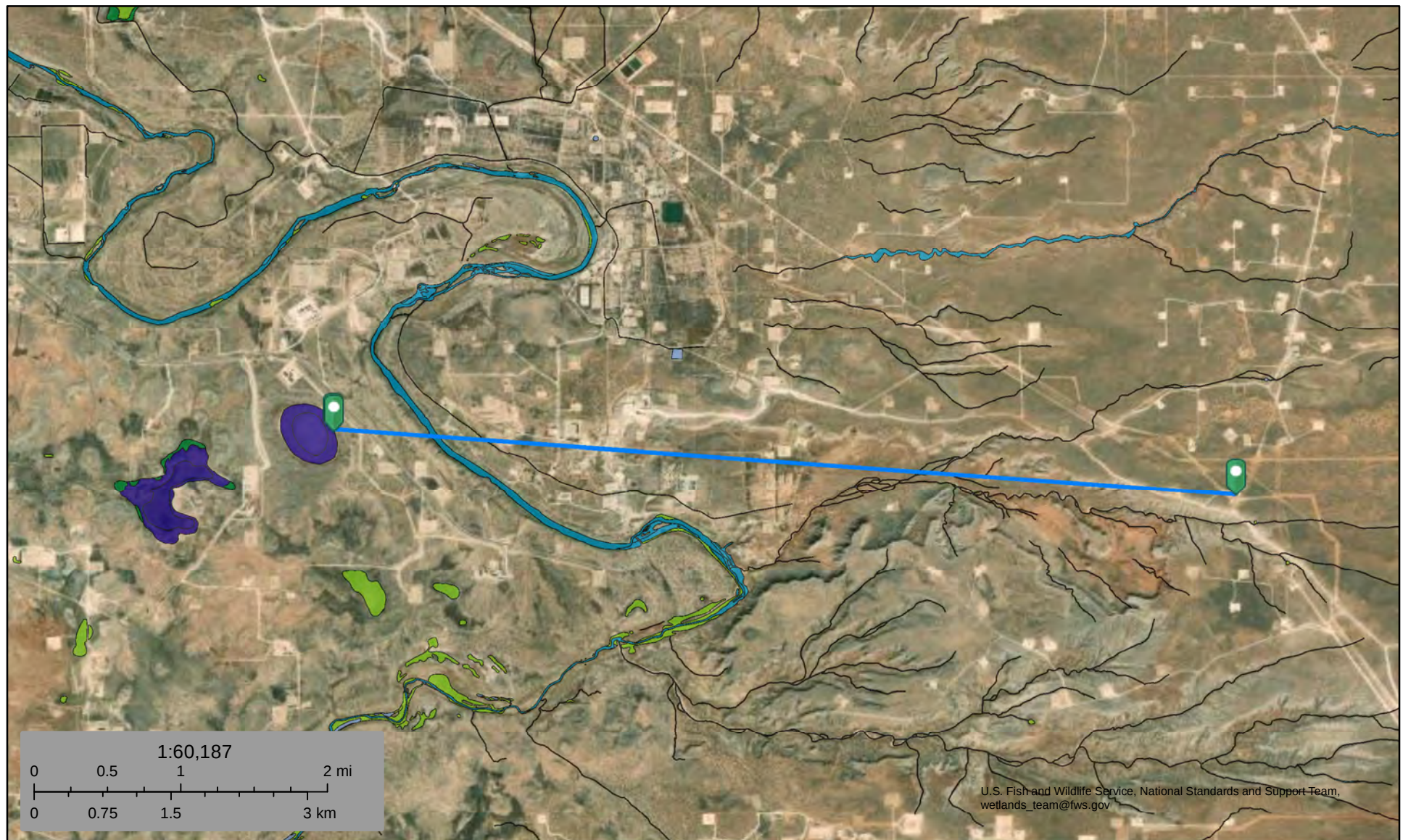
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Poker Lake Unit 442/443 Battery Lake



August 3, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

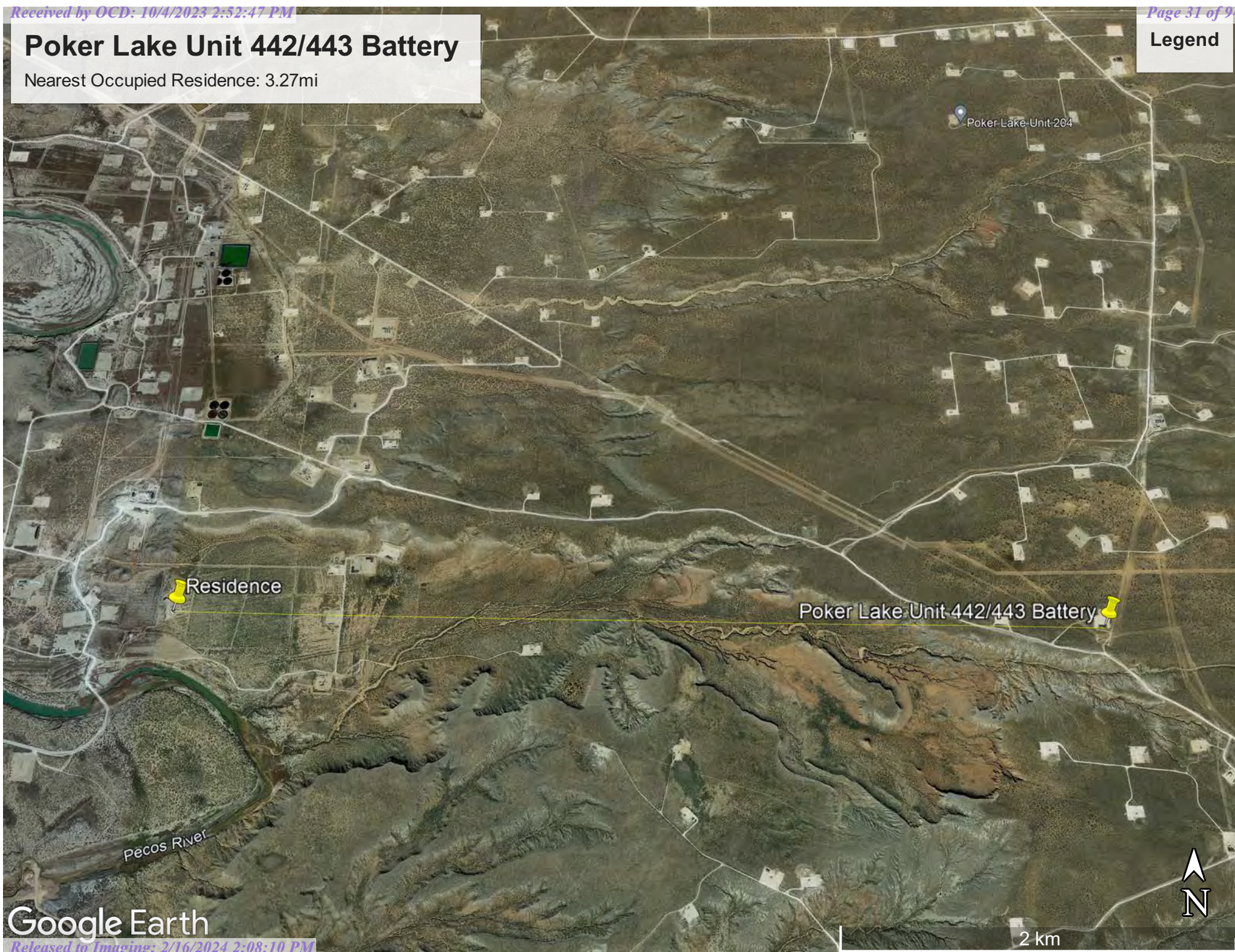
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Poker Lake Unit 442/443 Battery

Nearest Occupied Residence: 3.27mi

Legend



Google Earth

2 km



Poker Lake Unit 442/443 Battery Wetland



August 3, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

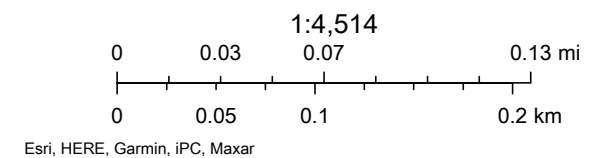
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Poker Lake Unit 442/443 Battery



