Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

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: 6/21/2023

email: Garrett.Green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 6/23/2023

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: Robert Hamlet Date: 11/30/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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	NAPP2300639887
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 32.10463 Longitude -103.83917
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 25 Brushy Draw CTB	Site Type Central Tank Battery
Date Release Discovered 12/27/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	25	25S	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) 18.40	Volume Recovered (bbls) 15.00
	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: A water dump line on the sales scrubber developed a leak due to internal corrosion, releasing fluids to the pad. Vac truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

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 Green Title: Environmental Coordinator

Signature:  Date: 6/21/2023

email: Garrett.Green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 6/23/2023

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
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Closure

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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: 6/21/2023

email: Garrett.Green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 6/23/2023

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: nAPP2300639887

Release Assessment and Closure

PLU 25 CTB

Section 25, Township 25 South, Range 30 East

County: Eddy

Vertex File Number: 23E-01501

Prepared for:

XTO Energy Inc.

Prepared by:

Vertex Resource Services Inc.

Date:

May 2023

Release Assessment and Closure
PLU 25 CTB
Section 25, Township 25 South, Range 30 East
County: Eddy

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

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

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

Sally Carttar
Sally Carttar, B.A.
INT. ENVIRONMENTAL TECHNOLOGIST, REPORTING

6/19/2023
Date

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

6/19/2023
Date

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1.0 Introduction

XTO Energy Inc. (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on December 27, 2022, at PLU 25 CTB (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 January 6, 2023. Incident ID number nAPP2300639887 was assigned to this incident.

This report provides a description of the release assessment and remediation activities 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 closure of this release, with the understanding that restoration of the release site will be completed following remediation activities as per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on December 27, 2022, due to internal corrosion in a water dump line on the sales scrubber. The incident was reported on January 6, 2023, and involved the release of approximately 18.4 barrels (bbl) of produced water on the pad site. Approximately 15 bbl of free fluid was removed during initial clean-up. Additional details relevant to the release are presented in the C-141 Report. Daily Field Report (DFRs) with site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 16 miles southeast of Malaga, New Mexico (Google Inc., 2023). The legal location for the site is Section 25, Township 25 South and Range 30 East in Eddy County, New Mexico. The release area is located on the Bureau of Land Management property. An aerial photograph and site schematic are presented in 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 around the flare on the constructed pad (Figure 1).

The surface geology at the site primarily comprises Qep—Eolian and piedmont deposits from the Holocene to middle Pleistocene (New Mexico Bureau of Geology and Mineral Resources, 2023) and the soil at the site is characterized as gravelly fine sandy loam (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Additional soil characteristics include a drainage class of well drained with a runoff class of very high. The karst geology potential for the site is Low (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with plains, alluvial fans, uplands, or fan piedmonts with elevations ranging between 2,842 and 4,500 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 dominant ecological type was determined to be shallow sandy. Black grama dominates the historic plant community, often dotted with mesquite and

creosotebush (United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road.

4.0 Closure Criteria Determination

The nearest active well to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well located approximately 0.3 miles south of the location (United States Geological Survey, 2023). Data from 2021 show the NMOSE recorded no groundwater in the borehole, which was drilled to 109 feet below ground surface (bgs). Information pertaining to the depth to ground water (DTGW) determination is included in 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 10 miles west 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.

Table 1. Closure Criteria Determination			
Site Name: PLU 25 CTB			
Spill Coordinates:		X: 32.104630	Y: -103.839170
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**109**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	52,225	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	3,399	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	20,751	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**		feet
	ii) Within 1000 feet of any fresh water well or spring	1,548	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	627	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	<1/100	year
11	Soil Type		
12	Ecological Classification	Shallow Sandy Soils	
13	Geology	Qep	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	>100'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

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
> 100 feet	Chloride	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 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 Remedial Actions

An initial site inspection of the release area was completed on April 3, 2023, which identified the area of the release specified in the initial C-141 Report through field screening procedures. The samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis. The stained area was determined to be approximately 136 feet long and 179 feet wide, totaling 13,303 square feet. Sample analyses for delineation did not identify any areas that were contaminated above the applicable closure criteria and it was determined that the impact did not travel off-pad.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including DRO, MRO, and GRO. Characterization sample analytical data are summarized in Table 3. Laboratory data reports and chain of custody forms are included in Appendix E.

Remediation efforts began on May 9, 2023, and were finalized on May 17, 2023. Vertex personnel supervised the removal of the top layer of the release to a depth of 6 inches bgs. Daily Field Reports documenting various phases of the remediation are presented in Appendix C.

On May 17, 2023, backfill was completed for the top 6 inches of the impacted area. The top layer was backfilled with clean, uncontaminated soil obtained from a local source.

6.0 Closure Request

The release area was fully delineated, remediated to below closure criteria, and backfilled with local soils by May 18, 2023. All staining was removed from the pad area and no further remediation was necessary. Based on these findings, XTO requests that this release be closed.
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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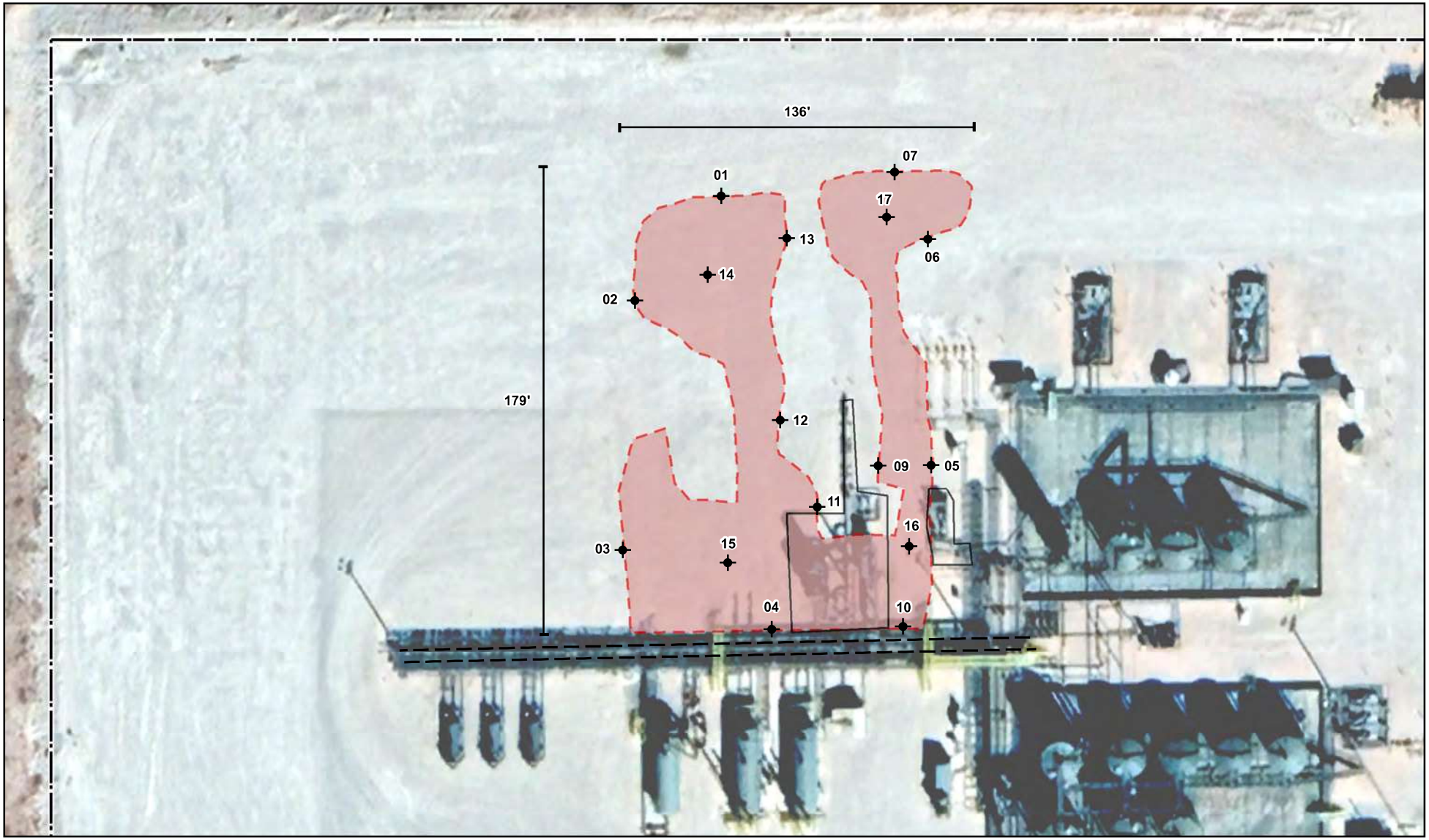
United States Fish and Wildlife Service. (2023). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

8.0 Limitations

This report has been prepared for the sole benefit of XTO Energy Inc. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and XTO Energy Inc. 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



Borehole (Prefixed by "BH23-") | Pipeline (Aboveground) | Approximate Lease Boundary | Infrastructure | Approximate Release Area (~13,303 sq.ft.)

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.104775, -103.839234

NAD 1983 UTM Zone 13N
Date: Apr 19/23

N

Characterization Schematic
PLU 25 Brushy Draw CTB

FIGURE: 1

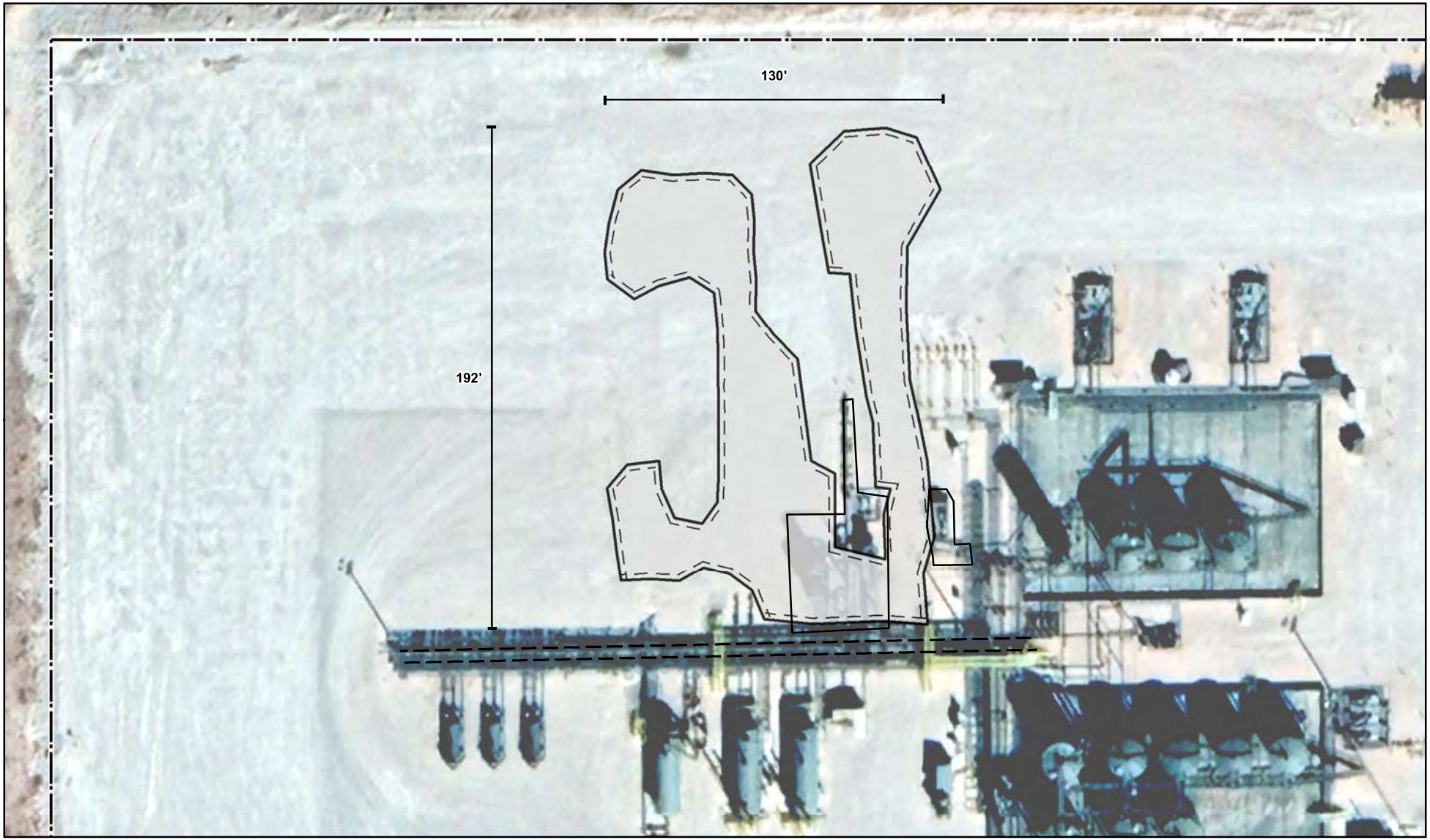
XTO ENERGY

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: Background imagery from Google Earth, 2023; georeferenced by Vertex. Boreholes and approximate release area from GPS. Approximate lease boundary from imagery. Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-01501\Figure 1 Characterization Schematic(23E-01501).mxd



Pipeline (Aboveground) | Approximate Lease Boundary | Excavation to 6' bgs (~13,141 sq.ft.) | Infrastructure

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.104775, -103.839234

NAD 1983 UTM Zone 13N
Date: Jun 01/23

N

Remediation Schematic
PLU 25 Brushy Draw CTB

FIGURE:
2

XTO ENERGY

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Note: Background imagery from Google Earth, 2023; georeferenced by Vertex.Excavation and infrastructure area from GPS. Approximate lease boundary from imagery. Vertex Professional Services Ltd., 2023.

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Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-01501\Figure 2 Remediation Schematic(23E-01501).mxd

TABLES

Table 3. Initial Characterization Laboratory Results - Depth to Groundwater >100 feet bgs
XTO Energy Inc.
PLU 25 CTB
NMOCD Tracking #: nAPP2300639887
Project #: 23E-01501
Lab Report: 890-4497-1, 890-4506-1, 890-4515-1

Sample Description			Petroleum Hydrocarbons										Inorganic
Sample ID	Depth (ft)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Criteria	NMOCD - NMAC <50 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	-	100	600
	NMOCD - NMAC 51-100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	10000
	NMOCD - NMAC >100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	20000
2023 Boreholes													
BH23-01	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	30.5
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	97.7
BH23-02	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	47.0
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50.2
BH23-03	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	107
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	69.7
BH23-04	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	78.5
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43.8
BH23-05	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	123
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	138
BH23-06	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	61.8
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	116
BH23-07	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	75.8
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	79.0
BH23-08	0	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	56.9
	2	April 11, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	121
BH23-09	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	131
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	101
BH23-10	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	97.8
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	99.0
BH23-11	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	132
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	113
BH23-12	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	111
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	72.3
BH23-13	0	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	45.4
	2	April 12, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98.5
BH23-14	0	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**995**
	2	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90.5
	4	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	146
BH23-15	0	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4740**
	2	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	150
	4	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	126
BH23-16	0	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	431
	2	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	101
	4	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	122
BH23-17	0	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	123
	2	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	99.2
	4	April 13, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	163

NMAC - New Mexico Administrative Code (Title 19, Chapter 15, Part 29; 2022)
ND - Not Detected at the Reporting Limit
- Denotes no standard/not analyzed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)

APPENDIX A - NMOCD C-141 Report

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	NAPP2300639887
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 32.10463 Longitude -103.83917
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 25 Brushy Draw CTB	Site Type Central Tank Battery
Date Release Discovered 12/27/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	25	25S	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) 18.40	Volume Recovered (bbls) 15.00
	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: A water dump line on the sales scrubber developed a leak due to internal corrosion, releasing fluids to the pad. Vac truck recovered all free fluids. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

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 Green Title: Environmental Coordinator

Signature:  Date: 6/21/2023

email: Garrett.Green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300639887
District RP	
Facility ID	
Application ID	