8/3/2023, 11:24:41 AM



National Flood Hazard Layer FIRMette



103°55'26"W 32°11'50"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

103°54'49"W 32°11'20"N

Released to Imaging: 2/16/2024 2:08:10 PM

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

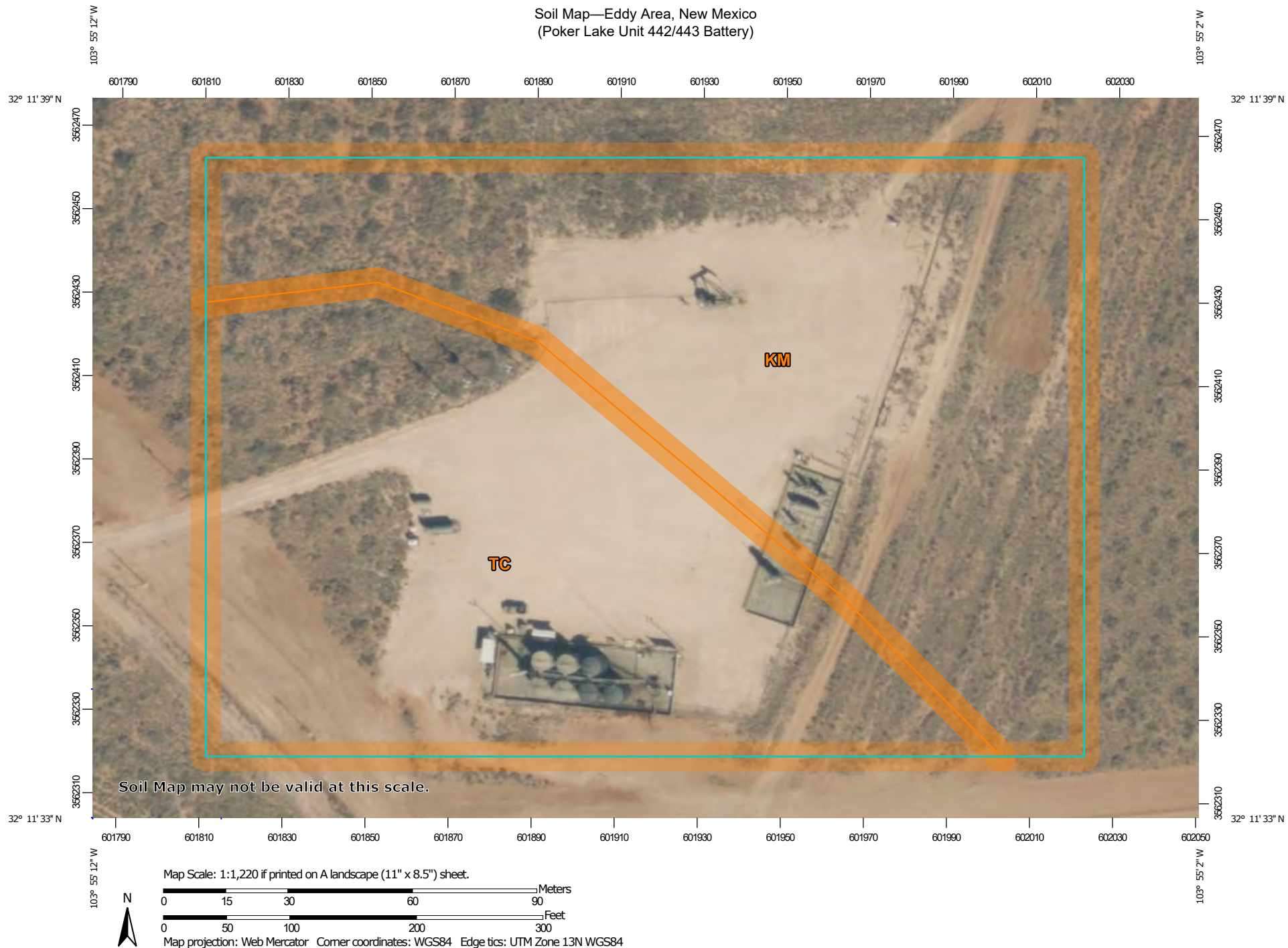


This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/3/2023 at 1:27 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Eddy Area, New Mexico
(Poker Lake Unit 442/443 Battery)



Soil Map—Eddy Area, New Mexico
(Poker Lake Unit 442/443 Battery)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 18, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	3.9	52.3%
TC	Tonuco loamy sand, 0 to 3 percent slopes, eroded	3.6	47.7%
Totals for Area of Interest		7.5	100.0%



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

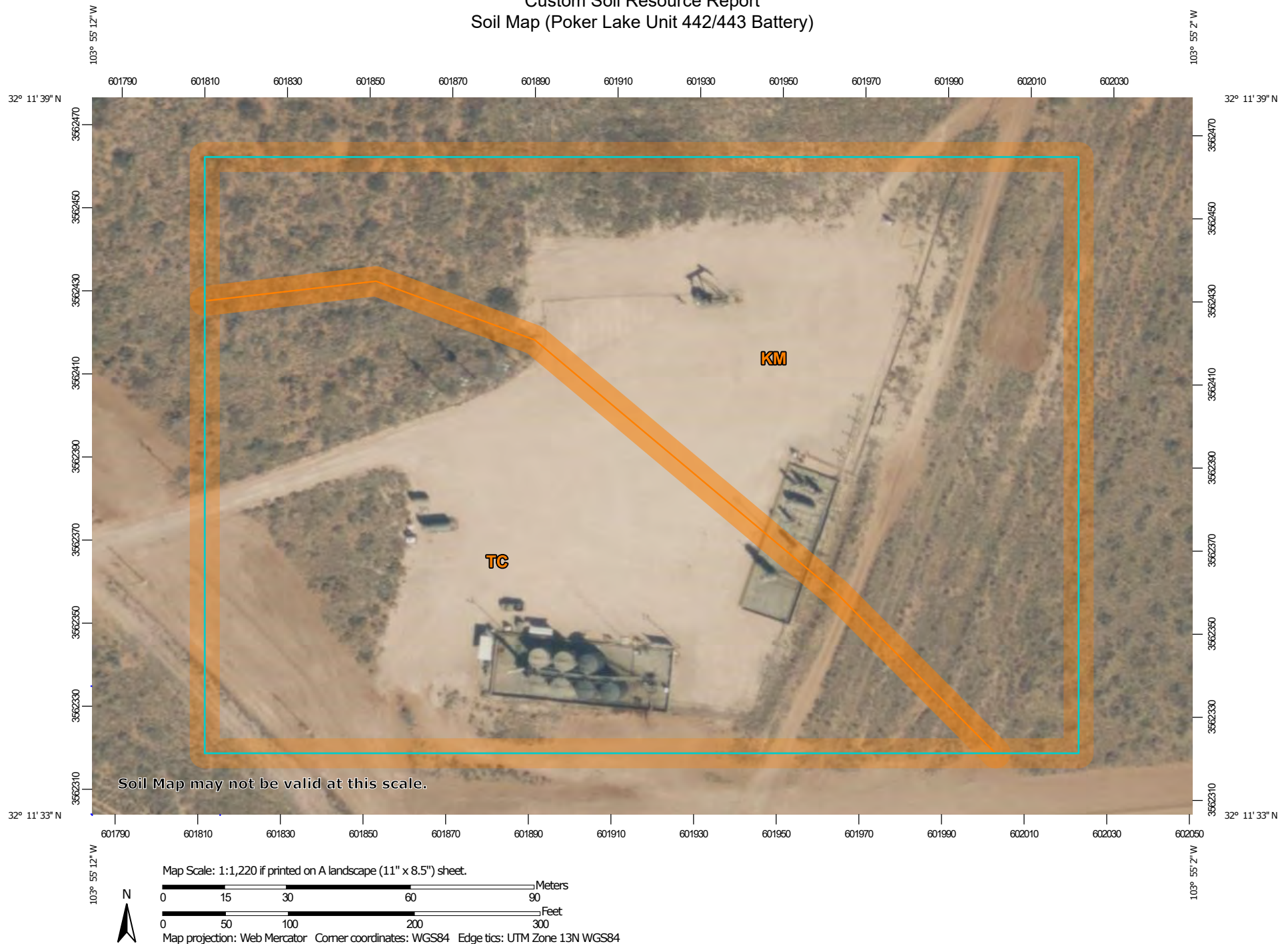
A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Eddy Area, New Mexico



August 3, 2023

Custom Soil Resource Report
Soil Map (Poker Lake Unit 442/443 Battery)



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Custom Soil Resource Report

Eddy Area, New Mexico**KM—Kermit-Berino fine sands, 0 to 3 percent slopes****Map Unit Setting**

National map unit symbol: 1w4q
Elevation: 3,100 to 4,200 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Kermit and similar soils: 50 percent
Berino and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kermit**Setting**

Landform: Plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 7 inches: fine sand
H2 - 7 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R070BD005NM - Deep Sand
Hydric soil rating: No

Description of Berino**Setting**

Landform: Plains, fan piedmonts
Landform position (three-dimensional): Riser

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 17 inches: fine sand
H2 - 17 to 50 inches: fine sandy loam
H3 - 50 to 58 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R070BD003NM - Loamy Sand
Hydric soil rating: No

Minor Components**Active dune land**

Percent of map unit: 15 percent
Hydric soil rating: No

TC—Tonuco loamy sand, 0 to 3 percent slopes, eroded**Map Unit Setting**

National map unit symbol: 1w60
Elevation: 3,000 to 4,100 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 217 days
Farmland classification: Not prime farmland

Map Unit Composition

Tonuco and similar soils: 98 percent
Minor components: 2 percent

Custom Soil Resource Report

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tonuco**Setting**

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 5 inches: loamy sand
H2 - 5 to 15 inches: loamy fine sand
H3 - 15 to 19 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 6 to 20 inches to petrocalcic
Drainage class: Excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Minor Components**Tonuco**

Percent of map unit: 1 percent
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

Dune land

Percent of map unit: 1 percent
Hydric soil rating: No

References

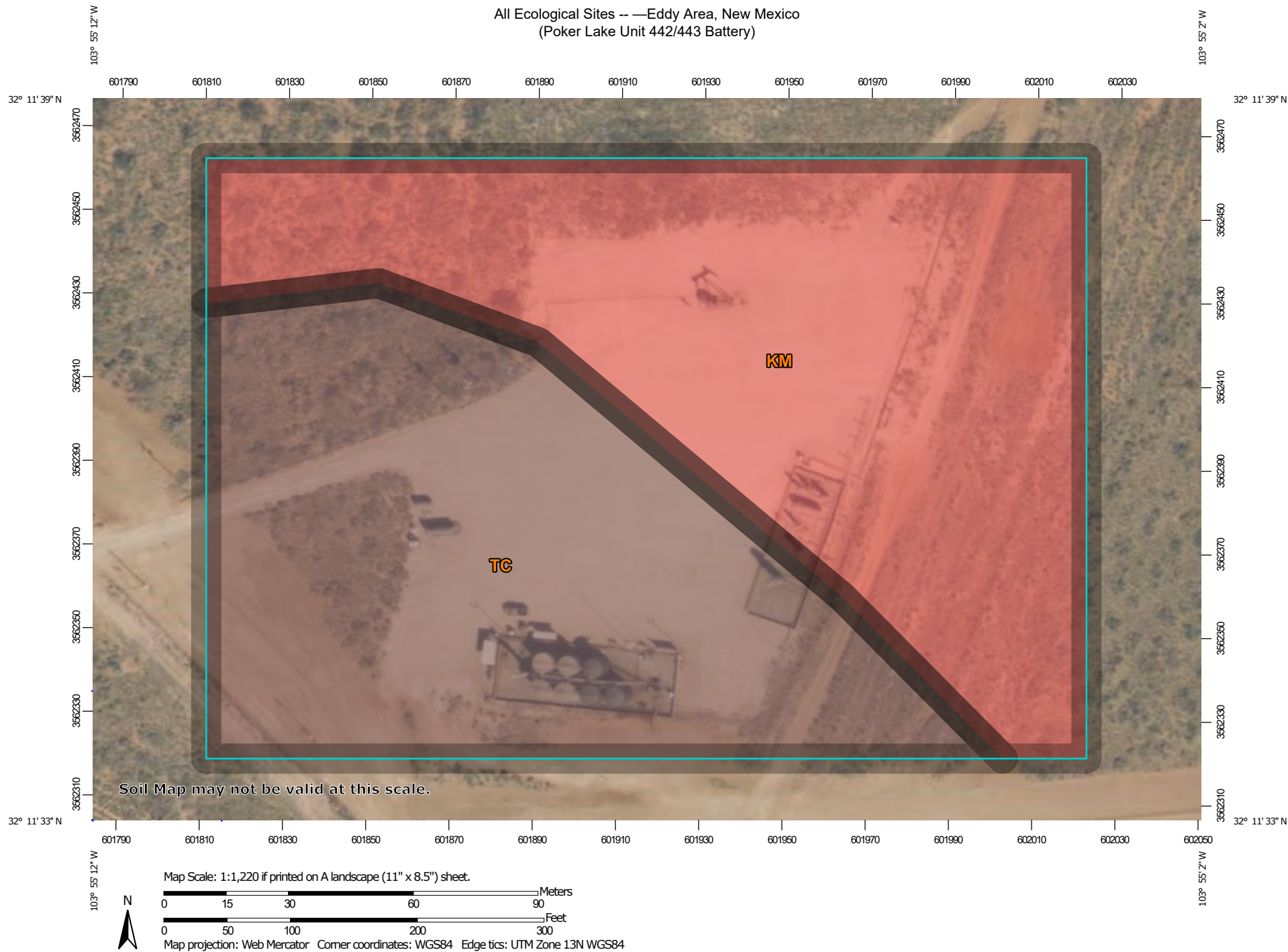
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- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
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- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
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- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/3/2023
Page 1 of 3

All Ecological Sites -- Eddy Area, New Mexico
(Poker Lake Unit 442/443 Battery)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 R070BD004NM
 R070BD005NM
 Not rated or not available

Soil Rating Lines

 R070BD004NM
 R070BD005NM
 Not rated or not available

Soil Rating Points

 R070BD004NM
 R070BD005NM
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
 Survey Area Data: Version 18, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

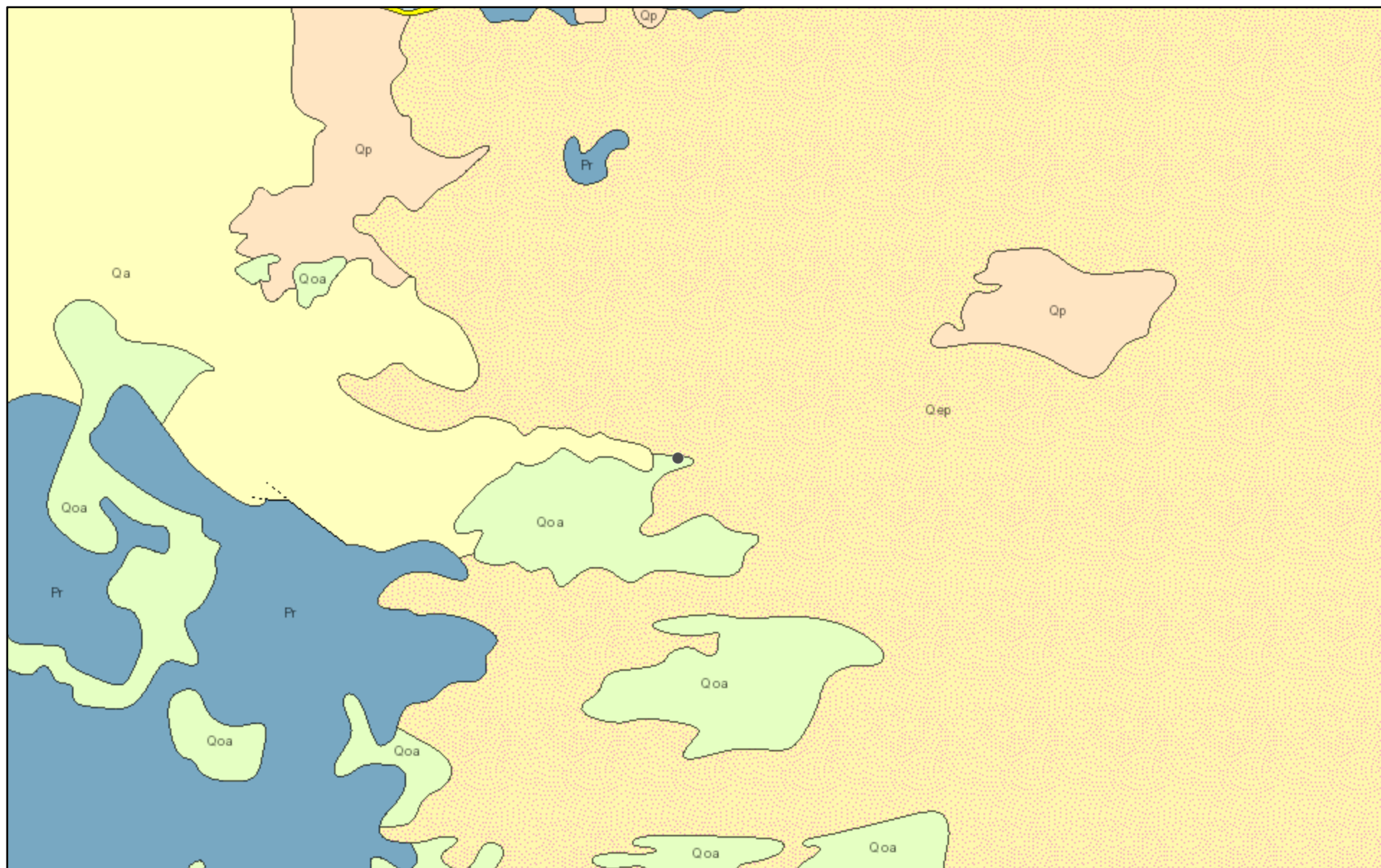
Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