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: 6/21/2023

email: Garrett.Green@exxonmobil.com Telephone: 575-200-0729

OCD Only

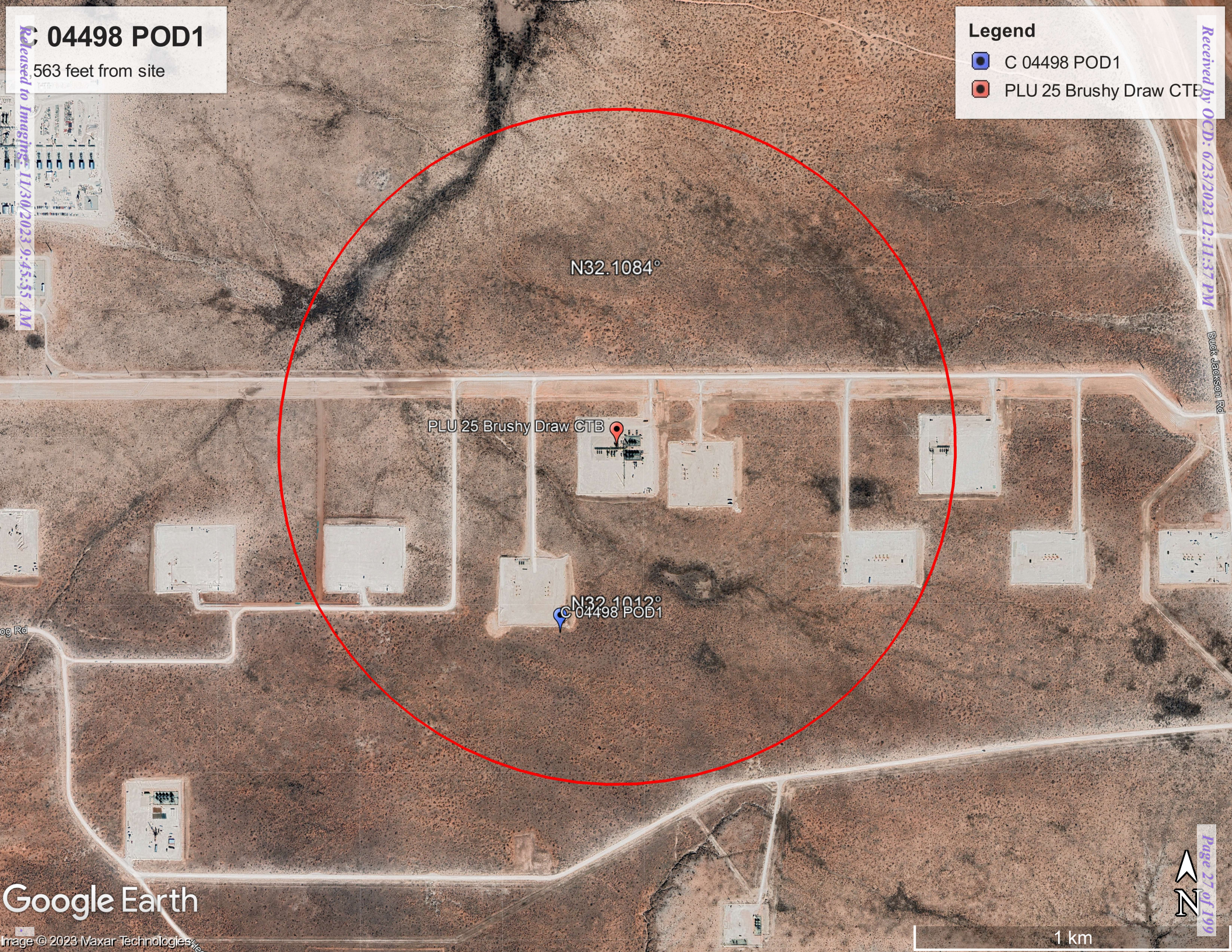
Received by: _____ Date: _____

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: _____

APPENDIX B – Closure Criteria Research Documentation



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-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04498 POD1	CUB	ED	2	1	3	25	25S	30E	609394	3552168	472	109		
C 04624 POD1	CUB	ED	4	4	1	30	25S	31E	611501	3552305	2000	120	0	120
C 03781 POD1	CUB	ED	3	3	3	13	25S	30E	609306	3554761	2150	720	325	395
C 01379	C	ED	4	4	3	10	25S	30E	606571	3556355*	4759	400		

Average Depth to Water: **162 feet**

Minimum Depth: **0 feet**

Maximum Depth: **325 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 609525.19 **Northing (Y):** 3552622.95 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04498 POD1	2	1	3	25	25S	30E	609394	3552168

Driller License: 1249 **Driller Company:** ATKINS ENGINEERING ASSOC. INC.

Driller Name: JAKCIE D ATKINS

Drill Start Date: 02/24/2021 **Drill Finish Date:** 02/24/2021 **Plug Date:** 03/02/2021

Log File Date: 03/11/2021 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 0 GPM

Casing Size: **Depth Well:** 109 feet **Depth Water:**

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4498

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Dr.	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	6'	1.96"	N
	LONGITUDE	-103°	50'	26.19"	W

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

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

NW SW NE Sec. 25 T25S R30E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
02/24/2021	02/24/2021	temporary well material	109	n/a

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

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	109	±6.5	Boring- HSA	--	--	--	--
					OSE DI MAR 11 2021 PM4:25		

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

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

FILE NO. C-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec 25		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC ~~LOG~~ OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	34	34	Caliche, tan, no odor, no stain, gravel, dry	Y ✓ N	
34	40	6	sand/ cacliche, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
40	56	16	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
56	72	16	sandstone, low consolidation, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
72	79	7	sand, tan, no odor, no stain, m-f grain, well sorted, dry	Y ✓ N	
79	109	30	sandstone, low - medium consolidation, tan, no odor, m-f grained, well sorted, m	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

~~METHOD~~ USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.

OSE DII MAR 11 2021 PM4:26

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 03/11/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4498	POD NO. 1	TRN NO. 682528	
LOCATION 132 T25S R30E Sec25		WELL TAG ID NO. NA	PAGE 2 OF 2

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

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 682528
File Nbr: C 04498
Well File Nbr: C 04498 POD1

Mar. 11, 2021

TACOMA MORRISEY
WSP USA
3300 NORTH A STREET
BLDG 1 #222
MIDLAND, TX 79705

Greetings:

The above numbered permit was issued in your name on 12/01/2020.

The Well Record was received in this office on 03/11/2021, stating that it had been completed on 02/24/2021, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

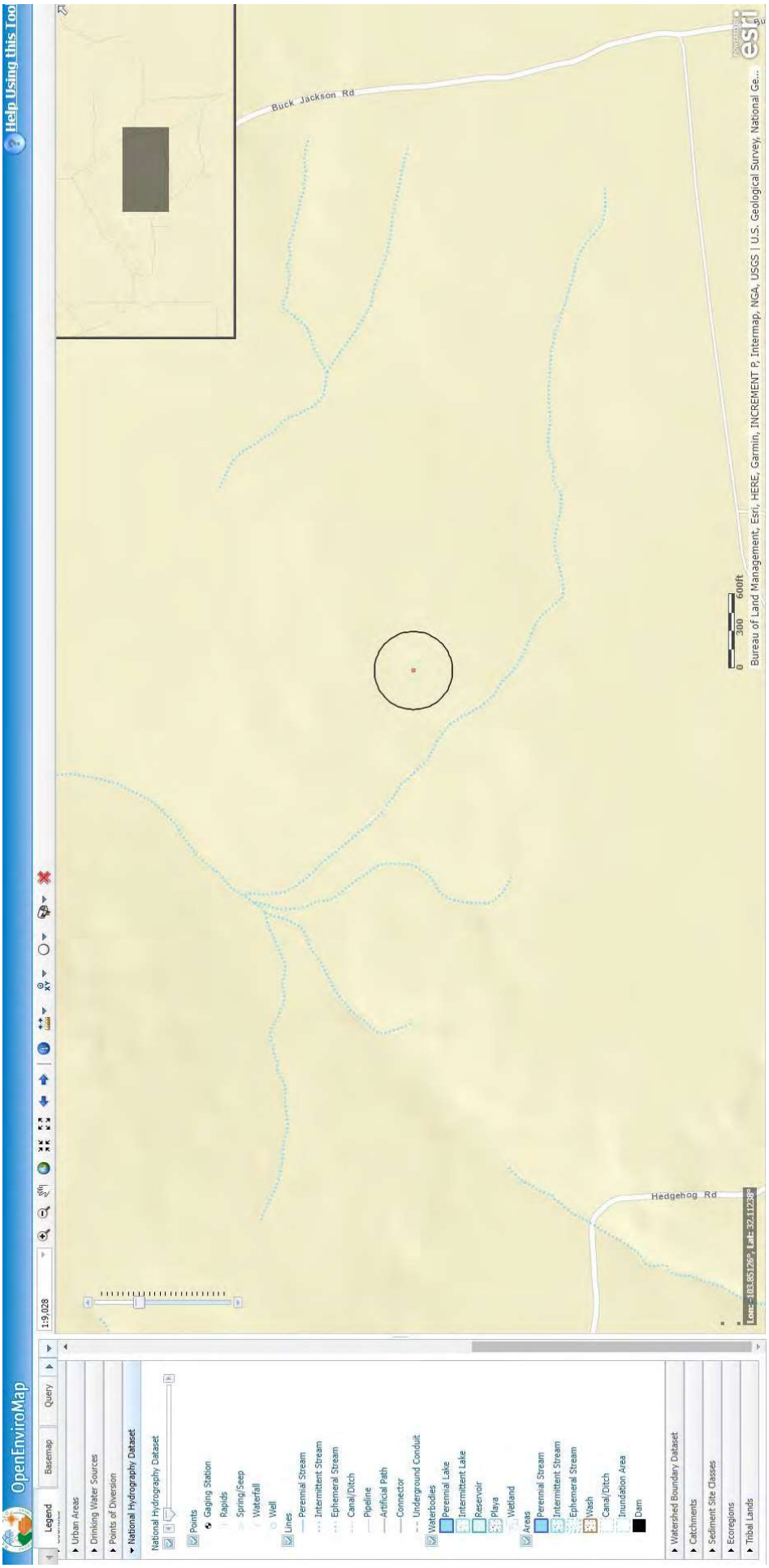
Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 12/01/2021.

If you have any questions, please feel free to contact us.

Sincerely,

Andrew Dennis
(575)622-6521

drywell


Help Using this Too
OpenEnviroMap
Legend
Basemap
Query
Urban Areas
Drinking Water Sources
Points of Diversion
National Hydrography Dataset
National Hydrography Dataset
Points
Gaging Station
Rapids
Spring/Seep
Waterfall
Well
Lines
Perennial Stream
Intermittent Stream
Ephemeral Stream
Canal/Ditch
Pipeline
Artificial Path
Connector
Underground Conduit
Waterbodies
Perennial Lake
Intermittent Lake
Reservoir
Playa
Wetland
Areas
Perennial Stream
Intermittent Stream
Ephemeral Stream
Wash
Canal/Ditch
Inundation Area
Dam
Watershed Boundary Dataset
Catchments
Sediment Site Classes
Ecoregions
Tribal Lands
1:9,028
Buck Jackson Rd
Hedgehog Rd
Long: -103.851269, Lat: 32.112388
0 300 600ft
Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS | U.S. Geological Survey, National Ge...
esri

U.S. Fish and Wildlife Service

National Wetlands Inventory

PLU 25 CTB Watercourse 52,225ft.

April 2, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

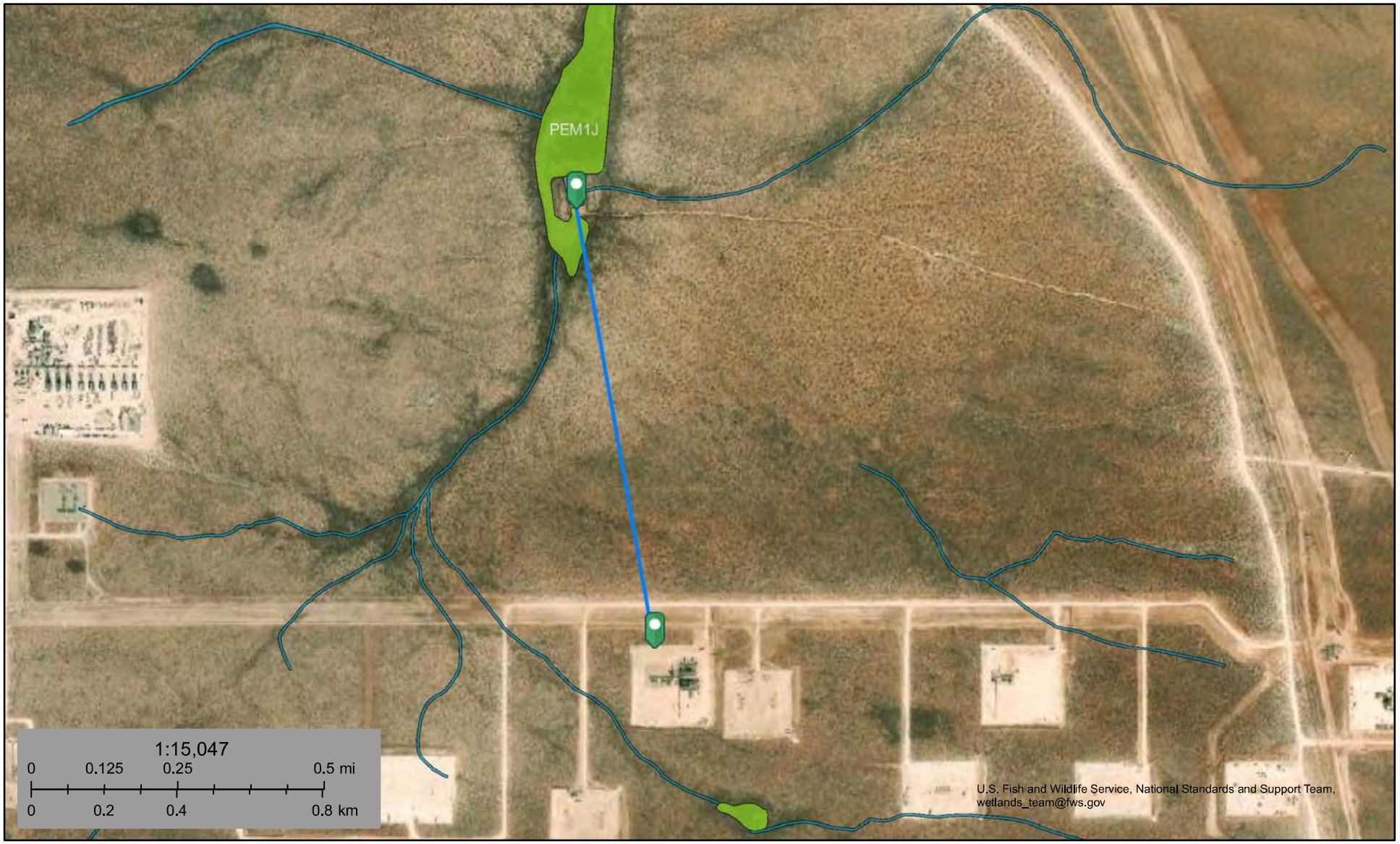
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service

National Wetlands Inventory

PLU 25 CTB Playa Lake 3,399ft.



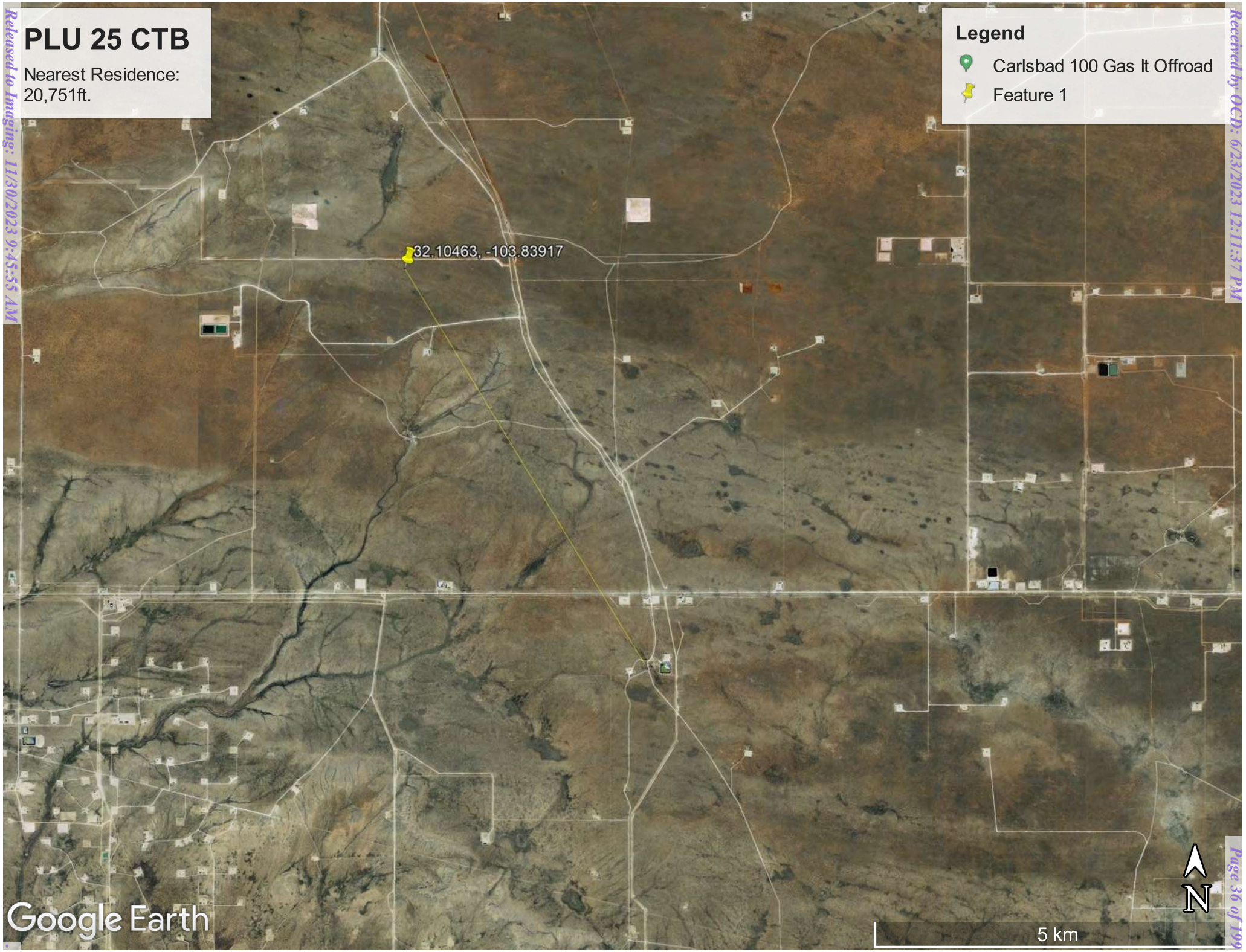
April 2, 2023

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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper



New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04498 POD1	2	1	3	25	25S	30E	609394	3552168

Driller License: 1249 **Driller Company:** ATKINS ENGINEERING ASSOC. INC.