All Ecological Sites —

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
KM	Kermit-Berino fine sands, 0 to 3 percent slopes	Kermit (50%)	R070BD005NM — Deep Sand	3.9	52.3%
		Berino (35%)	R070BD003NM — Loamy Sand		
		Active dune land (15%)			
TC	Tonuco loamy sand, 0 to 3 percent slopes, eroded	Tonuco (98%)	R070BD004NM — Sandy	3.6	47.7%
		Dune land (1%)			
		Tonuco (1%)	R070BD004NM — Sandy		
Totals for Area of Interest				7.5	100.0%

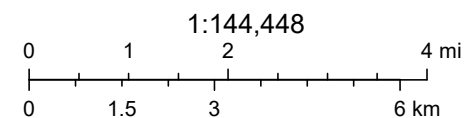
Poker Lake Unit 442/443 Battery Geology



8/3/2023, 12:13:57 PM

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perennial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)



Esri, NASA, NGA, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names

ArcGIS Web AppBuilder

APPENDIX C – Daily Field Report



Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	8/11/2023
Site Location Name:	PLU 442 443 Battery	Report Run Date:	8/11/2023 11:37 PM
Client Contact Name:	Garrett Green	API #:	
Client Contact Phone #:	575-200-0729		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/11/2023 8:30 AM
Departed Site	8/11/2023 4:00 PM

Field Notes

- 8:58** Completed JSAs and site walkthrough. Running magnetic locator on planned borehole sites
- 10:30** Clarified sampling restrictions with XTO, moved BH23-02 closer to containment
- 14:12** Checking other points as I go with the magnetic locator
- 14:12** Found something funky with the locator at BH23-04. Moving point to the west away from equipment
- 11:19** Triple-checked one call before augering inside containment

Next Steps & Recommendations

Daily Site Visit Report



Site Photos

Viewing Direction: South



Placard

Viewing Direction: North



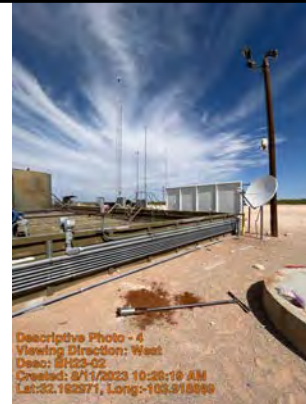
Found the hole reported by XTO. Paint can for scale

Viewing Direction: South



BH23-01

Viewing Direction: Northwest



BH23-02



Daily Site Visit Report

Viewing Direction: North  Descriptive Photo - 3 Viewing Direction: North Date: 8/11/23 Created: 8/11/2023 3:25:27 PM Lat: 32.18205, Long: -103.919224 BH23-03	Viewing Direction: East  Descriptive Photo - 6 Viewing Direction: East Date: 8/11/23 Created: 8/11/2023 11:13:26 AM Lat: 32.18205, Long: -103.919224 BH23-04
Viewing Direction: West  Descriptive Photo - 7 Viewing Direction: West Date: 8/11/23 Created: 8/11/2023 11:38:42 AM Lat: 32.18205, Long: -103.919224 BH23-05	Viewing Direction: North  Descriptive Photo - 8 Viewing Direction: North Date: 8/11/2023 Created: 8/11/2023 2:24:18 PM Lat: 32.18205, Long: -103.919224 Temporary repair of the liner hole at BH23-05

Daily Site Visit Report

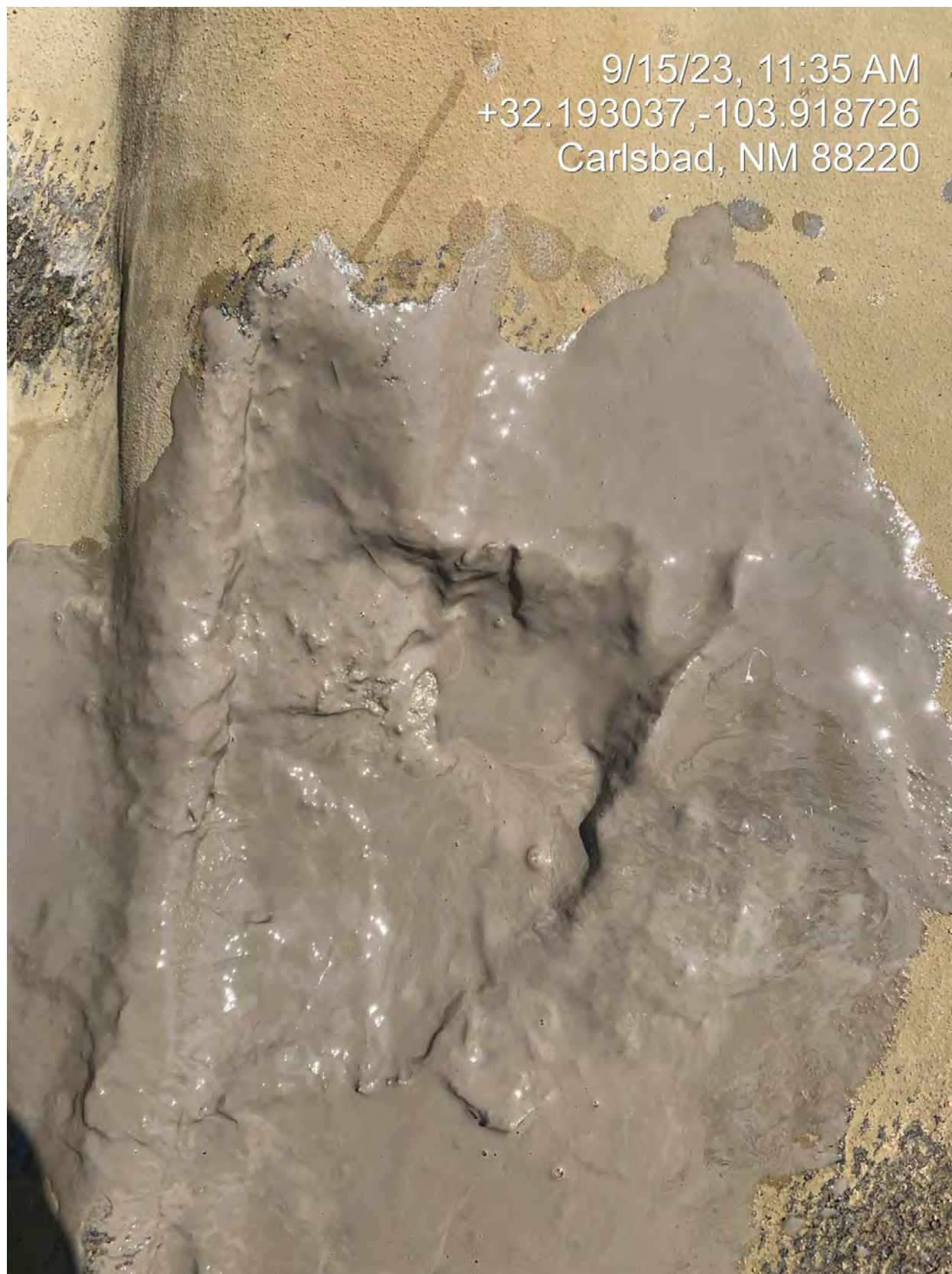


Daily Site Visit Signature

Inspector: Sally Carttar

Signature:


Signature



APPENDIX D – Notification for Liner Inspection

Collins, Melanie

From: Collins, Melanie
Sent: Monday, July 10, 2023 9:55 AM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov)
Cc: Green, Garrett J; Goodgame, Gary Glen; DelawareSpills /SM
Subject: 48-hour liner inspection notice PLU 442/ Battery 7/12/23

All,

This is sent as a 48-hour notification. XTO plans to inspect the lined containment at the PLU 442/443 Battery on Wednesday, July 12, 2023 at 11 a.m. MDT near the coordinates listed below. A 24-hour notice was sent on 07/07/23 for the 7/06/23 release. Please reach out with questions and concerns.

GPS 32.19297, -103.91889

Thank you,

Melanie Collins



Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Chance Dixon
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 8/25/2023 12:04:22 PM

JOB DESCRIPTION

PLU 442/443 CTB
SDG NUMBER 23E-04617

JOB NUMBER

890-5106-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
8/25/2023 12:04:22 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Vertex
Project/Site: PLU 442/443 CTB

Laboratory Job ID: 890-5106-1
SDG: 23E-04617

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Definitions/Glossary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
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
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: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Job ID: 890-5106-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5106-1

Receipt

The samples were received on 8/16/2023 9:53 AM. 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 1.4°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-01 (890-5106-1), BH23-01 (890-5106-2), BH23-02 (890-5106-3), BH23-02 (890-5106-4), BH23-03 (890-5106-5), BH23-03 (890-5106-6), BH23-04 (890-5106-7), BH23-04 (890-5106-8), BH23-05 (890-5106-9), BH23-05 (890-5106-10) and BH23-05 (890-5106-11).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-01 (890-5106-1) and BH23-05 (890-5106-11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-01 (890-5106-2), BH23-03 (890-5106-5), BH23-04 (890-5106-7), BH23-04 (890-5106-8), BH23-05 (890-5106-9) and BH23-05 (890-5106-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-60871 and analytical batch 880-60869 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-60869 recovered above the upper control limit for Toluene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-60869/2).

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-60938 and analytical batch 880-60869 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-60869 recovered above the upper control limit for m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-60869/51).

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-01 (890-5106-2) and (MB 880-60931/1-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-03 (890-5106-5), BH23-03 (890-5106-6) and BH23-04 (890-5106-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60954/20) and (CCV 880-60954/31). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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

Case Narrative

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Job ID: 890-5106-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-01

Lab Sample ID: 890-5106-1

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/23/23 23:06	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/23/23 23:06	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/23/23 23:06	1
m-Xylene & p-Xylene	<0.00398	U **	0.00398	mg/Kg		08/23/23 17:45	08/23/23 23:06	1
o-Xylene	<0.00199	U **	0.00199	mg/Kg		08/23/23 17:45	08/23/23 23:06	1
Xylenes, Total	<0.00398	U **	0.00398	mg/Kg		08/23/23 17:45	08/23/23 23:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/23/23 17:45	08/23/23 23:06	1
1,4-Difluorobenzene (Surr)	64	S1-	70 - 130	08/23/23 17:45	08/23/23 23:06	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			08/24/23 16:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		08/23/23 16:34	08/24/23 10:42	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		08/23/23 16:34	08/24/23 10:42	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		08/23/23 16:34	08/24/23 10:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130	08/23/23 16:34	08/24/23 10:42	1
o-Terphenyl	101		70 - 130	08/23/23 16:34	08/24/23 10:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.2		5.02	mg/Kg			08/19/23 02:58	1

Client Sample ID: BH23-01

Lab Sample ID: 890-5106-2

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/23/23 23:26	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/23/23 23:26	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/23/23 23:26	1
m-Xylene & p-Xylene	<0.00403	U **	0.00403	mg/Kg		08/23/23 17:45	08/23/23 23:26	1
o-Xylene	<0.00202	U **	0.00202	mg/Kg		08/23/23 17:45	08/23/23 23:26	1
Xylenes, Total	<0.00403	U **	0.00403	mg/Kg		08/23/23 17:45	08/23/23 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	08/23/23 17:45	08/23/23 23:26	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-01

Lab Sample ID: 890-5106-2

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	61	S1-	70 - 130	08/23/23 17:45	08/23/23 23:26	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg	-		08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg	-		08/24/23 16:47	1

Method: SW846 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	-	08/23/23 16:34	08/24/23 11:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg	-	08/23/23 16:34	08/24/23 11:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg	-	08/23/23 16:34	08/24/23 11:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	132	S1+	70 - 130			08/23/23 16:34	08/24/23 11:47	1
o-Terphenyl	110		70 - 130			08/23/23 16:34	08/24/23 11:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.7		5.05	mg/Kg	-		08/19/23 03:05	1

Client Sample ID: BH23-02

Lab Sample ID: 890-5106-3

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1
Toluene	<0.00201	U	0.00201	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1
m-Xylene & p-Xylene	<0.00402	U **	0.00402	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1
o-Xylene	<0.00201	U **	0.00201	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1
Xylenes, Total	<0.00402	U **	0.00402	mg/Kg	-	08/23/23 17:45	08/23/23 23:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	08/23/23 17:45	08/23/23 23:47	1
1,4-Difluorobenzene (Surr)	74		70 - 130	08/23/23 17:45	08/23/23 23:47	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg	-		08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg	-		08/24/23 16:47	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-02

Lab Sample ID: 890-5106-3

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		08/23/23 16:34	08/24/23 14:20	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		08/23/23 16:34	08/24/23 14:20	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		08/23/23 16:34	08/24/23 14:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			08/23/23 16:34	08/24/23 14:20	1
o-Terphenyl	104		70 - 130			08/23/23 16:34	08/24/23 14:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49.8		4.99	mg/Kg			08/19/23 03:25	1

Client Sample ID: BH23-02

Lab Sample ID: 890-5106-4

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
m-Xylene & p-Xylene	<0.00401	U **	0.00401	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
o-Xylene	<0.00200	U **	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
Xylenes, Total	<0.00401	U **	0.00401	mg/Kg		08/23/23 17:45	08/24/23 00:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130			08/23/23 17:45	08/24/23 00:07	1
1,4-Difluorobenzene (Surr)	70		70 - 130			08/23/23 17:45	08/24/23 00:07	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			08/24/23 16:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		08/23/23 16:34	08/24/23 14:41	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		08/23/23 16:34	08/24/23 14:41	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		08/23/23 16:34	08/24/23 14:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130			08/23/23 16:34	08/24/23 14:41	1
o-Terphenyl	97		70 - 130			08/23/23 16:34	08/24/23 14:41	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-02

Lab Sample ID: 890-5106-4

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	61.9		4.97	mg/Kg			08/19/23 03:31	1

Client Sample ID: BH23-03

Lab Sample ID: 890-5106-5

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
m-Xylene & p-Xylene	<0.00399	U **	0.00399	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
o-Xylene	<0.00200	U **	0.00200	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
Xylenes, Total	<0.00399	U **	0.00399	mg/Kg		08/23/23 17:45	08/24/23 00:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130			08/23/23 17:45	08/24/23 00:27	1
1,4-Difluorobenzene (Surr)	57	S1-	70 - 130			08/23/23 17:45	08/24/23 00:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 15:47	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 15:47	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 15:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	134	S1+	70 - 130			08/23/23 16:34	08/24/23 15:47	1
o-Terphenyl	107		70 - 130			08/23/23 16:34	08/24/23 15:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.2		4.97	mg/Kg			08/19/23 03:51	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-03

Lab Sample ID: 890-5106-6

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		08/23/23 17:45	08/24/23 00:48	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/23/23 17:45	08/24/23 00:48	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/23/23 17:45	08/24/23 00:48	1
m-Xylene & p-Xylene	<0.00397	U **	0.00397	mg/Kg		08/23/23 17:45	08/24/23 00:48	1
o-Xylene	<0.00198	U **	0.00198	mg/Kg		08/23/23 17:45	08/24/23 00:48	1
Xylenes, Total	<0.00397	U **	0.00397	mg/Kg		08/23/23 17:45	08/24/23 00:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	08/23/23 17:45	08/24/23 00:48	1
1,4-Difluorobenzene (Surr)	79		70 - 130	08/23/23 17:45	08/24/23 00:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 16:09	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 16:09	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	131	S1+	70 - 130	08/23/23 16:34	08/24/23 16:09	1
o-Terphenyl	104		70 - 130	08/23/23 16:34	08/24/23 16:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.7		5.04	mg/Kg			08/19/23 03:58	1

Client Sample ID: BH23-04

Lab Sample ID: 890-5106-7

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/24/23 01:08	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/24/23 01:08	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/23/23 17:45	08/24/23 01:08	1
m-Xylene & p-Xylene	<0.00398	U **	0.00398	mg/Kg		08/23/23 17:45	08/24/23 01:08	1
o-Xylene	<0.00199	U **	0.00199	mg/Kg		08/23/23 17:45	08/24/23 01:08	1
Xylenes, Total	<0.00398	U **	0.00398	mg/Kg		08/23/23 17:45	08/24/23 01:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	08/23/23 17:45	08/24/23 01:08	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-04

Lab Sample ID: 890-5106-7

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	58	S1-	70 - 130	08/23/23 17:45	08/24/23 01:08	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:31	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:31	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130			08/23/23 16:34	08/24/23 16:31	1
o-Terphenyl	99		70 - 130			08/23/23 16:34	08/24/23 16:31	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.1		5.00	mg/Kg			08/19/23 04:05	1

Client Sample ID: BH23-04

Lab Sample ID: 890-5106-8

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
o-Xylene	<0.00201	U *+	0.00201	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
Xylenes, Total	<0.00402	U *+	0.00402	mg/Kg		08/23/23 17:45	08/24/23 01:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130			08/23/23 17:45	08/24/23 01:29	1
1,4-Difluorobenzene (Surr)	81		70 - 130			08/23/23 17:45	08/24/23 01:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			08/25/23 11:47	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-04