Driller Name: JAKCIE D ATKINS

Drill Start Date: 02/24/2021 **Drill Finish Date:** 02/24/2021 **Plug Date:** 03/02/2021

Log File Date: 03/11/2021 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 0 GPM

Casing Size: **Depth Well:** 109 feet **Depth Water:**

U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU 25 CTB Wetland 627ft.

April 2, 2023

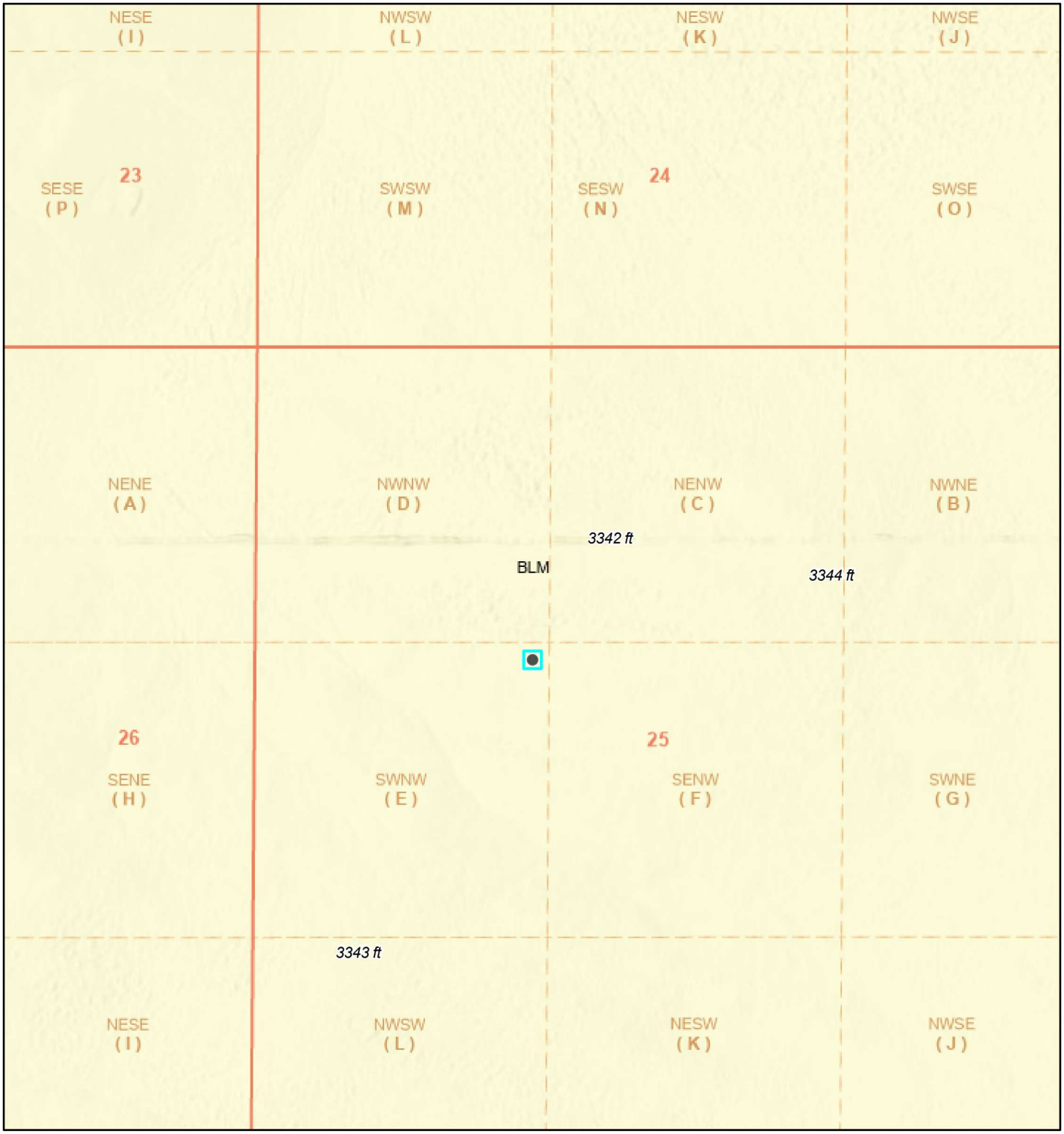
Wetlands

- 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.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Active Mines in New Mexico



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0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Land Ownership

BLM

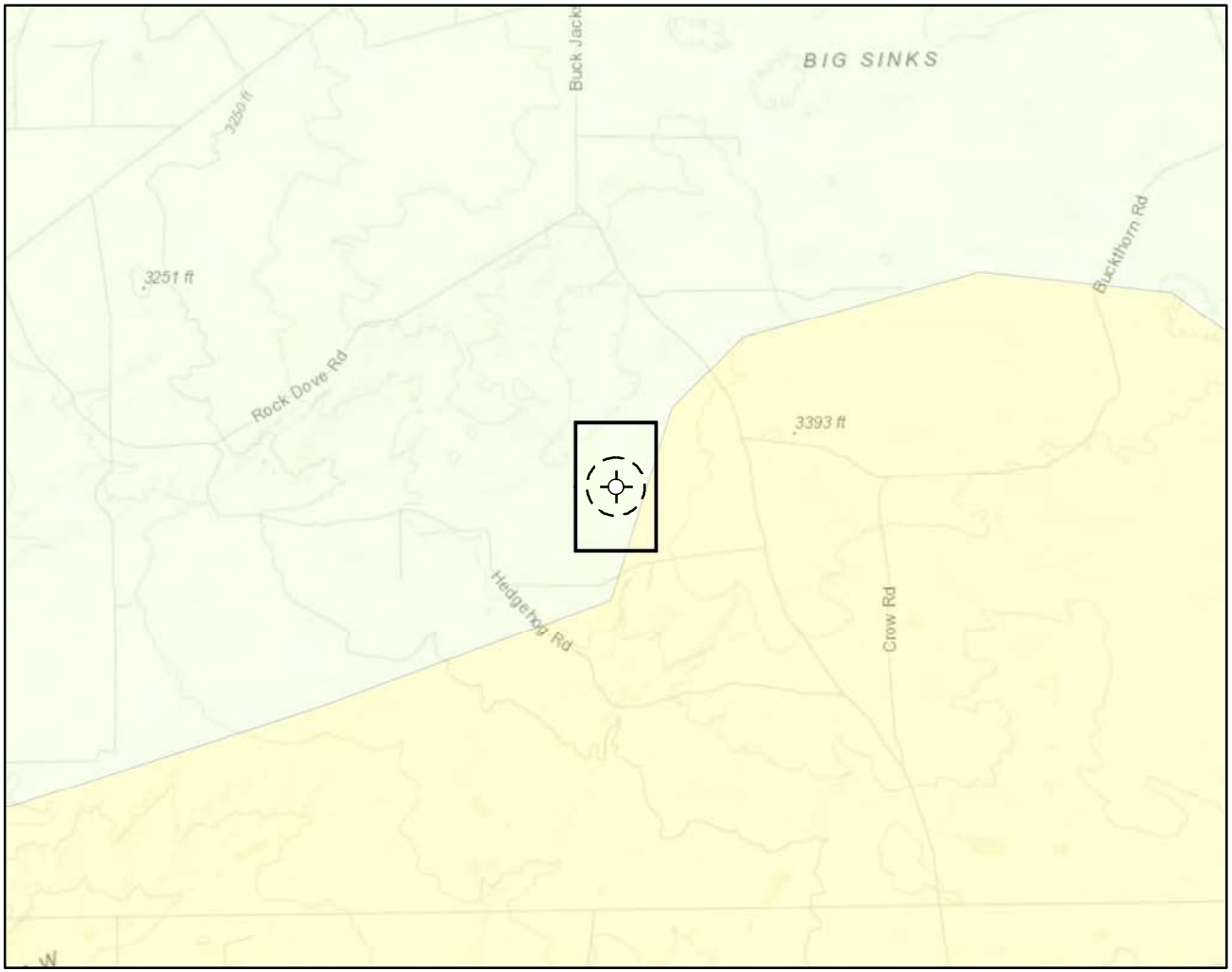
PLSS Second Division

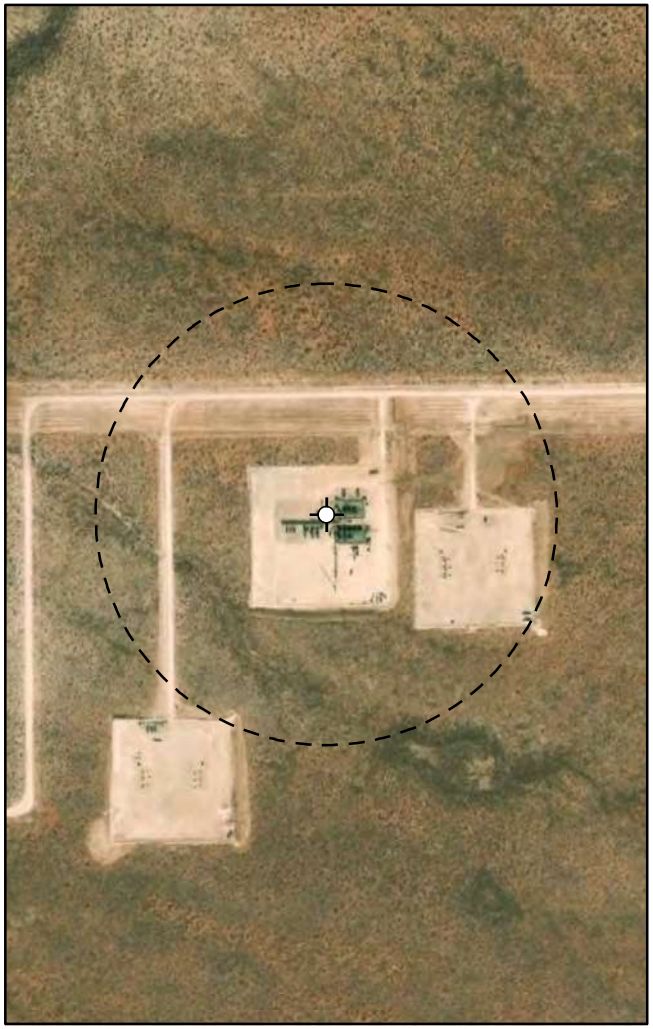
PLSS First Division

U.S. BLM, Esri Community Maps Contributors, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri, NASA, NGA, USGS, FEMA, BLM

EMNRD MMD GIS Coordinator

NM Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)





Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.104630, -103.839000

NAD 1983 UTM Zone 13N
Date: Apr 05/23

N

Karst Potential
PLU 25 CTB

FIGURE:
X

XTO ENERGY

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: Inset Map, ESRI 2023; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-01501\Figure x Karst Potentinal Schematic(23E-01501).mxd

National Flood Hazard Layer FIRMette

FEMA

103°50'40"W 32°6'32"N

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

1:6,000

103°50'2"W 32°6'1"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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 4/2/2023 at 3:50 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.

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

April 2, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,630 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

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
SM	Simona-Bippus complex, 0 to 5 percent slopes	8.7	82.4%
TF	Tonuco loamy fine sand, 0 to 3 percent slopes	1.9	17.6%
Totals for Area of Interest		**10.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Eddy Area, New Mexico

SM—Simona-Bippus complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w5x
Elevation: 1,800 to 5,000 feet
Mean annual precipitation: 8 to 24 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 55 percent
Bippus and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

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 19 inches: gravelly fine sandy loam
H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well 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
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Description of Bippus

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam
H2 - 37 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very 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: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 8 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Bippus

Percent of map unit: 7 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

TF—Tonuco loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w61
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
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 fine 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 1.3 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

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USDA Natural Resources Conservation Service

Ecological site R070BD002NM
Shallow Sandy

Accessed: 04/02/2023

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R070BD004NM	**Sandy** Sandy sites often occur in association or in a complex with Shallow Sandy Sites.

Similar sites

R070BD004NM	**Sandy** Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occures on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentory bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Fan piedmont (3) Alluvial fan
Elevation	2,842–4,500 ft
Slope	1–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common.

Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.
Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.
The average frost-free season is from 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.
Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated calache layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:
Simona
Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate

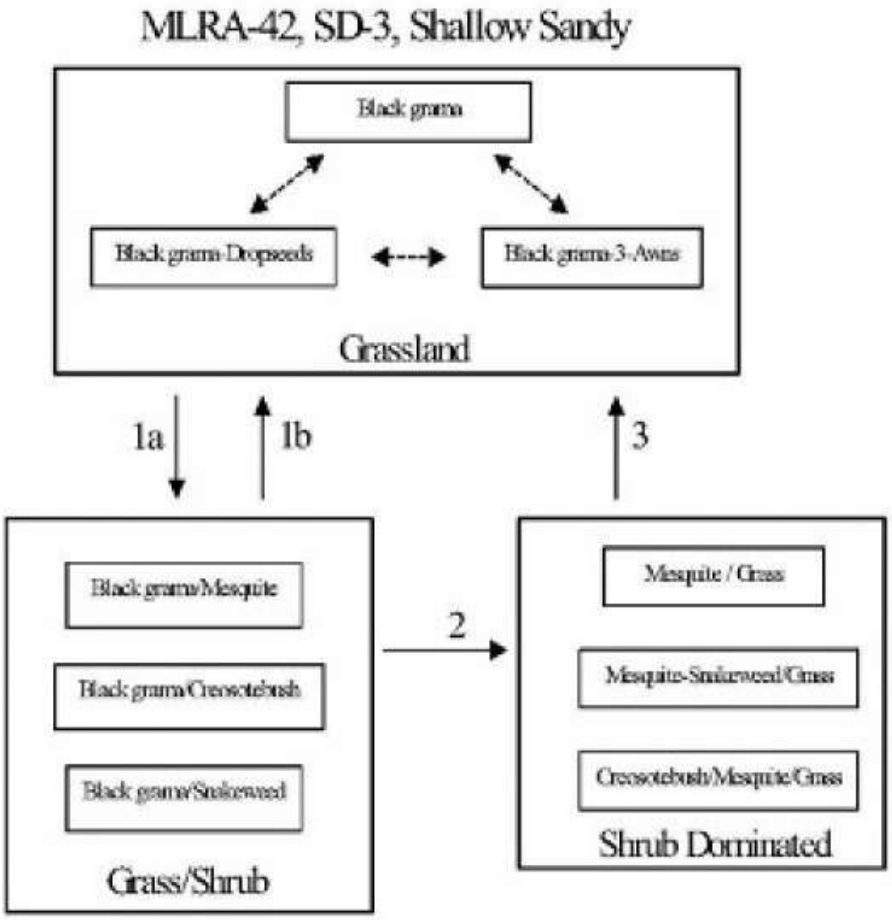
Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview
The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site. The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Seed dispersal, drought, overgrazing, fire suppression.
1b. Prescribed fire, brush control, prescribed grazing.