Lab Sample ID: 890-5106-8

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:53	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:53	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		08/23/23 16:34	08/24/23 16:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	131	S1+	70 - 130			08/23/23 16:34	08/24/23 16:53	1
o-Terphenyl	107		70 - 130			08/23/23 16:34	08/24/23 16:53	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.1		5.00	mg/Kg			08/19/23 04:11	1

Client Sample ID: BH23-05

Lab Sample ID: 890-5106-9

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
m-Xylene & p-Xylene	<0.00404	U **	0.00404	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
o-Xylene	<0.00202	U **	0.00202	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
Xylenes, Total	<0.00404	U **	0.00404	mg/Kg		08/23/23 17:45	08/24/23 01:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130			08/23/23 17:45	08/24/23 01:49	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130			08/23/23 17:45	08/24/23 01:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5	mg/Kg		08/23/23 16:34	08/24/23 17:14	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5	mg/Kg		08/23/23 16:34	08/24/23 17:14	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		08/23/23 16:34	08/24/23 17:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			08/23/23 16:34	08/24/23 17:14	1
o-Terphenyl	105		70 - 130			08/23/23 16:34	08/24/23 17:14	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-05

Lab Sample ID: 890-5106-9

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	588		4.99	mg/Kg			08/19/23 04:18	1

Client Sample ID: BH23-05

Lab Sample ID: 890-5106-10

Date Collected: 08/11/23 00:00

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
m-Xylene & p-Xylene	<0.00399	U **	0.00399	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
o-Xylene	<0.00200	U **	0.00200	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
Xylenes, Total	<0.00399	U **	0.00399	mg/Kg		08/23/23 17:45	08/24/23 02:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			08/23/23 17:45	08/24/23 02:10	1
1,4-Difluorobenzene (Surr)	56	S1-	70 - 130			08/23/23 17:45	08/24/23 02:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		08/23/23 16:34	08/24/23 17:36	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		08/23/23 16:34	08/24/23 17:36	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		08/23/23 16:34	08/24/23 17:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	125		70 - 130			08/23/23 16:34	08/24/23 17:36	1
o-Terphenyl	100		70 - 130			08/23/23 16:34	08/24/23 17:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.0		5.01	mg/Kg			08/19/23 04:24	1

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Client Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-05

Lab Sample ID: 890-5106-11

Date Collected: 08/11/23 11:40

Matrix: Solid

Date Received: 08/16/23 09:53

Sample Depth: 2

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 20:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 20:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 20:02	1
m-Xylene & p-Xylene	<0.00401	U *	0.00401	mg/Kg		08/23/23 08:45	08/23/23 20:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 20:02	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		08/23/23 08:45	08/23/23 20:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	08/23/23 08:45	08/23/23 20:02	1
1,4-Difluorobenzene (Surr)	65	S1-	70 - 130	08/23/23 08:45	08/23/23 20:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			08/24/23 10:35	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			08/25/23 11:47	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 17:58	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 17:58	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		08/23/23 16:34	08/24/23 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	08/23/23 16:34	08/24/23 17:58	1
o-Terphenyl	102		70 - 130	08/23/23 16:34	08/24/23 17:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83.4		5.00	mg/Kg			08/19/23 04:31	1

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Surrogate Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

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)
890-5106-1	BH23-01	101	64 S1-
890-5106-1 MS	BH23-01	127	109
890-5106-1 MSD	BH23-01	127	110
890-5106-2	BH23-01	106	61 S1-
890-5106-3	BH23-02	98	74
890-5106-4	BH23-02	88	70
890-5106-5	BH23-03	103	57 S1-
890-5106-6	BH23-03	100	79
890-5106-7	BH23-04	106	58 S1-
890-5106-8	BH23-04	134 S1+	81
890-5106-9	BH23-05	94	67 S1-
890-5106-10	BH23-05	106	56 S1-
890-5106-11	BH23-05	101	65 S1-
LCS 880-60871/1-A	Lab Control Sample	119	110
LCS 880-60938/1-A	Lab Control Sample	121	109
LCSD 880-60871/2-A	Lab Control Sample Dup	118	114
LCSD 880-60938/2-A	Lab Control Sample Dup	122	106
MB 880-60871/5-A	Method Blank	73	96
MB 880-60938/5-A	Method Blank	73	80
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)
890-5106-1	BH23-01	125	101
890-5106-1 MS	BH23-01	119	92
890-5106-1 MSD	BH23-01	123	94
890-5106-2	BH23-01	132 S1+	110
890-5106-3	BH23-02	127	104
890-5106-4	BH23-02	121	97
890-5106-5	BH23-03	134 S1+	107
890-5106-6	BH23-03	131 S1+	104
890-5106-7	BH23-04	119	99
890-5106-8	BH23-04	131 S1+	107
890-5106-9	BH23-05	127	105
890-5106-10	BH23-05	125	100
890-5106-11	BH23-05	124	102
LCS 880-60931/2-A	Lab Control Sample	110	108
LCSD 880-60931/3-A	Lab Control Sample Dup	119	100
MB 880-60931/1-A	Method Blank	181 S1+	153 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-60871/5-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 60871

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 12:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 12:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 12:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/23/23 08:45	08/23/23 12:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/23/23 08:45	08/23/23 12:07	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/23/23 08:45	08/23/23 12:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	08/23/23 08:45	08/23/23 12:07	1
1,4-Difluorobenzene (Surr)	96		70 - 130	08/23/23 08:45	08/23/23 12:07	1

Lab Sample ID: LCS 880-60871/1-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 60871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1017		mg/Kg		102	70 - 130
Toluene	0.100	0.1196		mg/Kg		120	70 - 130
Ethylbenzene	0.100	0.1179		mg/Kg		118	70 - 130
m-Xylene & p-Xylene	0.200	0.2633	*+	mg/Kg		132	70 - 130
o-Xylene	0.100	0.1279		mg/Kg		128	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-60871/2-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 60871

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09507		mg/Kg		95	70 - 130	7	35
Toluene	0.100	0.1040		mg/Kg		104	70 - 130	14	35
Ethylbenzene	0.100	0.09942		mg/Kg		99	70 - 130	17	35
m-Xylene & p-Xylene	0.200	0.2191		mg/Kg		110	70 - 130	18	35
o-Xylene	0.100	0.1079		mg/Kg		108	70 - 130	17	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: MB 880-60938/5-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 60938

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/23/23 22:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/23/23 22:44	1

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QC Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

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

Lab Sample ID: MB 880-60938/5-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 60938

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/23/23 22:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/23/23 17:45	08/23/23 22:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/23/23 17:45	08/23/23 22:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/23/23 17:45	08/23/23 22:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	08/23/23 17:45	08/23/23 22:44	1
1,4-Difluorobenzene (Surr)	80		70 - 130	08/23/23 17:45	08/23/23 22:44	1

Lab Sample ID: LCS 880-60938/1-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 60938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1023		mg/Kg		102	70 - 130
Toluene	0.100	0.1241		mg/Kg		124	70 - 130
Ethylbenzene	0.100	0.1257		mg/Kg		126	70 - 130
m-Xylene & p-Xylene	0.200	0.2796	*+	mg/Kg		140	70 - 130
o-Xylene	0.100	0.1363	*+	mg/Kg		136	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	121		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-60938/2-A

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 60938

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08296		mg/Kg		83	70 - 130	21	35
Toluene	0.100	0.09693		mg/Kg		97	70 - 130	25	35
Ethylbenzene	0.100	0.09971		mg/Kg		100	70 - 130	23	35
m-Xylene & p-Xylene	0.200	0.2231		mg/Kg		112	70 - 130	23	35
o-Xylene	0.100	0.1102		mg/Kg		110	70 - 130	21	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 890-5106-1 MS

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: BH23-01

Prep Type: Total/NA

Prep Batch: 60938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.08986		mg/Kg		90	70 - 130
Toluene	<0.00199	U	0.0996	0.1062		mg/Kg		107	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.1113		mg/Kg		112	70 - 130
m-Xylene & p-Xylene	<0.00398	U *	0.199	0.2432		mg/Kg		122	70 - 130

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QC Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

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

Lab Sample ID: 890-5106-1 MS

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: BH23-01

Prep Type: Total/NA

Prep Batch: 60938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	<0.00199	U *	0.0996	0.1213		mg/Kg		122	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-5106-1 MSD

Matrix: Solid

Analysis Batch: 60869

Client Sample ID: BH23-01

Prep Type: Total/NA

Prep Batch: 60938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.09515		mg/Kg		94	70 - 130	6	35
Toluene	<0.00199	U	0.101	0.1089		mg/Kg		108	70 - 130	2	35
Ethylbenzene	<0.00199	U	0.101	0.1111		mg/Kg		110	70 - 130	0	35
m-Xylene & p-Xylene	<0.00398	U *	0.202	0.2432		mg/Kg		121	70 - 130	0	35
o-Xylene	<0.00199	U *	0.101	0.1217		mg/Kg		121	70 - 130	0	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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