2. Persistent loss of grass cover, resource competition, increased winter precipitation.

3. Brush control, range seeding, prescribed grazing.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf

happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	**600**	**825**	**1050**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - Warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2
Grass/Shrub

Community 2.1
Grass/Shrub

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant

grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs.1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			413–495	
	black grama	BOER4	*Bouteloua eriopoda*	413–495	–
2	**Warm Season**			41–83	
	bush muhly	MUPO2	*Muhlenbergia porteri*	41–83	–
3	**Warm Season**			41–83	

	blue grama	BOGR2	*Bouteloua gracilis*	41–83	–
4	**Warm Season**			25–41	
	sideoats grama	BOCU	*Bouteloua curtipendula*	25–41	–
5	**Warm Season**			41–83	
	spike dropseed	SPCO4	*Sporobolus contractus*	41–83	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	41–83	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	41–83	–
6	**Warm Season**			17–41	
	threeawn	ARIST	*Aristida*	17–41	–
7	**Warm Season**			41–83	
	Arizona cottontop	DICA8	*Digitaria californica*	41–83	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	41–83	–
8	**Warm Season**			41–83	
	mat sandbur	CELO3	*Cenchrus longispinus*	41–83	–
	hooded windmill grass	CHCU2	*Chloris cucullata*	41–83	–
9	**Other Perennial Grasses**			25–41	
	Grass, perennial	2GP	*Grass, perennial*	25–41	–
Shrub/Vine					
10	**Shrub**			8–25	
	javelina bush	COER5	*Condalia ericoides*	8–25	–
11	**Shrub**			8–25	
	yucca	YUCCA	*Yucca*	8–25	–
12	**Shrub**			8–25	
	jointfir	EPHED	*Ephedra*	8–25	–
	littleleaf ratany	KRER	*Krameria erecta*	8–25	–
13	**Shrub**			8–25	
	featherplume	DAFO	*Dalea formosa*	8–25	–
14	**Shrub**			8–25	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	8–25	–
15	**Other Shrubs**			25–41	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	25–41	–
Forb					
16	**Forb**			17–41	
	leatherweed	CRPOP	*Croton pottsii var. pottsii*	17–41	–
	Goodding's tansyaster	MAPIG2	*Machaeranthera pinnatifida ssp. gooddingii var. gooddingii*	17–41	–
17	**Forb**			17–41	
	woolly groundsel	PACA15	*Packera cana*	17–41	–
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	17–41	–
18	**Forb**			8–25	
	whitest evening primrose	OEAL	*Oenothera albicaulis*	8–25	–
19	**Other Forbs**			8–25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	8–25	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord's kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series Hydrologic Group
Jarag D
Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.5 – 3.5
75 – 51 3.2 – 4.6
50 – 26 4.5 – 7.5
25 – 0 7.6 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature References:

1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.

2. Hennessy, J.T., R.P. Gibbens, J.M. Tromble, and M. Cardenas. 1983. Water properties of caliche. J. Range Manage. 36: 723-726.

3. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.

4. Moir, W.H., and J. A. Ludwig. 1991. Plant succession and changing land features in desert grasslands. P. 15-18. In P.F. Ffolliott and W.T. Swank (eds.) People and the temperate region: a summary of research from the United States Man and the Biosphere Program 1991. U.S. Dept. State, Publ No. 9839, Nat. Tech. Info. Serv., U.S. Dept. Commerce, Springfield, Illinois. 63 p.

5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.

6. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/ [accessed 2/10/03].

7. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Wind Erosion. Rangeland Sheet 10 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

8. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 7 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

   _____

7. **Amount of litter movement (describe size and distance expected to travel):**

   _____

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

   _____

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

   _____

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

    _____

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

    _____

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

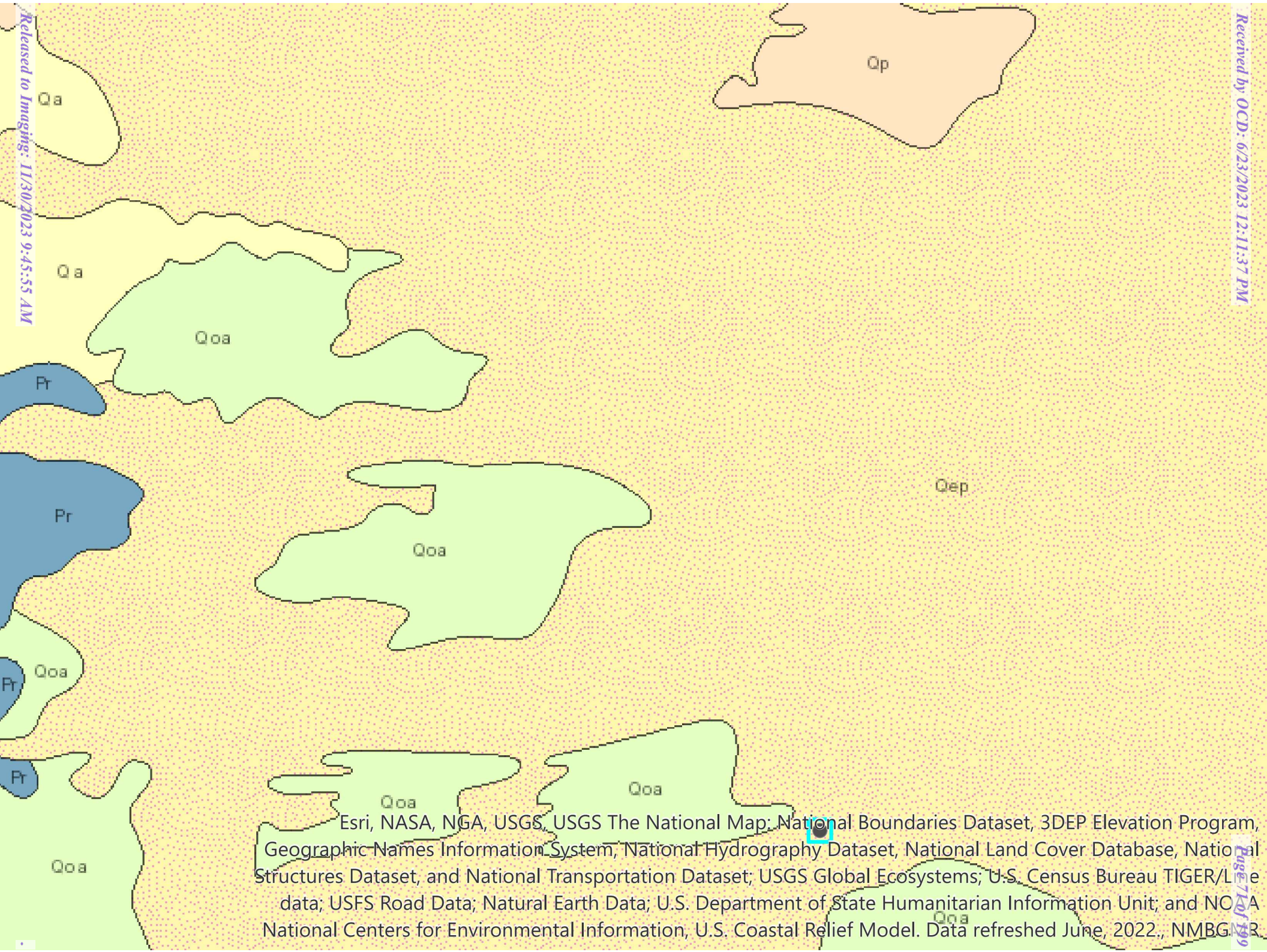
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

14. **Average percent litter cover (%) and depth (in):**

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

17. **Perennial plant reproductive capability:**



APPENDIX C – 90-Day Remediation Extension and Approval

From: Green, Garrett J
To: Chance Dixon
Subject: FW: (Extension Approval) - XTO - NAPP2300639887 PLU 25 BD CTB
Date: June 20, 2023 9:26:07 AM
Attachments: image003.png

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, March 30, 2023 7:29 AM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: (Extension Approval) - XTO - NAPP2300639887 PLU 25 BD CTB

External Email – Think Before You Click

RE: Incident #**NAPP2300639887**

Melanie,

Your request for an extension to **June 25th, 2025** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Wednesday, March 29, 2023 3:56 PM
To: Enviro, OCD, EMNRD <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 <garrett.green@exxonmobil.com>; Pennington, Shelby G

<shelby.g.pennington@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: [EXTERNAL] XTO Extension Request nAPP2300639887 PLU 25 BD CTB

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO is requesting an extension to submit a remediation work plan or closure report for the 12/27/22 release at the PLU 25 Brushy Draw Central Tank Battery. We are requesting a 90-day extension until June 25, 2023 to complete remediation activities.

Thank you,

Melanie Collins

XTO ENERGY

Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

APPENDIX D – Daily Field Reports

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	4/3/2023
Site Location Name:	PLU 25 CTB	Report Run Date:	4/3/2023 11:00 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	4/3/2023 1:23 PM
Departed Site	4/3/2023 2:43 PM

Daily Site Visit Report

Field Notes

13:29 Arrived at site and filled out safety paperwork. Conducted JSA and PSMS procedures for XTO. On site to white line area for the release that occurred back in December 2022. A white perimeter will be marked around the release with a sufficient buffer to compensate for stepping out during site characterization. Will conduct Last Minute Risk Assessment before starting tasks.

Next Steps & Recommendations

1 Place 811 call

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

Northwest corner of white line

Viewing Direction: Southwest

Northeast corner of white line

Viewing Direction: South

White line next to VRT compressor

Viewing Direction: North

White line along west edge

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: South
	
Point of release near (sales scrubber)	Point of release near (sales scrubber)
Viewing Direction: South	**Viewing Direction**: East
	
Release area near VRT compressor and Flare Scrubber	Northern extent of release

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	5/17/2023
Site Location Name:	PLU 25 CTB	Report Run Date:	5/17/2023 11:29 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	5/17/2023 8:00 AM
Departed Site	5/17/2023 4:00 PM

Field Notes

8:43 Completed safety meeting, site walkthrough, and work authorization

8:46 Completed line sweep in excavation area. Beginning work

13:38 Investigating backfill at the pile down the road

14:05 Mixing dry dirt with hydrovac water from yesterday so we'll have a shot at hauling it off tomorrow

Next Steps & Recommendations

1 Backfill

Daily Site Visit Report

Site Photos

Viewing Direction: Northwest

Staining more visible at northwest corner this morning. Will return to scrape a bit more later in the day

Viewing Direction: Southeast

Southwest corner of impacted area

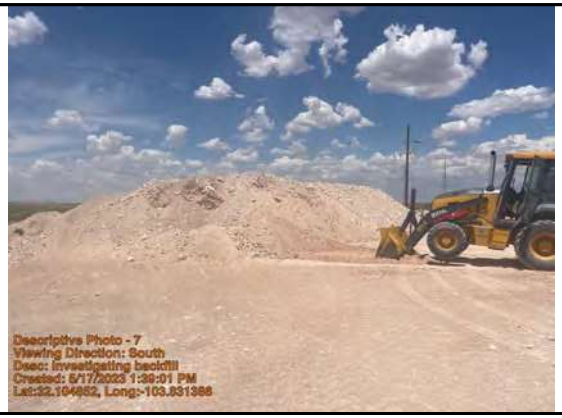
Viewing Direction: Southwest

Scraping complete. Will backfill tomorrow

Viewing Direction: Southwest

Scraping completed on west side

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: North
	
West half of excavation	East half
Viewing Direction: North	**Viewing Direction**: North
	
Investigating backfill	Backfill test, not ideal.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Sally Carttar

Signature: 

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/21/2023 1:34:22 PM

JOB DESCRIPTION

PLU 25 CTB
SDG NUMBER 23E-01501

JOB NUMBER

890-4497-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

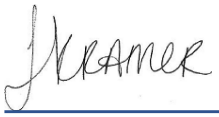
Eurofins Carlsbad

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
4/21/2023 1:34:22 PM

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

Client: Vertex
Project/Site: PLU 25 CTB

Laboratory Job ID: 890-4497-1
SDG: 23E-01501

Table of Contents

Eurofins Carlsbad
4/21/2023

Definitions/Glossary

Client: Vertex Job ID: 890-4497-1
Project/Site: PLU 25 CTB SDG: 23E-01501

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Job ID: 890-4497-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4497-1

Receipt
The samples were received on 4/12/2023 8:03 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 5.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-01 0FT (890-4497-1), BH23-01 2FT (890-4497-2), BH23-02 0FT (890-4497-3), BH23-02 2FT (890-4497-4), BH23-03 0FT (890-4497-5), BH23-03 2FT (890-4497-6), BH23-04 0FT (890-4497-7), BH23-04 2FT (890-4497-8), BH23-05 0FT (890-4497-9), BH23-05 2FT (890-4497-10), BH23-06 0FT (890-4497-11), BH23-06 2FT (890-4497-12), BH23-07 0FT (890-4497-13), BH23-07 2FT (890-4497-14), BH23-08 0FT (890-4497-15) and BH23-08 2FT (890-4497-16).

GC VOA
Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-51208 and analytical batch 880-51139. The associated laboratory control sample (LCS) met acceptance criteria.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-01 2FT (890-4497-2), BH23-04 0FT (890-4497-7), BH23-07 0FT (890-4497-13) and BH23-08 0FT (890-4497-15). 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-51008/47) and (CCV 880-51008/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-51080 and analytical batch 880-51008 was outside the upper control limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-51020 and analytical batch 880-51010 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-51020/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-07 0FT (890-4497-13), BH23-07 2FT (890-4497-14) and BH23-08 0FT (890-4497-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-51010 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: (CCV 880-51010/20) and (CCV 880-51010/31).

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

HPLC/IC
Method 300_ORGFM_28D: New analyst prepared LCS at 200ppm.(LCS 880-51087/2-A) and (LCSD 880-51087/3-A)

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-51087 and 880-51087 and analytical batch 880-51418 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within

Case Narrative

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Job ID: 890-4497-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

acceptance limits.BH23-06 0FT (890-4497-11), BH23-06 2FT (890-4497-12), BH23-07 0FT (890-4497-13), BH23-07 2FT (890-4497-14), BH23-08 0FT (890-4497-15), BH23-08 2FT (890-4497-16), (880-27130-A-11-A), (880-27130-A-11-B MS) and (880-27130-A-11-C MSD)

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

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-01 0FT

Lab Sample ID: 890-4497-1
Matrix: Solid
Date Collected: 04/11/23 10:00
Date Received: 04/12/23 08:03
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1	0.00199		mg/Kg		04/14/23 13:48	04/15/23 22:14	1
Toluene	<0.00199	U F1	0.00199		mg/Kg		04/14/23 13:48	04/15/23 22:14	1
Ethylbenzene	<0.00199	U F1	0.00199		mg/Kg		04/14/23 13:48	04/15/23 22:14	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		04/14/23 13:48	04/15/23 22:14	1
o-Xylene	<0.00199	U F1	0.00199		mg/Kg		04/14/23 13:48	04/15/23 22:14	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		04/14/23 13:48	04/15/23 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*04/14/23 13:48*	*04/15/23 22:14*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/14/23 13:48*	*04/15/23 22:14*	*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			04/16/23 11:01	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			04/14/23 12:19	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		04/13/23 13:33	04/14/23 04:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/14/23 04:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/14/23 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:11*	*1*
o-Terphenyl	*103*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**30.5**		4.97		mg/Kg			04/14/23 20:04	1

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4497-2
Matrix: Solid
Date Collected: 04/11/23 10:05
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/15/23 22:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 22:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 22:34	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/15/23 22:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 22:34	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/15/23 22:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*04/14/23 13:48*	*04/15/23 22:34*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4497-2
Matrix: Solid
Date Collected: 04/11/23 10:05
Date Received: 04/12/23 08:03
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*04/14/23 13:48*	*04/15/23 22:34*	*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			04/16/23 11:01	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			04/14/23 12:19	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		04/13/23 13:33	04/14/23 04:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/13/23 13:33	04/14/23 04:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/13/23 13:33	04/14/23 04:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:33*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.7**		4.98	mg/Kg			04/14/23 20:18	1

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4497-3
Matrix: Solid
Date Collected: 04/11/23 10:10
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/15/23 22:55	1
Toluene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/15/23 22:55	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/15/23 22:55	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/15/23 22:55	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/15/23 22:55	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/15/23 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/14/23 13:48*	*04/15/23 22:55*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*04/14/23 13:48*	*04/15/23 22:55*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/14/23 12:19	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4497-3
Matrix: Solid
Date Collected: 04/11/23 10:10
Date Received: 04/12/23 08:03
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	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 04:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 04:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 04:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:55*	*1*
o-Terphenyl	*92*		*70 - 130*	*04/13/23 13:33*	*04/14/23 04:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47.0		4.97		mg/Kg			04/17/23 15:25	1