Lab Sample ID: MB 880-60931/1-A

Matrix: Solid

Analysis Batch: 60954

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 60931

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		08/23/23 16:34	08/24/23 08:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/23/23 16:34	08/24/23 08:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/23/23 16:34	08/24/23 08:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	181	S1+	70 - 130	08/23/23 16:34	08/24/23 08:11	1
o-Terphenyl	153	S1+	70 - 130	08/23/23 16:34	08/24/23 08:11	1

Lab Sample ID: LCS 880-60931/2-A

Matrix: Solid

Analysis Batch: 60954

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 60931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1004		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	853.0		mg/Kg		85	70 - 130

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QC Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

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

Lab Sample ID: LCS 880-60931/2-A
Matrix: Solid
Analysis Batch: 60954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60931

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: LCSD 880-60931/3-A
Matrix: Solid
Analysis Batch: 60954

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60931

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1034		mg/Kg		103	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	912.3		mg/Kg		91	70 - 130	7	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: 890-5106-1 MS
Matrix: Solid
Analysis Batch: 60954

Client Sample ID: BH23-01
Prep Type: Total/NA
Prep Batch: 60931

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	1284		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1060		mg/Kg		105	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: 890-5106-1 MSD
Matrix: Solid
Analysis Batch: 60954

Client Sample ID: BH23-01
Prep Type: Total/NA
Prep Batch: 60931

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	1270		mg/Kg		124	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1104		mg/Kg		110	70 - 130	4	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	94		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60493/1-A

Matrix: Solid

Analysis Batch: 60618

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			08/19/23 01:12	1

Lab Sample ID: LCS 880-60493/2-A

Matrix: Solid

Analysis Batch: 60618

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	258.8		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-60493/3-A

Matrix: Solid

Analysis Batch: 60618

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	260.0		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-5106-2 MS

Matrix: Solid

Analysis Batch: 60618

Client Sample ID: BH23-01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	63.7		253	327.4		mg/Kg		104	90 - 110

Lab Sample ID: 890-5106-2 MSD

Matrix: Solid

Analysis Batch: 60618

Client Sample ID: BH23-01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	63.7		253	328.4		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

GC VOA

Analysis Batch: 60869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	8021B	60938
890-5106-2	BH23-01	Total/NA	Solid	8021B	60938
890-5106-3	BH23-02	Total/NA	Solid	8021B	60938
890-5106-4	BH23-02	Total/NA	Solid	8021B	60938
890-5106-5	BH23-03	Total/NA	Solid	8021B	60938
890-5106-6	BH23-03	Total/NA	Solid	8021B	60938
890-5106-7	BH23-04	Total/NA	Solid	8021B	60938
890-5106-8	BH23-04	Total/NA	Solid	8021B	60938
890-5106-9	BH23-05	Total/NA	Solid	8021B	60938
890-5106-10	BH23-05	Total/NA	Solid	8021B	60938
890-5106-11	BH23-05	Total/NA	Solid	8021B	60871
MB 880-60871/5-A	Method Blank	Total/NA	Solid	8021B	60871
MB 880-60938/5-A	Method Blank	Total/NA	Solid	8021B	60938
LCS 880-60871/1-A	Lab Control Sample	Total/NA	Solid	8021B	60871
LCS 880-60938/1-A	Lab Control Sample	Total/NA	Solid	8021B	60938
LCSD 880-60871/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60871
LCSD 880-60938/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60938
890-5106-1 MS	BH23-01	Total/NA	Solid	8021B	60938
890-5106-1 MSD	BH23-01	Total/NA	Solid	8021B	60938

Prep Batch: 60871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-11	BH23-05	Total/NA	Solid	5035	
MB 880-60871/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60871/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60871/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 60938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	5035	
890-5106-2	BH23-01	Total/NA	Solid	5035	
890-5106-3	BH23-02	Total/NA	Solid	5035	
890-5106-4	BH23-02	Total/NA	Solid	5035	
890-5106-5	BH23-03	Total/NA	Solid	5035	
890-5106-6	BH23-03	Total/NA	Solid	5035	
890-5106-7	BH23-04	Total/NA	Solid	5035	
890-5106-8	BH23-04	Total/NA	Solid	5035	
890-5106-9	BH23-05	Total/NA	Solid	5035	
890-5106-10	BH23-05	Total/NA	Solid	5035	
MB 880-60938/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60938/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60938/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5106-1 MS	BH23-01	Total/NA	Solid	5035	
890-5106-1 MSD	BH23-01	Total/NA	Solid	5035	

Analysis Batch: 60980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	Total BTEX	
890-5106-2	BH23-01	Total/NA	Solid	Total BTEX	
890-5106-3	BH23-02	Total/NA	Solid	Total BTEX	
890-5106-4	BH23-02	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

GC VOA (Continued)

Analysis Batch: 60980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-5	BH23-03	Total/NA	Solid	Total BTEX	
890-5106-6	BH23-03	Total/NA	Solid	Total BTEX	
890-5106-7	BH23-04	Total/NA	Solid	Total BTEX	
890-5106-8	BH23-04	Total/NA	Solid	Total BTEX	
890-5106-9	BH23-05	Total/NA	Solid	Total BTEX	
890-5106-10	BH23-05	Total/NA	Solid	Total BTEX	
890-5106-11	BH23-05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 60931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	8015NM Prep	
890-5106-2	BH23-01	Total/NA	Solid	8015NM Prep	
890-5106-3	BH23-02	Total/NA	Solid	8015NM Prep	
890-5106-4	BH23-02	Total/NA	Solid	8015NM Prep	
890-5106-5	BH23-03	Total/NA	Solid	8015NM Prep	
890-5106-6	BH23-03	Total/NA	Solid	8015NM Prep	
890-5106-7	BH23-04	Total/NA	Solid	8015NM Prep	
890-5106-8	BH23-04	Total/NA	Solid	8015NM Prep	
890-5106-9	BH23-05	Total/NA	Solid	8015NM Prep	
890-5106-10	BH23-05	Total/NA	Solid	8015NM Prep	
890-5106-11	BH23-05	Total/NA	Solid	8015NM Prep	
MB 880-60931/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60931/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-60931/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5106-1 MS	BH23-01	Total/NA	Solid	8015NM Prep	
890-5106-1 MSD	BH23-01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	8015B NM	60931
890-5106-2	BH23-01	Total/NA	Solid	8015B NM	60931
890-5106-3	BH23-02	Total/NA	Solid	8015B NM	60931
890-5106-4	BH23-02	Total/NA	Solid	8015B NM	60931
890-5106-5	BH23-03	Total/NA	Solid	8015B NM	60931
890-5106-6	BH23-03	Total/NA	Solid	8015B NM	60931
890-5106-7	BH23-04	Total/NA	Solid	8015B NM	60931
890-5106-8	BH23-04	Total/NA	Solid	8015B NM	60931
890-5106-9	BH23-05	Total/NA	Solid	8015B NM	60931
890-5106-10	BH23-05	Total/NA	Solid	8015B NM	60931
890-5106-11	BH23-05	Total/NA	Solid	8015B NM	60931
MB 880-60931/1-A	Method Blank	Total/NA	Solid	8015B NM	60931
LCS 880-60931/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60931
LCSD 880-60931/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60931
890-5106-1 MS	BH23-01	Total/NA	Solid	8015B NM	60931
890-5106-1 MSD	BH23-01	Total/NA	Solid	8015B NM	60931

Analysis Batch: 61033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

GC Semi VOA (Continued)

Analysis Batch: 61033 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-2	BH23-01	Total/NA	Solid	8015 NM	
890-5106-3	BH23-02	Total/NA	Solid	8015 NM	
890-5106-4	BH23-02	Total/NA	Solid	8015 NM	
890-5106-5	BH23-03	Total/NA	Solid	8015 NM	
890-5106-6	BH23-03	Total/NA	Solid	8015 NM	
890-5106-7	BH23-04	Total/NA	Solid	8015 NM	
890-5106-8	BH23-04	Total/NA	Solid	8015 NM	
890-5106-9	BH23-05	Total/NA	Solid	8015 NM	
890-5106-10	BH23-05	Total/NA	Solid	8015 NM	
890-5106-11	BH23-05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Soluble	Solid	DI Leach	
890-5106-2	BH23-01	Soluble	Solid	DI Leach	
890-5106-3	BH23-02	Soluble	Solid	DI Leach	
890-5106-4	BH23-02	Soluble	Solid	DI Leach	
890-5106-5	BH23-03	Soluble	Solid	DI Leach	
890-5106-6	BH23-03	Soluble	Solid	DI Leach	
890-5106-7	BH23-04	Soluble	Solid	DI Leach	
890-5106-8	BH23-04	Soluble	Solid	DI Leach	
890-5106-9	BH23-05	Soluble	Solid	DI Leach	
890-5106-10	BH23-05	Soluble	Solid	DI Leach	
890-5106-11	BH23-05	Soluble	Solid	DI Leach	
MB 880-60493/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60493/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60493/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5106-2 MS	BH23-01	Soluble	Solid	DI Leach	
890-5106-2 MSD	BH23-01	Soluble	Solid	DI Leach	