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4497-4
Matrix: Solid
Date Collected: 04/11/23 10:15
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/15/23 23:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 23:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 23:15	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/14/23 13:48	04/15/23 23:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 23:15	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/14/23 13:48	04/15/23 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:15*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:15*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/14/23 12:19	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	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 05:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 05:17	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 13:33	04/14/23 05:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/13/23 13:33*	*04/14/23 05:17*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/13/23 13:33*	*04/14/23 05:17*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4497-4
Matrix: Solid
Date Collected: 04/11/23 10:15
Date Received: 04/12/23 08:03
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	50.2		5.01		mg/Kg			04/17/23 15:30	1

Client Sample ID: BH23-03 0FT

Lab Sample ID: 890-4497-5
Matrix: Solid
Date Collected: 04/11/23 10:20
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/15/23 23:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/15/23 23:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/15/23 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:36*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:36*	*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			04/16/23 11:01	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			04/14/23 12:19	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		04/13/23 13:33	04/14/23 05:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/14/23 05:39	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/14/23 05:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/13/23 13:33*	*04/14/23 05:39*	*1*
o-Terphenyl	*98*		*70 - 130*	*04/13/23 13:33*	*04/14/23 05:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107		5.00		mg/Kg			04/17/23 15:35	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-03 2FT

Lab Sample ID: 890-4497-6
Matrix: Solid
Date Collected: 04/11/23 10:25
Date Received: 04/12/23 08:03
Sample Depth: 2

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		04/14/23 13:48	04/15/23 23:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/15/23 23:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/15/23 23:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/15/23 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:56*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/14/23 13:48*	*04/15/23 23:56*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 14:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 14:32	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*04/13/23 08:22*	*04/13/23 14:32*	*1*
o-Terphenyl	*101*		*70 - 130*	*04/13/23 08:22*	*04/13/23 14:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.7**		5.00		mg/Kg			04/17/23 15:39	1

Client Sample ID: BH23-04 0FT

Lab Sample ID: 890-4497-7
Matrix: Solid
Date Collected: 04/11/23 10:30
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 00:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:17	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/16/23 00:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:17	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/16/23 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*163*	*S1+*	*70 - 130*	*04/14/23 13:48*	*04/16/23 00:17*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-04 0FT

Lab Sample ID: 890-4497-7
Matrix: Solid
Date Collected: 04/11/23 10:30
Date Received: 04/12/23 08:03
Sample Depth: 0

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*04/14/23 13:48*	*04/16/23 00:17*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 14:54	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		04/13/23 08:22	04/13/23 14:54	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		04/13/23 08:22	04/13/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*04/13/23 08:22*	*04/13/23 14:54*	*1*
o-Terphenyl	*98*		*70 - 130*	*04/13/23 08:22*	*04/13/23 14:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.5**		4.99	mg/Kg			04/17/23 15:44	1

Client Sample ID: BH23-04 2FT

Lab Sample ID: 890-4497-8
Matrix: Solid
Date Collected: 04/11/23 10:35
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 00:37	1
Toluene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 00:37	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 00:37	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/16/23 00:37	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 00:37	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/16/23 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*04/14/23 13:48*	*04/16/23 00:37*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/14/23 13:48*	*04/16/23 00:37*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/14/23 13:00	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-04 2FT

Lab Sample ID: 890-4497-8
Matrix: Solid
Date Collected: 04/11/23 10:35
Date Received: 04/12/23 08:03
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	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 15:16	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 15:16	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*04/13/23 08:22*	*04/13/23 15:16*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/13/23 08:22*	*04/13/23 15:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.8		5.02		mg/Kg			04/17/23 15:49	1

Client Sample ID: BH23-05 0FT

Lab Sample ID: 890-4497-9
Matrix: Solid
Date Collected: 04/11/23 10:40
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 00:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:58	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/14/23 13:48	04/16/23 00:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 00:58	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/14/23 13:48	04/16/23 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/14/23 13:48*	*04/16/23 00:58*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/14/23 13:48*	*04/16/23 00:58*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 15:37	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:22	04/13/23 15:37	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:22	04/13/23 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*04/13/23 08:22*	*04/13/23 15:37*	*1*
o-Terphenyl	*80*		*70 - 130*	*04/13/23 08:22*	*04/13/23 15:37*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-05 0FT

Lab Sample ID: 890-4497-9
Matrix: Solid
Date Collected: 04/11/23 10:40
Date Received: 04/12/23 08:03
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		5.03		mg/Kg			04/17/23 15:54	1

Client Sample ID: BH23-05 2FT

Lab Sample ID: 890-4497-10
Matrix: Solid
Date Collected: 04/11/23 10:45
Date Received: 04/12/23 08:03
Sample Depth: 2

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		04/14/23 13:48	04/16/23 01:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 01:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 01:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 01:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 01:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/14/23 13:48*	*04/16/23 01:18*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*04/14/23 13:48*	*04/16/23 01:18*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/14/23 13:00	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	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 16:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 16:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*04/13/23 08:22*	*04/13/23 16:20*	*1*
o-Terphenyl	*90*		*70 - 130*	*04/13/23 08:22*	*04/13/23 16:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	138		4.98		mg/Kg			04/17/23 15:59	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-06 0FT

Lab Sample ID: 890-4497-11
Matrix: Solid
Date Collected: 04/11/23 10:50
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 02:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 02:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 02:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 02:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 02:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*04/14/23 13:48*	*04/16/23 02:41*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*04/14/23 13:48*	*04/16/23 02:41*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 16:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 16:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*04/13/23 08:22*	*04/13/23 16:42*	*1*
o-Terphenyl	*98*		*70 - 130*	*04/13/23 08:22*	*04/13/23 16:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**61.8**		5.00		mg/Kg			04/20/23 20:31	1

Client Sample ID: BH23-06 2FT

Lab Sample ID: 890-4497-12
Matrix: Solid
Date Collected: 04/11/23 10:55
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 03:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 03:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 03:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/16/23 03:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/16/23 03:01	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/14/23 13:48	04/16/23 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*04/14/23 13:48*	*04/16/23 03:01*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-06 2FT

Lab Sample ID: 890-4497-12
Matrix: Solid
Date Collected: 04/11/23 10:55
Date Received: 04/12/23 08:03
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/14/23 13:48*	*04/16/23 03:01*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 17:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/13/23 08:22	04/13/23 17:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/13/23 08:22	04/13/23 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*04/13/23 08:22*	*04/13/23 17:04*	*1*
o-Terphenyl	*79*		*70 - 130*	*04/13/23 08:22*	*04/13/23 17:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	116		5.00	mg/Kg			04/20/23 20:36	1

Client Sample ID: BH23-07 0FT

Lab Sample ID: 890-4497-13
Matrix: Solid
Date Collected: 04/11/23 11:00
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 03:21	1
Toluene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 03:21	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 03:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/16/23 03:21	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		04/14/23 13:48	04/16/23 03:21	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		04/14/23 13:48	04/16/23 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*151*	*S1+*	*70 - 130*	*04/14/23 13:48*	*04/16/23 03:21*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*04/14/23 13:48*	*04/16/23 03:21*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/14/23 13:00	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-07 0FT

Lab Sample ID: 890-4497-13
Matrix: Solid
Date Collected: 04/11/23 11:00
Date Received: 04/12/23 08:03
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	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 17:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 17:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*65*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 17:27*	*1*
o-Terphenyl	*66*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 17:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.8		4.99		mg/Kg			04/20/23 20:41	1

Client Sample ID: BH23-07 2FT

Lab Sample ID: 890-4497-14
Matrix: Solid
Date Collected: 04/11/23 11:05
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 03:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/14/23 13:48	04/16/23 03:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/14/23 13:48	04/16/23 03:42	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/14/23 13:48	04/16/23 03:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/14/23 13:48	04/16/23 03:42	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/14/23 13:48	04/16/23 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*04/14/23 13:48*	*04/16/23 03:42*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/14/23 13:48*	*04/16/23 03:42*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 17:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 17:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*60*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 17:49*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 17:49*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-07 2FT

Lab Sample ID: 890-4497-14
Matrix: Solid
Date Collected: 04/11/23 11:05
Date Received: 04/12/23 08:03
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79.0		4.98		mg/Kg			04/20/23 20:46	1

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4497-15
Matrix: Solid
Date Collected: 04/11/23 11:10
Date Received: 04/12/23 08:03
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		04/14/23 13:48	04/16/23 04:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 04:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*	*S1+*	*70 - 130*	*04/14/23 13:48*	*04/16/23 04:02*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*04/14/23 13:48*	*04/16/23 04:02*	*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			04/16/23 11:01	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			04/14/23 13:00	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		04/13/23 08:22	04/13/23 18:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:22	04/13/23 18:11	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:22	04/13/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*60*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 18:11*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*04/13/23 08:22*	*04/13/23 18:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.9		5.03		mg/Kg			04/20/23 20:51	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-08 2FT

Date Collected: 04/11/23 11:15
Date Received: 04/12/23 08:03
Sample Depth: 2

Lab Sample ID: 890-4497-16

Matrix: Solid

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		04/14/23 13:48	04/16/23 04:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 04:23	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/14/23 13:48	04/16/23 04:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/14/23 13:48	04/16/23 04:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/14/23 13:48*	*04/16/23 04:23*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*04/14/23 13:48*	*04/16/23 04:23*	*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			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/14/23 13:00	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	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 18:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 18:33	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:22	04/13/23 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*04/13/23 08:22*	*04/13/23 18:33*	*1*
o-Terphenyl	*88*		*70 - 130*	*04/13/23 08:22*	*04/13/23 18:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**121**		4.98		mg/Kg			04/20/23 20:55	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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)
890-4497-1	BH23-01 0FT	90	103
890-4497-1 MS	BH23-01 0FT	100	81
890-4497-1 MSD	BH23-01 0FT	130	101
890-4497-2	BH23-01 2FT	154 S1+	123
890-4497-3	BH23-02 0FT	105	85
890-4497-4	BH23-02 2FT	102	85
890-4497-5	BH23-03 0FT	98	82
890-4497-6	BH23-03 2FT	104	107
890-4497-7	BH23-04 0FT	163 S1+	115
890-4497-8	BH23-04 2FT	125	92
890-4497-9	BH23-05 0FT	104	82
890-4497-10	BH23-05 2FT	113	81
890-4497-11	BH23-06 0FT	98	86
890-4497-12	BH23-06 2FT	127	104
890-4497-13	BH23-07 0FT	151 S1+	95
890-4497-14	BH23-07 2FT	103	87
890-4497-15	BH23-08 0FT	142 S1+	110
890-4497-16	BH23-08 2FT	105	81
LCS 880-51208/1-A	Lab Control Sample	97	115
LCSD 880-51208/2-A	Lab Control Sample Dup	100	120
MB 880-51075/5-A	Method Blank	72	80
MB 880-51208/5-A	Method Blank	71	97

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)
890-4488-A-21-C MS	Matrix Spike	116	104
890-4488-A-21-D MSD	Matrix Spike Duplicate	118	106
890-4496-A-1-C MS	Matrix Spike	117	85
890-4496-A-1-D MSD	Matrix Spike Duplicate	117	85
890-4497-1	BH23-01 0FT	120	103
890-4497-2	BH23-01 2FT	114	95
890-4497-3	BH23-02 0FT	109	92
890-4497-4	BH23-02 2FT	114	95
890-4497-5	BH23-03 0FT	114	98
890-4497-6	BH23-03 2FT	104	101
890-4497-7	BH23-04 0FT	100	98
890-4497-8	BH23-04 2FT	99	96
890-4497-9	BH23-05 0FT	83	80
890-4497-10	BH23-05 2FT	92	90
890-4497-11	BH23-06 0FT	100	98
890-4497-12	BH23-06 2FT	76	79
890-4497-13	BH23-07 0FT	65 S1-	66 S1-

Surrogate Summary

Client: Vertex Job ID: 890-4497-1
Project/Site: PLU 25 CTB SDG: 23E-01501

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
890-4497-14	BH23-07 2FT	60 S1-	68 S1-										
890-4497-15	BH23-08 0FT	60 S1-	67 S1-										
890-4497-16	BH23-08 2FT	73	88										
LCS 880-51020/2-A	Lab Control Sample	133 S1+	132 S1+										
LCS 880-51080/2-A	Lab Control Sample	106	87										
LCSD 880-51020/3-A	Lab Control Sample Dup	124	121										
LCSD 880-51080/3-A	Lab Control Sample Dup	114	86										
MB 880-51020/1-A	Method Blank	136 S1+	173 S1+										
MB 880-51080/1-A	Method Blank	132 S1+	114										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51075/5-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51075

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 12:38	04/15/23 08:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 12:38	04/15/23 08:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 12:38	04/15/23 08:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/13/23 12:38	04/15/23 08:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 12:38	04/15/23 08:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/13/23 12:38	04/15/23 08:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*04/13/23 12:38*	*04/15/23 08:12*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*04/13/23 12:38*	*04/15/23 08:12*	*1*

Lab Sample ID: MB 880-51208/5-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51208

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 21:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 21:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 21:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/14/23 13:48	04/15/23 21:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:48	04/15/23 21:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/14/23 13:48	04/15/23 21:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*04/14/23 13:48*	*04/15/23 21:52*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/14/23 13:48*	*04/15/23 21:52*	*1*

Lab Sample ID: LCS 880-51208/1-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51208

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1077		mg/Kg		108	70 - 130		
Toluene			0.100	0.09124		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.08418		mg/Kg		84	70 - 130		
m-Xylene & p-Xylene			0.200	0.1691		mg/Kg		85	70 - 130		
o-Xylene			0.100	0.08710		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: LCSD 880-51208/2-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1039		mg/Kg		104	70 - 130	4	35

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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

Lab Sample ID: LCSD 880-51208/2-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51208

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08695		mg/Kg		87	70 - 130	5	35
Ethylbenzene			0.100	0.07867		mg/Kg		79	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1607		mg/Kg		80	70 - 130	5	35
o-Xylene			0.100	0.08271		mg/Kg		83	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: 890-4497-1 MS
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: BH23-01 0FT
Prep Type: Total/NA
Prep Batch: 51208

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0.7	70 - 130		
Toluene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0.7	70 - 130		
Ethylbenzene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0.6	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F1	0.200	<0.00399	U F1	mg/Kg		0.6	70 - 130		
o-Xylene	<0.00199	U F1	0.0998	<0.00200	U F1	mg/Kg		0.8	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 890-4497-1 MSD
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: BH23-01 0FT
Prep Type: Total/NA
Prep Batch: 51208

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00199	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00199	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00398	U F1	0.198	<0.00396	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	<0.00199	U F1	0.0990	<0.00198	U F1	mg/Kg		0	70 - 130	NC	35

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

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

Lab Sample ID: MB 880-51020/1-A
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51020

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 07:52	04/13/23 08:14	1

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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

Lab Sample ID: MB 880-51020/1-A
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51020

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 07:52	04/13/23 08:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 07:52	04/13/23 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*04/13/23 07:52*	*04/13/23 08:14*	*1*
o-Terphenyl	*173*	*S1+*	*70 - 130*	*04/13/23 07:52*	*04/13/23 08:14*	*1*

Lab Sample ID: LCS 880-51020/2-A
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51020

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	871.7		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	971.1		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*133*	*S1+*	*70 - 130*
o-Terphenyl	*132*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-51020/3-A
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51020

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	939.6		mg/Kg		94	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	829.2		mg/Kg		83	70 - 130	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*121*		*70 - 130*

Lab Sample ID: 890-4488-A-21-C MS
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51020

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1155		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1042		mg/Kg		104	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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

Lab Sample ID: 890-4488-A-21-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51010 — **Prep Batch: 51020**

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	<50.0	U	998	1073		mg/Kg		107	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1066		mg/Kg		107	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: MB 880-51080/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51008 — **Prep Batch: 51080**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/13/23 20:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/13/23 20:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 13:33	04/13/23 20:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*04/13/23 13:33*	*04/13/23 20:24*	*1*
o-Terphenyl	*114*		*70 - 130*	*04/13/23 13:33*	*04/13/23 20:24*	*1*

Lab Sample ID: LCS 880-51080/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51008 — **Prep Batch: 51080**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	822.6		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	895.5		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: LCSD 880-51080/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51008 — **Prep Batch: 51080**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	857.3		mg/Kg		86	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	923.0		mg/Kg		92	70 - 130	3	20

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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

Lab Sample ID: LCSD 880-51080/3-A
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51080

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-4496-A-1-C MS
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51080

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1145		mg/Kg		115	70 - 130
Diesel Range Organics (Over C10-C28)	517		998	1367		mg/Kg		85	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-4496-A-1-D MSD
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 51080

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	<49.9	U	999	1099		mg/Kg		110	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	517		999	1380		mg/Kg		86	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	85		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-51083/1-A
Matrix: Solid
Analysis Batch: 51215

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			04/14/23 18:42	1

Lab Sample ID: LCS 880-51083/2-A
Matrix: Solid
Analysis Batch: 51215

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	237.5		mg/Kg		95	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-51083/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51215

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	239.3		mg/Kg		96	90 - 110	1	20

Lab Sample ID: 890-4497-1 MS — **Client Sample ID: BH23-01 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51215

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30.5		249	274.1		mg/Kg		98	90 - 110

Lab Sample ID: 890-4497-1 MSD — **Client Sample ID: BH23-01 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51215

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	30.5		249	275.7		mg/Kg		99	90 - 110	1	20

Lab Sample ID: MB 880-51087/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51418

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/20/23 18:30	1

Lab Sample ID: LCS 880-51087/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51418

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			200	215.6		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-51087/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51418

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			200	217.8		mg/Kg		109	90 - 110	1	20

Lab Sample ID: 880-27130-A-11-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51418

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	110	F1	251	452.4	F1	mg/Kg		136	90 - 110

Lab Sample ID: 880-27130-A-11-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51418

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	110	F1	251	454.2	F1	mg/Kg		137	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

GC VOA

Prep Batch: 51075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-51075/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 51139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	8021B	51208
890-4497-2	BH23-01 2FT	Total/NA	Solid	8021B	51208
890-4497-3	BH23-02 0FT	Total/NA	Solid	8021B	51208
890-4497-4	BH23-02 2FT	Total/NA	Solid	8021B	51208
890-4497-5	BH23-03 0FT	Total/NA	Solid	8021B	51208
890-4497-6	BH23-03 2FT	Total/NA	Solid	8021B	51208
890-4497-7	BH23-04 0FT	Total/NA	Solid	8021B	51208
890-4497-8	BH23-04 2FT	Total/NA	Solid	8021B	51208
890-4497-9	BH23-05 0FT	Total/NA	Solid	8021B	51208
890-4497-10	BH23-05 2FT	Total/NA	Solid	8021B	51208
890-4497-11	BH23-06 0FT	Total/NA	Solid	8021B	51208
890-4497-12	BH23-06 2FT	Total/NA	Solid	8021B	51208
890-4497-13	BH23-07 0FT	Total/NA	Solid	8021B	51208
890-4497-14	BH23-07 2FT	Total/NA	Solid	8021B	51208
890-4497-15	BH23-08 0FT	Total/NA	Solid	8021B	51208
890-4497-16	BH23-08 2FT	Total/NA	Solid	8021B	51208
MB 880-51075/5-A	Method Blank	Total/NA	Solid	8021B	51075
MB 880-51208/5-A	Method Blank	Total/NA	Solid	8021B	51208
LCS 880-51208/1-A	Lab Control Sample	Total/NA	Solid	8021B	51208
LCSD 880-51208/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51208
890-4497-1 MS	BH23-01 0FT	Total/NA	Solid	8021B	51208
890-4497-1 MSD	BH23-01 0FT	Total/NA	Solid	8021B	51208

Prep Batch: 51208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	5035	
890-4497-2	BH23-01 2FT	Total/NA	Solid	5035	
890-4497-3	BH23-02 0FT	Total/NA	Solid	5035	
890-4497-4	BH23-02 2FT	Total/NA	Solid	5035	
890-4497-5	BH23-03 0FT	Total/NA	Solid	5035	
890-4497-6	BH23-03 2FT	Total/NA	Solid	5035	
890-4497-7	BH23-04 0FT	Total/NA	Solid	5035	
890-4497-8	BH23-04 2FT	Total/NA	Solid	5035	
890-4497-9	BH23-05 0FT	Total/NA	Solid	5035	
890-4497-10	BH23-05 2FT	Total/NA	Solid	5035	
890-4497-11	BH23-06 0FT	Total/NA	Solid	5035	
890-4497-12	BH23-06 2FT	Total/NA	Solid	5035	
890-4497-13	BH23-07 0FT	Total/NA	Solid	5035	
890-4497-14	BH23-07 2FT	Total/NA	Solid	5035	
890-4497-15	BH23-08 0FT	Total/NA	Solid	5035	
890-4497-16	BH23-08 2FT	Total/NA	Solid	5035	
MB 880-51208/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-51208/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51208/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4497-1 MS	BH23-01 0FT	Total/NA	Solid	5035	
890-4497-1 MSD	BH23-01 0FT	Total/NA	Solid	5035	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

GC VOA

Analysis Batch: 51256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	Total BTEX	
890-4497-2	BH23-01 2FT	Total/NA	Solid	Total BTEX	
890-4497-3	BH23-02 0FT	Total/NA	Solid	Total BTEX	
890-4497-4	BH23-02 2FT	Total/NA	Solid	Total BTEX	
890-4497-5	BH23-03 0FT	Total/NA	Solid	Total BTEX	
890-4497-6	BH23-03 2FT	Total/NA	Solid	Total BTEX	
890-4497-7	BH23-04 0FT	Total/NA	Solid	Total BTEX	
890-4497-8	BH23-04 2FT	Total/NA	Solid	Total BTEX	
890-4497-9	BH23-05 0FT	Total/NA	Solid	Total BTEX	
890-4497-10	BH23-05 2FT	Total/NA	Solid	Total BTEX	
890-4497-11	BH23-06 0FT	Total/NA	Solid	Total BTEX	
890-4497-12	BH23-06 2FT	Total/NA	Solid	Total BTEX	
890-4497-13	BH23-07 0FT	Total/NA	Solid	Total BTEX	
890-4497-14	BH23-07 2FT	Total/NA	Solid	Total BTEX	
890-4497-15	BH23-08 0FT	Total/NA	Solid	Total BTEX	
890-4497-16	BH23-08 2FT	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 51008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	8015B NM	51080
890-4497-2	BH23-01 2FT	Total/NA	Solid	8015B NM	51080
890-4497-3	BH23-02 0FT	Total/NA	Solid	8015B NM	51080
890-4497-4	BH23-02 2FT	Total/NA	Solid	8015B NM	51080
890-4497-5	BH23-03 0FT	Total/NA	Solid	8015B NM	51080
MB 880-51080/1-A	Method Blank	Total/NA	Solid	8015B NM	51080
LCS 880-51080/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51080
LCSD 880-51080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51080
890-4496-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	51080
890-4496-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	51080

Analysis Batch: 51010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-6	BH23-03 2FT	Total/NA	Solid	8015B NM	51020
890-4497-7	BH23-04 0FT	Total/NA	Solid	8015B NM	51020
890-4497-8	BH23-04 2FT	Total/NA	Solid	8015B NM	51020
890-4497-9	BH23-05 0FT	Total/NA	Solid	8015B NM	51020
890-4497-10	BH23-05 2FT	Total/NA	Solid	8015B NM	51020
890-4497-11	BH23-06 0FT	Total/NA	Solid	8015B NM	51020
890-4497-12	BH23-06 2FT	Total/NA	Solid	8015B NM	51020
890-4497-13	BH23-07 0FT	Total/NA	Solid	8015B NM	51020
890-4497-14	BH23-07 2FT	Total/NA	Solid	8015B NM	51020
890-4497-15	BH23-08 0FT	Total/NA	Solid	8015B NM	51020
890-4497-16	BH23-08 2FT	Total/NA	Solid	8015B NM	51020
MB 880-51020/1-A	Method Blank	Total/NA	Solid	8015B NM	51020
LCS 880-51020/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51020
LCSD 880-51020/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51020
890-4488-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	51020
890-4488-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	51020

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

GC Semi VOA

Prep Batch: 51020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-6	BH23-03 2FT	Total/NA	Solid	8015NM Prep	
890-4497-7	BH23-04 0FT	Total/NA	Solid	8015NM Prep	
890-4497-8	BH23-04 2FT	Total/NA	Solid	8015NM Prep	
890-4497-9	BH23-05 0FT	Total/NA	Solid	8015NM Prep	
890-4497-10	BH23-05 2FT	Total/NA	Solid	8015NM Prep	
890-4497-11	BH23-06 0FT	Total/NA	Solid	8015NM Prep	
890-4497-12	BH23-06 2FT	Total/NA	Solid	8015NM Prep	
890-4497-13	BH23-07 0FT	Total/NA	Solid	8015NM Prep	
890-4497-14	BH23-07 2FT	Total/NA	Solid	8015NM Prep	
890-4497-15	BH23-08 0FT	Total/NA	Solid	8015NM Prep	
890-4497-16	BH23-08 2FT	Total/NA	Solid	8015NM Prep	
MB 880-51020/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51020/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51020/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4488-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4488-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 51080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4497-2	BH23-01 2FT	Total/NA	Solid	8015NM Prep	
890-4497-3	BH23-02 0FT	Total/NA	Solid	8015NM Prep	
890-4497-4	BH23-02 2FT	Total/NA	Solid	8015NM Prep	
890-4497-5	BH23-03 0FT	Total/NA	Solid	8015NM Prep	
MB 880-51080/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51080/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4496-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4496-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 51193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Total/NA	Solid	8015 NM	
890-4497-2	BH23-01 2FT	Total/NA	Solid	8015 NM	
890-4497-3	BH23-02 0FT	Total/NA	Solid	8015 NM	
890-4497-4	BH23-02 2FT	Total/NA	Solid	8015 NM	
890-4497-5	BH23-03 0FT	Total/NA	Solid	8015 NM	
890-4497-6	BH23-03 2FT	Total/NA	Solid	8015 NM	
890-4497-7	BH23-04 0FT	Total/NA	Solid	8015 NM	
890-4497-8	BH23-04 2FT	Total/NA	Solid	8015 NM	
890-4497-9	BH23-05 0FT	Total/NA	Solid	8015 NM	
890-4497-10	BH23-05 2FT	Total/NA	Solid	8015 NM	
890-4497-11	BH23-06 0FT	Total/NA	Solid	8015 NM	
890-4497-12	BH23-06 2FT	Total/NA	Solid	8015 NM	
890-4497-13	BH23-07 0FT	Total/NA	Solid	8015 NM	
890-4497-14	BH23-07 2FT	Total/NA	Solid	8015 NM	
890-4497-15	BH23-08 0FT	Total/NA	Solid	8015 NM	
890-4497-16	BH23-08 2FT	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

HPLC/IC

Leach Batch: 51083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Soluble	Solid	DI Leach	
890-4497-2	BH23-01 2FT	Soluble	Solid	DI Leach	
890-4497-3	BH23-02 0FT	Soluble	Solid	DI Leach	
890-4497-4	BH23-02 2FT	Soluble	Solid	DI Leach	
890-4497-5	BH23-03 0FT	Soluble	Solid	DI Leach	
890-4497-6	BH23-03 2FT	Soluble	Solid	DI Leach	
890-4497-7	BH23-04 0FT	Soluble	Solid	DI Leach	
890-4497-8	BH23-04 2FT	Soluble	Solid	DI Leach	
890-4497-9	BH23-05 0FT	Soluble	Solid	DI Leach	
890-4497-10	BH23-05 2FT	Soluble	Solid	DI Leach	
MB 880-51083/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-51083/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-51083/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4497-1 MS	BH23-01 0FT	Soluble	Solid	DI Leach	
890-4497-1 MSD	BH23-01 0FT	Soluble	Solid	DI Leach	

Leach Batch: 51087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-11	BH23-06 0FT	Soluble	Solid	DI Leach	
890-4497-12	BH23-06 2FT	Soluble	Solid	DI Leach	
890-4497-13	BH23-07 0FT	Soluble	Solid	DI Leach	
890-4497-14	BH23-07 2FT	Soluble	Solid	DI Leach	
890-4497-15	BH23-08 0FT	Soluble	Solid	DI Leach	
890-4497-16	BH23-08 2FT	Soluble	Solid	DI Leach	
MB 880-51087/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-51087/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-51087/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-27130-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-27130-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 51215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-1	BH23-01 0FT	Soluble	Solid	300.0	51083
890-4497-2	BH23-01 2FT	Soluble	Solid	300.0	51083
890-4497-3	BH23-02 0FT	Soluble	Solid	300.0	51083
890-4497-4	BH23-02 2FT	Soluble	Solid	300.0	51083
890-4497-5	BH23-03 0FT	Soluble	Solid	300.0	51083
890-4497-6	BH23-03 2FT	Soluble	Solid	300.0	51083
890-4497-7	BH23-04 0FT	Soluble	Solid	300.0	51083
890-4497-8	BH23-04 2FT	Soluble	Solid	300.0	51083
890-4497-9	BH23-05 0FT	Soluble	Solid	300.0	51083
890-4497-10	BH23-05 2FT	Soluble	Solid	300.0	51083
MB 880-51083/1-A	Method Blank	Soluble	Solid	300.0	51083
LCS 880-51083/2-A	Lab Control Sample	Soluble	Solid	300.0	51083
LCSD 880-51083/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	51083
890-4497-1 MS	BH23-01 0FT	Soluble	Solid	300.0	51083
890-4497-1 MSD	BH23-01 0FT	Soluble	Solid	300.0	51083

Analysis Batch: 51418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-11	BH23-06 0FT	Soluble	Solid	300.0	51087

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

HPLC/IC (Continued)

Analysis Batch: 51418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4497-12	BH23-06 2FT	Soluble	Solid	300.0	51087
890-4497-13	BH23-07 0FT	Soluble	Solid	300.0	51087
890-4497-14	BH23-07 2FT	Soluble	Solid	300.0	51087
890-4497-15	BH23-08 0FT	Soluble	Solid	300.0	51087
890-4497-16	BH23-08 2FT	Soluble	Solid	300.0	51087
MB 880-51087/1-A	Method Blank	Soluble	Solid	300.0	51087
LCS 880-51087/2-A	Lab Control Sample	Soluble	Solid	300.0	51087
LCSD 880-51087/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	51087
880-27130-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	51087
880-27130-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	51087

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-01 0FT

Lab Sample ID: 890-4497-1

Date Collected: 04/11/23 10:00
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 22:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 12:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51080	04/13/23 13:33	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/14/23 04:11	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/14/23 20:04	SMC	EET MID

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4497-2

Date Collected: 04/11/23 10:05
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 22:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 12:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51080	04/13/23 13:33	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/14/23 04:33	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/14/23 20:18	SMC	EET MID

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4497-3

Date Collected: 04/11/23 10:10
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 22:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 12:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51080	04/13/23 13:33	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/14/23 04:55	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:25	SMC	EET MID

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4497-4

Date Collected: 04/11/23 10:15
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 23:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4497-4
Matrix: Solid
Date Collected: 04/11/23 10:15
Date Received: 04/12/23 08:03

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			51193	04/14/23 12:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51080	04/13/23 13:33	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/14/23 05:17	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:30	SMC	EET MID

Client Sample ID: BH23-03 0FT

Lab Sample ID: 890-4497-5
Matrix: Solid
Date Collected: 04/11/23 10:20
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 23:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 12:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51080	04/13/23 13:33	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/14/23 05:39	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:35	SMC	EET MID

Client Sample ID: BH23-03 2FT

Lab Sample ID: 890-4497-6
Matrix: Solid
Date Collected: 04/11/23 10:25
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 23:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 14:32	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:39	SMC	EET MID

Client Sample ID: BH23-04 0FT

Lab Sample ID: 890-4497-7
Matrix: Solid
Date Collected: 04/11/23 10:30
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 00:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 14:54	AJ	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-04 0FT

Lab Sample ID: 890-4497-7
Matrix: Solid
Date Collected: 04/11/23 10:30
Date Received: 04/12/23 08:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:44	SMC	EET MID

Client Sample ID: BH23-04 2FT

Lab Sample ID: 890-4497-8
Matrix: Solid
Date Collected: 04/11/23 10:35
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 00:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 15:16	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:49	SMC	EET MID

Client Sample ID: BH23-05 0FT

Lab Sample ID: 890-4497-9
Matrix: Solid
Date Collected: 04/11/23 10:40
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 00:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 15:37	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:54	SMC	EET MID

Client Sample ID: BH23-05 2FT

Lab Sample ID: 890-4497-10
Matrix: Solid
Date Collected: 04/11/23 10:45
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 01:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 16:20	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	51083	04/13/23 13:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51215	04/17/23 15:59	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-06 0FT

Lab Sample ID: 890-4497-11

Date Collected: 04/11/23 10:50
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 02:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 16:42	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:31	SMC	EET MID

Client Sample ID: BH23-06 2FT

Lab Sample ID: 890-4497-12

Date Collected: 04/11/23 10:55
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 03:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 17:04	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:36	SMC	EET MID

Client Sample ID: BH23-07 0FT

Lab Sample ID: 890-4497-13

Date Collected: 04/11/23 11:00
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 03:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 17:27	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:41	SMC	EET MID