Analysis Batch: 60618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5106-1	BH23-01	Soluble	Solid	300.0	60493
890-5106-2	BH23-01	Soluble	Solid	300.0	60493
890-5106-3	BH23-02	Soluble	Solid	300.0	60493
890-5106-4	BH23-02	Soluble	Solid	300.0	60493
890-5106-5	BH23-03	Soluble	Solid	300.0	60493
890-5106-6	BH23-03	Soluble	Solid	300.0	60493
890-5106-7	BH23-04	Soluble	Solid	300.0	60493
890-5106-8	BH23-04	Soluble	Solid	300.0	60493
890-5106-9	BH23-05	Soluble	Solid	300.0	60493
890-5106-10	BH23-05	Soluble	Solid	300.0	60493
890-5106-11	BH23-05	Soluble	Solid	300.0	60493
MB 880-60493/1-A	Method Blank	Soluble	Solid	300.0	60493
LCS 880-60493/2-A	Lab Control Sample	Soluble	Solid	300.0	60493
LCSD 880-60493/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60493
890-5106-2 MS	BH23-01	Soluble	Solid	300.0	60493
890-5106-2 MSD	BH23-01	Soluble	Solid	300.0	60493

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Lab Chronicle

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-01
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/23/23 23:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/24/23 16:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 10:42	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 02:58	CH	EET MID

Client Sample ID: BH23-01
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/23/23 23:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/24/23 16:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 11:47	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 03:05	CH	EET MID

Client Sample ID: BH23-02
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/23/23 23:47	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/24/23 16:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 14:20	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 03:25	CH	EET MID

Client Sample ID: BH23-02
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 00:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-02
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			61033	08/24/23 16:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 14:41	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 03:31	CH	EET MID

Client Sample ID: BH23-03
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 00:27	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 15:47	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 03:51	CH	EET MID

Client Sample ID: BH23-03
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 00:48	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 16:09	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 03:58	CH	EET MID

Client Sample ID: BH23-04
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 01:08	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 16:31	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-04
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 04:05	CH	EET MID

Client Sample ID: BH23-04
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 01:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 16:53	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 04:11	CH	EET MID

Client Sample ID: BH23-05
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 01:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 17:14	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 04:18	CH	EET MID

Client Sample ID: BH23-05
Date Collected: 08/11/23 00:00
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	60938	08/23/23 17:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/24/23 02:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 17:36	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 04:24	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Client Sample ID: BH23-05
Date Collected: 08/11/23 11:40
Date Received: 08/16/23 09:53

Lab Sample ID: 890-5106-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	60871	08/23/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60869	08/23/23 20:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			60980	08/24/23 10:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			61033	08/25/23 11:47	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60931	08/23/23 16:34	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60954	08/24/23 17:58	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60493	08/17/23 15:13	SMC	EET MID
Soluble	Analysis	300.0		1			60618	08/19/23 04:31	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

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
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:
ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Vertex
Project/Site: PLU 442/443 CTB

Job ID: 890-5106-1
SDG: 23E-04617

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5106-1	BH23-01	Solid	08/11/23 00:00	08/16/23 09:53	0
890-5106-2	BH23-01	Solid	08/11/23 00:00	08/16/23 09:53	2
890-5106-3	BH23-02	Solid	08/11/23 00:00	08/16/23 09:53	0
890-5106-4	BH23-02	Solid	08/11/23 00:00	08/16/23 09:53	2
890-5106-5	BH23-03	Solid	08/11/23 00:00	08/16/23 09:53	0
890-5106-6	BH23-03	Solid	08/11/23 00:00	08/16/23 09:53	2
890-5106-7	BH23-04	Solid	08/11/23 00:00	08/16/23 09:53	0
890-5106-8	BH23-04	Solid	08/11/23 00:00	08/16/23 09:53	2
890-5106-9	BH23-05	Solid	08/11/23 00:00	08/16/23 09:53	0
890-5106-10	BH23-05	Solid	08/11/23 00:00	08/16/23 09:53	2
890-5106-11	BH23-05	Solid	08/11/23 11:40	08/16/23 09:53	0

- 1
- 2
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- 12
- 13
- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3344
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Carrett Green
Company Name:	Vertex	Company Name:	XTO
Address:	on file	Address:	on file
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca

Work Order Comments	
Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: ☐ EDD ☐ ADAPT ☐ Other:	

Project Name:	PLU 442443 CTB	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	23E-04617	Due Date:			
Project Location:	Carlsbad, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	SPC	Wet Ice:	☒ Yes ☐ No		
PO #:	1062151001	Thermometer ID:	141003		
SAMPLE RECEIPT		Correction Factor:	-0.03		
Samples Received Intact:	☒ Yes ☐ No	Temperature Reading:	1.16		
Cooler Custody Seals:	☒ Yes ☐ No	Corrected Temperature:	1.4		
Sample Custody Seals:	☒ Yes ☐ No				
Total Containers:					
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp
BH23-01	Soil	8/11/23		0	G 1
BH23-01				2	
BH23-02				2	
BH23-02				2	
BH23-03				2	
BH23-03				2	
BH23-04				2	
BH23-04				2	
BH23-05				2	
BH23-05				2	

Parameters

BTEX

TPH by 8015D

Chloride

ANALYSIS REQUEST

880-5106 Chain of Custody

None: NO	DI Water: H ₂ O
Cool: Cool	MeOH: Me
HCL: HC	HNO ₃ : HN
H ₂ SO ₄ : H ₂	NaOH: Na
H ₃ PO ₄ : HP	
NaHSO ₄ : NABIS	
Na ₂ S ₂ O ₃ : NaSO ₃	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SACP	

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 SiO₂ Na Sr Ti 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 Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notes: 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
		8-16-23 9:53			



Environment Testing

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

Chain of Custody

Work Order No: _____

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Project Manager:	Chance Dixon	Bill to: (if different)	Barrett Green
Company Name:	Vertex	Company Name:	XTO
Address:	on file	Address:	on file
City, State ZIP:		City, State ZIP:	
Phone:		Email:	cdixon@vertex.ca

Work Order Comments				
Program:	UST/PST ☐	PRP ☐	Brownfields ☐	RRC ☐ Superfund ☐
State of Project:				
Reporting:	Level II ☐	Level III ☐	PST/UST ☐	TRRP ☐ Level IV ☐
Deliverables:	EDD ☐	ADAP ☐	Other: _____	

Project Name:	PLU 442/443 CTB	Turn Around	☒	Pres. Code	ANALYSIS REQUEST	Preservative Codes	None: NO	DI Water: H ₂ O
Project Number:	23E - 041017	☒ Routine	☐ Rush				Cool: Cool	MeOH: Me
Project Location:	OurShad, NM	Due Date:					HCL: HC	HNO ₃ : HN
Sampler's Name:	SPC	TAT starts the day received by the lab, if received by 4:30pm					H ₂ SO ₄ : H ₂	NaOH: Na
PO #:	1082151001	Temp Blank:	☒ Yes ☐ No				H ₃ PO ₄ : HP	
SAMPLE RECEIPT		Thermometer ID:	☒ Yes ☐ No				NaHSO ₄ : NABIS	
	Samples Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2			Na ₂ S ₂ O ₃ : NaSO ₃	
	Cooler Custody Seals:	Yes ☒ No ☐ N/A	Temperature Reading:	1.4			Zn Acetate+NaOH: Zn	
Sample Custody Seals:	Yes ☐ No ☒ N/A	Corrected Temperature:	1.4				NaOH+Ascorbic Acid: SAPC	
Total Containers:								

[illegible]

Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020:	200.8 / 6020:
Total 200.7 / 6010	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 Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed	TLCP / SPLP 6010 : 8RCRA 5b As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

of service. Eurofins Xenico 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 Xenico. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenico 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
		8-16-23 453			

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5106-1

SDG Number: 23E-04617

Login Number: 5106

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	Refer to Job Narrative for details.
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	

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5106-1

SDG Number: 23E-04617

Login Number: 5106

List Number: 2

Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 08/21/23 09:30 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	True	
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 272565

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 272565
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	2/16/2024