Client Sample ID: BH23-07 2FT

Lab Sample ID: 890-4497-14

Date Collected: 04/11/23 11:05
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 03:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Client Sample ID: BH23-07 2FT

Lab Sample ID: 890-4497-14

Date Collected: 04/11/23 11:05
Matrix: Solid
Date Received: 04/12/23 08:03

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			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 17:49	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:46	SMC	EET MID

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4497-15

Date Collected: 04/11/23 11:10
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 04:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 18:11	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:51	SMC	EET MID

Client Sample ID: BH23-08 2FT

Lab Sample ID: 890-4497-16

Date Collected: 04/11/23 11:15
Matrix: Solid
Date Received: 04/12/23 08:03

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	51208	04/14/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/16/23 04:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51256	04/16/23 11:01	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51193	04/14/23 13:00	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51020	04/13/23 08:22	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51010	04/13/23 18:33	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	51087	04/13/23 13:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51418	04/20/23 20:55	SMC	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 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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	T104704400-22-25	06-30-23

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

Method Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

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 25 CTB

Job ID: 890-4497-1
SDG: 23E-01501

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4497-1	BH23-01 0FT	Solid	04/11/23 10:00	04/12/23 08:03	0
890-4497-2	BH23-01 2FT	Solid	04/11/23 10:05	04/12/23 08:03	2
890-4497-3	BH23-02 0FT	Solid	04/11/23 10:10	04/12/23 08:03	0
890-4497-4	BH23-02 2FT	Solid	04/11/23 10:15	04/12/23 08:03	2
890-4497-5	BH23-03 0FT	Solid	04/11/23 10:20	04/12/23 08:03	0
890-4497-6	BH23-03 2FT	Solid	04/11/23 10:25	04/12/23 08:03	2
890-4497-7	BH23-04 0FT	Solid	04/11/23 10:30	04/12/23 08:03	0
890-4497-8	BH23-04 2FT	Solid	04/11/23 10:35	04/12/23 08:03	2
890-4497-9	BH23-05 0FT	Solid	04/11/23 10:40	04/12/23 08:03	0
890-4497-10	BH23-05 2FT	Solid	04/11/23 10:45	04/12/23 08:03	2
890-4497-11	BH23-06 0FT	Solid	04/11/23 10:50	04/12/23 08:03	0
890-4497-12	BH23-06 2FT	Solid	04/11/23 10:55	04/12/23 08:03	2
890-4497-13	BH23-07 0FT	Solid	04/11/23 11:00	04/12/23 08:03	0
890-4497-14	BH23-07 2FT	Solid	04/11/23 11:05	04/12/23 08:03	2
890-4497-15	BH23-08 0FT	Solid	04/11/23 11:10	04/12/23 08:03	0
890-4497-16	BH23-08 2FT	Solid	04/11/23 11:15	04/12/23 08:03	2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	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 25 CTB	Turn Around	
Project Number:	23E-01501	☒ Routine ☐ Rush	
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.8	
Total Containers:		Corrected Temperature:	5.6	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D	Cl
BH23-01 0 Ft	soil	4/11	10:00	0'		1		✓	✓	✓
BH23-01 2 Ft			10:05	2'				✓	✓	✓
BH23-02 0 Ft			10:10	0'				✓	✓	✓
BH23-02 2 Ft			10:15	2'				✓	✓	✓
BH23-03 0 Ft			10:20	0'				✓	✓	✓
BH23-03 2 Ft			10:25	2'				✓	✓	✓
BH23-04 0 Ft			10:30	0'				✓	✓	✓
BH23-04 2 Ft			10:35	2'				✓	✓	✓
BH23-05 0 Ft			10:40	0'				✓	✓	✓
BH23-05 2 Ft			10:45	2'				✓	✓	✓

890-4497 Chain of Custody

Sample Comments

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4.12.23 803	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	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 25 CTB	Turn Around	
Project Number:	23E-01501	☒ Routine ☐ Rush	
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	R1	
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers:		Corrected Temperature:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH: 8015D	Cl
BH23-06	0Ft	Soil	4/11	10:50	0'	Pres	1	✓	✓	✓
BH23-06	2Ft			10:55	2'			✓	✓	✓
BH23-07	0Ft			11:00	0'			✓	✓	✓
BH23-07	2Ft			11:05	2'			✓	✓	✓
BH23-08	0Ft			11:10	0'			✓	✓	✓
BH23-08	2Ft			11:15	2'			✓	✓	✓

Preservative Codes

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

Sample Comments

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4-12-23	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4497-1
SDG Number: 23E-01501

Login Number: 4497
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: 890-4497-1
SDG Number: 23E-01501

Login Number: 4497
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/13/23 11:07 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/18/2023 2:49:14 PM

JOB DESCRIPTION

PLU 25 CTB
SDG NUMBER 25 E-01501

JOB NUMBER

890-4506-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

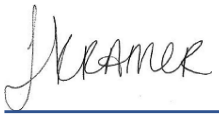
Eurofins Carlsbad

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



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4/18/2023 2:49:14 PM

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

Client: Vertex
Project/Site: PLU 25 CTB

Laboratory Job ID: 890-4506-1
SDG: 25 E-01501

Table of Contents

Eurofins Carlsbad
4/18/2023

Definitions/Glossary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Job ID: 890-4506-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4506-1

Receipt
The samples were received on 4/12/2023 4:23 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-09 0ft (890-4506-1), BH23-09 2ft (890-4506-2), BH23-10 0ft (890-4506-3), BH23-10 2ft (890-4506-4), BH23-11 0ft (890-4506-5), BH23-11 2ft (890-4506-6), BH23-12 0ft (890-4506-7), BH23-12 2ft (890-4506-8), BH23-13 0ft (890-4506-9) and BH23-13 2ft (890-4506-10).

GC VOA
Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-51209 and analytical batch 880-51275 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-12 2ft (890-4506-8) and BH23-13 0ft (890-4506-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH23-13 2ft (890-4506-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-51294 and analytical batch 880-51265 was outside the upper control limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-51314 and analytical batch 880-51407 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.BH23-09 0ft (890-4506-1)

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

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-09 0ft

Lab Sample ID: 890-4506-1
Matrix: Solid
Date Collected: 04/12/23 10:00
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/17/23 23:27	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/17/23 14:00	04/17/23 23:27	1
Ethylbenzene	<0.00201	U F1	0.00201		mg/Kg		04/17/23 14:00	04/17/23 23:27	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402		mg/Kg		04/17/23 14:00	04/17/23 23:27	1
o-Xylene	<0.00201	U F1	0.00201		mg/Kg		04/17/23 14:00	04/17/23 23:27	1
Xylenes, Total	<0.00402	U F1	0.00402		mg/Kg		04/17/23 14:00	04/17/23 23:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:27*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:27*	*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			04/18/23 12:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 10:29	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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 13:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 13:22	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*04/17/23 09:17*	*04/17/23 13:22*	*1*
o-Terphenyl	*90*		*70 - 130*	*04/17/23 09:17*	*04/17/23 13:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**131**		4.99		mg/Kg			04/17/23 17:42	1

Client Sample ID: BH23-09 2ft

Lab Sample ID: 890-4506-2
Matrix: Solid
Date Collected: 04/12/23 10:05
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/17/23 23:48	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/17/23 14:00	04/17/23 23:48	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/17/23 14:00	04/17/23 23:48	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/17/23 14:00	04/17/23 23:48	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/17/23 14:00	04/17/23 23:48	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/17/23 14:00	04/17/23 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:48*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-09 2ft

Lab Sample ID: 890-4506-2
Matrix: Solid
Date Collected: 04/12/23 10:05
Date Received: 04/12/23 16:23
Sample Depth: 2'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:48*	*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			04/18/23 12:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/18/23 10:29	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	<49.9	U	49.9	mg/Kg		04/17/23 09:17	04/17/23 14:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/17/23 09:17	04/17/23 14:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/17/23 09:17	04/17/23 14:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*115*		*70 - 130*	*04/17/23 09:17*	*04/17/23 14:28*	*1*
o-Terphenyl	*87*		*70 - 130*	*04/17/23 09:17*	*04/17/23 14:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**101**		5.03	mg/Kg			04/17/23 17:47	1

Client Sample ID: BH23-10 0ft

Lab Sample ID: 890-4506-3
Matrix: Solid
Date Collected: 04/12/23 10:10
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 00:08	1
Toluene	<0.00199	U	0.00199	mg/Kg		04/17/23 14:00	04/18/23 00:08	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		04/17/23 14:00	04/18/23 00:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		04/17/23 14:00	04/18/23 00:08	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		04/17/23 14:00	04/18/23 00:08	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		04/17/23 14:00	04/18/23 00:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:08*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:08*	*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			04/18/23 12:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/18/23 10:29	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-10 0ft

Lab Sample ID: 890-4506-3
Matrix: Solid
Date Collected: 04/12/23 10:10
Date Received: 04/12/23 16:23
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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 14:50	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 14:50	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*04/17/23 09:17*	*04/17/23 14:50*	*1*
o-Terphenyl	*88*		*70 - 130*	*04/17/23 09:17*	*04/17/23 14:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.8		4.99		mg/Kg			04/17/23 18:01	1

Client Sample ID: BH23-10 2ft

Lab Sample ID: 890-4506-4
Matrix: Solid
Date Collected: 04/12/23 10:15
Date Received: 04/12/23 16:23
Sample Depth: 2'

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		04/17/23 14:00	04/18/23 00:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 00:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 00:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 00:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 00:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:29*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:29*	*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			04/18/23 12:23	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 15:12	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 15:12	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:12*	*1*
o-Terphenyl	*90*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:12*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-10 2ft

Lab Sample ID: 890-4506-4
Matrix: Solid
Date Collected: 04/12/23 10:15
Date Received: 04/12/23 16:23
Sample Depth: 2'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.0		5.02		mg/Kg			04/17/23 18:05	1

Client Sample ID: BH23-11 0ft

Lab Sample ID: 890-4506-5
Matrix: Solid
Date Collected: 04/12/23 10:20
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 00:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 00:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 00:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/17/23 14:00	04/18/23 00:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 00:49	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/17/23 14:00	04/18/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:49*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/17/23 14:00*	*04/18/23 00:49*	*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			04/18/23 12:23	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 15:34	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 15:34	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:34*	*1*
o-Terphenyl	*89*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		5.02		mg/Kg			04/17/23 18:19	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-11 2ft

Lab Sample ID: 890-4506-6
Matrix: Solid
Date Collected: 04/12/23 10:25
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 01:09	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/17/23 14:00	04/18/23 01:09	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/17/23 14:00	04/18/23 01:09	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/17/23 14:00	04/18/23 01:09	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/17/23 14:00	04/18/23 01:09	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/17/23 14:00	04/18/23 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*04/17/23 14:00*	*04/18/23 01:09*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/17/23 14:00*	*04/18/23 01:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			04/18/23 12:23	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 15:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 15:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:56*	*1*
o-Terphenyl	*100*		*70 - 130*	*04/17/23 09:17*	*04/17/23 15:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	113		4.98		mg/Kg			04/17/23 18:23	1

Client Sample ID: BH23-12 0ft

Lab Sample ID: 890-4506-7
Matrix: Solid
Date Collected: 04/12/23 10:30
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 01:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 01:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/17/23 14:00*	*04/18/23 01:30*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-12 0ft

Lab Sample ID: 890-4506-7
Matrix: Solid
Date Collected: 04/12/23 10:30
Date Received: 04/12/23 16:23
Sample Depth: 0'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*04/17/23 14:00*	*04/18/23 01:30*	*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			04/18/23 12:23	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 16:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 16:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 16:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*113*		*70 - 130*	*04/17/23 09:17*	*04/17/23 16:18*	*1*
o-Terphenyl	*88*		*70 - 130*	*04/17/23 09:17*	*04/17/23 16:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		4.99		mg/Kg			04/17/23 18:28	1

Client Sample ID: BH23-12 2ft

Lab Sample ID: 890-4506-8
Matrix: Solid
Date Collected: 04/12/23 10:35
Date Received: 04/12/23 16:23
Sample Depth: 2'

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		04/17/23 14:00	04/18/23 01:50	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:50	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 01:50	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 14:00	04/18/23 01:50	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 14:00	04/18/23 01:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*04/17/23 14:00*	*04/18/23 01:50*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*04/17/23 14:00*	*04/18/23 01:50*	*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			04/18/23 12:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 10:29	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-12 2ft

Lab Sample ID: 890-4506-8
Matrix: Solid
Date Collected: 04/12/23 10:35
Date Received: 04/12/23 16:23
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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 16:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 16:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*04/17/23 09:17*	*04/17/23 16:40*	*1*
o-Terphenyl	*89*		*70 - 130*	*04/17/23 09:17*	*04/17/23 16:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.3		5.04		mg/Kg			04/17/23 18:32	1

Client Sample ID: BH23-13 0ft

Lab Sample ID: 890-4506-9
Matrix: Solid
Date Collected: 04/12/23 10:40
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 02:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 02:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 02:11	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/17/23 14:00	04/18/23 02:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/18/23 02:11	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/17/23 14:00	04/18/23 02:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*04/17/23 14:00*	*04/18/23 02:11*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*04/17/23 14:00*	*04/18/23 02:11*	*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			04/18/23 12:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 10:29	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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 17:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 17:01	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/17/23 09:17*	*04/17/23 17:01*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/17/23 09:17*	*04/17/23 17:01*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-13 0ft

Lab Sample ID: 890-4506-9
Matrix: Solid
Date Collected: 04/12/23 10:40
Date Received: 04/12/23 16:23
Sample Depth: 0'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	45.4		5.00		mg/Kg			04/17/23 18:37	1

Client Sample ID: BH23-13 2ft

Lab Sample ID: 890-4506-10
Matrix: Solid
Date Collected: 04/12/23 10:45
Date Received: 04/12/23 16:23
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		04/17/23 14:00	04/18/23 02:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/17/23 14:00	04/18/23 02:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/17/23 14:00	04/18/23 02:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/17/23 14:00	04/18/23 02:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/17/23 14:00	04/18/23 02:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/17/23 14:00	04/18/23 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*04/17/23 14:00*	*04/18/23 02:31*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*04/17/23 14:00*	*04/18/23 02:31*	*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			04/18/23 12:23	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 17:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 17:22	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 17:22*	*1*
o-Terphenyl	*104*		*70 - 130*	*04/17/23 09:17*	*04/17/23 17:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.5		4.99		mg/Kg			04/17/23 18:41	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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)
890-4506-1	BH23-09 0ft	88	82
890-4506-1 MS	BH23-09 0ft	97	118
890-4506-1 MSD	BH23-09 0ft	98	115
890-4506-2	BH23-09 2ft	104	90
890-4506-3	BH23-10 0ft	102	81
890-4506-4	BH23-10 2ft	106	81
890-4506-5	BH23-11 0ft	126	100
890-4506-6	BH23-11 2ft	129	99
890-4506-7	BH23-12 0ft	102	85
890-4506-8	BH23-12 2ft	131 S1+	108
890-4506-9	BH23-13 0ft	133 S1+	110
890-4506-10	BH23-13 2ft	98	90
LCS 880-51209/1-A	Lab Control Sample	122	107
LCSD 880-51209/2-A	Lab Control Sample Dup	117	110
MB 880-51204/5-A	Method Blank	71	85
MB 880-51209/5-B	Method Blank	73	82

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)
890-4506-1	BH23-09 0ft	113	90
890-4506-1 MS	BH23-09 0ft	110	80
890-4506-1 MSD	BH23-09 0ft	122	93
890-4506-2	BH23-09 2ft	115	87
890-4506-3	BH23-10 0ft	113	88
890-4506-4	BH23-10 2ft	117	90
890-4506-5	BH23-11 0ft	118	89
890-4506-6	BH23-11 2ft	128	100
890-4506-7	BH23-12 0ft	113	88
890-4506-8	BH23-12 2ft	115	89
890-4506-9	BH23-13 0ft	125	95
890-4506-10	BH23-13 2ft	132 S1+	104
LCS 880-51294/2-A	Lab Control Sample	96	77
LCSD 880-51294/3-A	Lab Control Sample Dup	102	75
MB 880-51294/1-A	Method Blank	153 S1+	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51204/5-A
Matrix: Solid
Analysis Batch: 51275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51204

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:30	04/17/23 11:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:30	04/17/23 11:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:30	04/17/23 11:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/14/23 13:30	04/17/23 11:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 13:30	04/17/23 11:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/14/23 13:30	04/17/23 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*04/14/23 13:30*	*04/17/23 11:12*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*04/14/23 13:30*	*04/17/23 11:12*	*1*

Lab Sample ID: MB 880-51209/5-B
Matrix: Solid
Analysis Batch: 51275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51209

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/17/23 23:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/17/23 23:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/17/23 23:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/17/23 14:00	04/17/23 23:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/17/23 14:00	04/17/23 23:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/17/23 14:00	04/17/23 23:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:06*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/17/23 14:00*	*04/17/23 23:06*	*1*

Lab Sample ID: LCS 880-51209/1-A
Matrix: Solid
Analysis Batch: 51275

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51209

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07228		mg/Kg		72	70 - 130		
Toluene			0.100	0.07264		mg/Kg		73	70 - 130		
Ethylbenzene			0.100	0.07643		mg/Kg		76	70 - 130		
m-Xylene & p-Xylene			0.200	0.1592		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.08273		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-51209/2-A
Matrix: Solid
Analysis Batch: 51275

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51209

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07557		mg/Kg		76	70 - 130	4	35

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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

Lab Sample ID: LCSD 880-51209/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51275 — **Prep Batch: 51209**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07491		mg/Kg		75	70 - 130	3	35
Ethylbenzene			0.100	0.07261		mg/Kg		73	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1536		mg/Kg		77	70 - 130	4	35
o-Xylene			0.100	0.07966		mg/Kg		80	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-4506-1 MS — **Client Sample ID: BH23-09 0ft**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51275 — **Prep Batch: 51209**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.1030		mg/Kg		103	70 - 130
Toluene	<0.00201	U	0.0998	0.08598		mg/Kg		86	70 - 130
Ethylbenzene	<0.00201	U F1	0.0998	0.07695		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1540		mg/Kg		77	70 - 130
o-Xylene	<0.00201	U F1	0.0998	0.07788		mg/Kg		78	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: 890-4506-1 MSD — **Client Sample ID: BH23-09 0ft**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51275 — **Prep Batch: 51209**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.08233		mg/Kg		82	70 - 130	22	35
Toluene	<0.00201	U	0.100	0.07095		mg/Kg		71	70 - 130	19	35
Ethylbenzene	<0.00201	U F1	0.100	0.06501	F1	mg/Kg		65	70 - 130	17	35
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1308	F1	mg/Kg		65	70 - 130	16	35
o-Xylene	<0.00201	U F1	0.100	0.06720	F1	mg/Kg		67	70 - 130	15	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

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

Lab Sample ID: MB 880-51294/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51265 — **Prep Batch: 51294**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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

Lab Sample ID: MB 880-51294/1-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51294

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*153*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 09:56*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 09:56*	*1*

Lab Sample ID: LCS 880-51294/2-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51294

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	919.4		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	826.9		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

Lab Sample ID: LCSD 880-51294/3-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51294

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	909.7		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	868.2		mg/Kg		87	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

Lab Sample ID: 890-4506-1 MS
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: BH23-09 0ft
Prep Type: Total/NA
Prep Batch: 51294

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1048		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	833.3		mg/Kg		83	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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

Lab Sample ID: 890-4506-1 MSD — **Client Sample ID: BH23-09 0ft**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51265 — **Prep Batch: 51294**

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	<49.9	U	999	1084		mg/Kg		106	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	980.4		mg/Kg		98	70 - 130	16	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*122*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-51314/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51407

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/17/23 16:29	1

Lab Sample ID: LCS 880-51314/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	234.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-51314/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	241.5		mg/Kg		97	90 - 110	3	20

Lab Sample ID: 890-4506-2 MS — **Client Sample ID: BH23-09 2ft**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	101		252	339.4		mg/Kg		95	90 - 110		

Lab Sample ID: 890-4506-2 MSD — **Client Sample ID: BH23-09 2ft**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 51407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	101		252	348.9		mg/Kg		98	90 - 110	3	20

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

GC VOA

Prep Batch: 51204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-51204/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 51209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	5035	
890-4506-2	BH23-09 2ft	Total/NA	Solid	5035	
890-4506-3	BH23-10 0ft	Total/NA	Solid	5035	
890-4506-4	BH23-10 2ft	Total/NA	Solid	5035	
890-4506-5	BH23-11 0ft	Total/NA	Solid	5035	
890-4506-6	BH23-11 2ft	Total/NA	Solid	5035	
890-4506-7	BH23-12 0ft	Total/NA	Solid	5035	
890-4506-8	BH23-12 2ft	Total/NA	Solid	5035	
890-4506-9	BH23-13 0ft	Total/NA	Solid	5035	
890-4506-10	BH23-13 2ft	Total/NA	Solid	5035	
MB 880-51209/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-51209/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51209/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4506-1 MS	BH23-09 0ft	Total/NA	Solid	5035	
890-4506-1 MSD	BH23-09 0ft	Total/NA	Solid	5035	

Analysis Batch: 51275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	8021B	51209
890-4506-2	BH23-09 2ft	Total/NA	Solid	8021B	51209
890-4506-3	BH23-10 0ft	Total/NA	Solid	8021B	51209
890-4506-4	BH23-10 2ft	Total/NA	Solid	8021B	51209
890-4506-5	BH23-11 0ft	Total/NA	Solid	8021B	51209
890-4506-6	BH23-11 2ft	Total/NA	Solid	8021B	51209
890-4506-7	BH23-12 0ft	Total/NA	Solid	8021B	51209
890-4506-8	BH23-12 2ft	Total/NA	Solid	8021B	51209
890-4506-9	BH23-13 0ft	Total/NA	Solid	8021B	51209
890-4506-10	BH23-13 2ft	Total/NA	Solid	8021B	51209
MB 880-51204/5-A	Method Blank	Total/NA	Solid	8021B	51204
MB 880-51209/5-B	Method Blank	Total/NA	Solid	8021B	51209
LCS 880-51209/1-A	Lab Control Sample	Total/NA	Solid	8021B	51209
LCSD 880-51209/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51209
890-4506-1 MS	BH23-09 0ft	Total/NA	Solid	8021B	51209
890-4506-1 MSD	BH23-09 0ft	Total/NA	Solid	8021B	51209

Analysis Batch: 51399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	Total BTEX	
890-4506-2	BH23-09 2ft	Total/NA	Solid	Total BTEX	
890-4506-3	BH23-10 0ft	Total/NA	Solid	Total BTEX	
890-4506-4	BH23-10 2ft	Total/NA	Solid	Total BTEX	
890-4506-5	BH23-11 0ft	Total/NA	Solid	Total BTEX	
890-4506-6	BH23-11 2ft	Total/NA	Solid	Total BTEX	
890-4506-7	BH23-12 0ft	Total/NA	Solid	Total BTEX	
890-4506-8	BH23-12 2ft	Total/NA	Solid	Total BTEX	
890-4506-9	BH23-13 0ft	Total/NA	Solid	Total BTEX	
890-4506-10	BH23-13 2ft	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

GC Semi VOA

Analysis Batch: 51265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	8015B NM	51294
890-4506-2	BH23-09 2ft	Total/NA	Solid	8015B NM	51294
890-4506-3	BH23-10 0ft	Total/NA	Solid	8015B NM	51294
890-4506-4	BH23-10 2ft	Total/NA	Solid	8015B NM	51294
890-4506-5	BH23-11 0ft	Total/NA	Solid	8015B NM	51294
890-4506-6	BH23-11 2ft	Total/NA	Solid	8015B NM	51294
890-4506-7	BH23-12 0ft	Total/NA	Solid	8015B NM	51294
890-4506-8	BH23-12 2ft	Total/NA	Solid	8015B NM	51294
890-4506-9	BH23-13 0ft	Total/NA	Solid	8015B NM	51294
890-4506-10	BH23-13 2ft	Total/NA	Solid	8015B NM	51294
MB 880-51294/1-A	Method Blank	Total/NA	Solid	8015B NM	51294
LCS 880-51294/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51294
LCSD 880-51294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51294
890-4506-1 MS	BH23-09 0ft	Total/NA	Solid	8015B NM	51294
890-4506-1 MSD	BH23-09 0ft	Total/NA	Solid	8015B NM	51294

Prep Batch: 51294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	8015NM Prep	
890-4506-2	BH23-09 2ft	Total/NA	Solid	8015NM Prep	
890-4506-3	BH23-10 0ft	Total/NA	Solid	8015NM Prep	
890-4506-4	BH23-10 2ft	Total/NA	Solid	8015NM Prep	
890-4506-5	BH23-11 0ft	Total/NA	Solid	8015NM Prep	
890-4506-6	BH23-11 2ft	Total/NA	Solid	8015NM Prep	
890-4506-7	BH23-12 0ft	Total/NA	Solid	8015NM Prep	
890-4506-8	BH23-12 2ft	Total/NA	Solid	8015NM Prep	
890-4506-9	BH23-13 0ft	Total/NA	Solid	8015NM Prep	
890-4506-10	BH23-13 2ft	Total/NA	Solid	8015NM Prep	
MB 880-51294/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51294/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4506-1 MS	BH23-09 0ft	Total/NA	Solid	8015NM Prep	
890-4506-1 MSD	BH23-09 0ft	Total/NA	Solid	8015NM Prep	

Analysis Batch: 51392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Total/NA	Solid	8015 NM	
890-4506-2	BH23-09 2ft	Total/NA	Solid	8015 NM	
890-4506-3	BH23-10 0ft	Total/NA	Solid	8015 NM	
890-4506-4	BH23-10 2ft	Total/NA	Solid	8015 NM	
890-4506-5	BH23-11 0ft	Total/NA	Solid	8015 NM	
890-4506-6	BH23-11 2ft	Total/NA	Solid	8015 NM	
890-4506-7	BH23-12 0ft	Total/NA	Solid	8015 NM	
890-4506-8	BH23-12 2ft	Total/NA	Solid	8015 NM	
890-4506-9	BH23-13 0ft	Total/NA	Solid	8015 NM	
890-4506-10	BH23-13 2ft	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

HPLC/IC

Leach Batch: 51314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Soluble	Solid	DI Leach	
890-4506-2	BH23-09 2ft	Soluble	Solid	DI Leach	
890-4506-3	BH23-10 0ft	Soluble	Solid	DI Leach	
890-4506-4	BH23-10 2ft	Soluble	Solid	DI Leach	
890-4506-5	BH23-11 0ft	Soluble	Solid	DI Leach	
890-4506-6	BH23-11 2ft	Soluble	Solid	DI Leach	
890-4506-7	BH23-12 0ft	Soluble	Solid	DI Leach	
890-4506-8	BH23-12 2ft	Soluble	Solid	DI Leach	
890-4506-9	BH23-13 0ft	Soluble	Solid	DI Leach	
890-4506-10	BH23-13 2ft	Soluble	Solid	DI Leach	
MB 880-51314/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-51314/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-51314/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4506-2 MS	BH23-09 2ft	Soluble	Solid	DI Leach	
890-4506-2 MSD	BH23-09 2ft	Soluble	Solid	DI Leach	

Analysis Batch: 51407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4506-1	BH23-09 0ft	Soluble	Solid	300.0	51314
890-4506-2	BH23-09 2ft	Soluble	Solid	300.0	51314
890-4506-3	BH23-10 0ft	Soluble	Solid	300.0	51314
890-4506-4	BH23-10 2ft	Soluble	Solid	300.0	51314
890-4506-5	BH23-11 0ft	Soluble	Solid	300.0	51314
890-4506-6	BH23-11 2ft	Soluble	Solid	300.0	51314
890-4506-7	BH23-12 0ft	Soluble	Solid	300.0	51314
890-4506-8	BH23-12 2ft	Soluble	Solid	300.0	51314
890-4506-9	BH23-13 0ft	Soluble	Solid	300.0	51314
890-4506-10	BH23-13 2ft	Soluble	Solid	300.0	51314
MB 880-51314/1-A	Method Blank	Soluble	Solid	300.0	51314
LCS 880-51314/2-A	Lab Control Sample	Soluble	Solid	300.0	51314
LCSD 880-51314/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	51314
890-4506-2 MS	BH23-09 2ft	Soluble	Solid	300.0	51314
890-4506-2 MSD	BH23-09 2ft	Soluble	Solid	300.0	51314

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-09 0ft

Lab Sample ID: 890-4506-1
Matrix: Solid
Date Collected: 04/12/23 10:00
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/17/23 23:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 13:22	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 17:42	SMC	EET MID

Client Sample ID: BH23-09 2ft

Lab Sample ID: 890-4506-2
Matrix: Solid
Date Collected: 04/12/23 10:05
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/17/23 23:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 14:28	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 17:47	SMC	EET MID

Client Sample ID: BH23-10 0ft

Lab Sample ID: 890-4506-3
Matrix: Solid
Date Collected: 04/12/23 10:10
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 00:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 14:50	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:01	SMC	EET MID

Client Sample ID: BH23-10 2ft

Lab Sample ID: 890-4506-4
Matrix: Solid
Date Collected: 04/12/23 10:15
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 00:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-10 2ft

Lab Sample ID: 890-4506-4
Matrix: Solid
Date Collected: 04/12/23 10:15
Date Received: 04/12/23 16:23

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			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 15:12	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:05	SMC	EET MID

Client Sample ID: BH23-11 0ft

Lab Sample ID: 890-4506-5
Matrix: Solid
Date Collected: 04/12/23 10:20
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 00:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 15:34	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:19	SMC	EET MID

Client Sample ID: BH23-11 2ft

Lab Sample ID: 890-4506-6
Matrix: Solid
Date Collected: 04/12/23 10:25
Date Received: 04/12/23 16:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 01:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 15:56	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:23	SMC	EET MID

Client Sample ID: BH23-12 0ft

Lab Sample ID: 890-4506-7
Matrix: Solid
Date Collected: 04/12/23 10:30
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 01:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 16:18	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Client Sample ID: BH23-12 0ft

Lab Sample ID: 890-4506-7
Date Collected: 04/12/23 10:30
Matrix: Solid
Date Received: 04/12/23 16:23

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:28	SMC	EET MID

Client Sample ID: BH23-12 2ft

Lab Sample ID: 890-4506-8
Date Collected: 04/12/23 10:35
Matrix: Solid
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 01:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 16:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:32	SMC	EET MID

Client Sample ID: BH23-13 0ft

Lab Sample ID: 890-4506-9
Date Collected: 04/12/23 10:40
Matrix: Solid
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 02:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 17:01	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:37	SMC	EET MID

Client Sample ID: BH23-13 2ft

Lab Sample ID: 890-4506-10
Date Collected: 04/12/23 10:45
Matrix: Solid
Date Received: 04/12/23 16:23

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	51209	04/17/23 14:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51275	04/18/23 02:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51399	04/18/23 12:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			51392	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 17:22	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51407	04/17/23 18:41	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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	T104704400-22-25	06-30-23

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

Method Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

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 25 CTB

Job ID: 890-4506-1
SDG: 25 E-01501

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4506-1	BH23-09 0ft	Solid	04/12/23 10:00	04/12/23 16:23	0'
890-4506-2	BH23-09 2ft	Solid	04/12/23 10:05	04/12/23 16:23	2'
890-4506-3	BH23-10 0ft	Solid	04/12/23 10:10	04/12/23 16:23	0'
890-4506-4	BH23-10 2ft	Solid	04/12/23 10:15	04/12/23 16:23	2'
890-4506-5	BH23-11 0ft	Solid	04/12/23 10:20	04/12/23 16:23	0'
890-4506-6	BH23-11 2ft	Solid	04/12/23 10:25	04/12/23 16:23	2'
890-4506-7	BH23-12 0ft	Solid	04/12/23 10:30	04/12/23 16:23	0'
890-4506-8	BH23-12 2ft	Solid	04/12/23 10:35	04/12/23 16:23	2'
890-4506-9	BH23-13 0ft	Solid	04/12/23 10:40	04/12/23 16:23	0'
890-4506-10	BH23-13 2ft	Solid	04/12/23 10:45	04/12/23 16:23	2'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM	City, State ZIP:	
Phone:	575 988 1472	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 25 CTB	Turn Around	
Project Number:	23E-01501	☒ Routine ☐ Rush	
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IRM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	+0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D	Cl	Sample Comments
BH23-09 0FT	soil	4/12	10:00	0'	Grab	1		✓	✓	✓	
BH23-09 2FT			10:05	2'				✓	✓	✓	
BH23-10 0FT			10:10	0'				✓	✓	✓	
BH23-10 2FT			10:15	2'				✓	✓	✓	
BH23-11 0FT			10:20	0'				✓	✓	✓	
BH23-11 2FT			10:25	2'				✓	✓	✓	
BH23-12 0FT			10:30	0'				✓	✓	✓	
BH23-12 2FT			10:35	2'				✓	✓	✓	
BH23-13 0FT			10:40	0'				✓	✓	✓	
BH23-13 2FT			10:45	2'				✓	✓	✓	

890-4506 Chain of Custody

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stef	4/12/23 1623	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4506-1
SDG Number: 25 E-01501

Login Number: 4506
List Number: 1
Creator: Stutzman, Amanda

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: 890-4506-1
SDG Number: 25 E-01501

Login Number: 4506
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/14/23 10:11 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/21/2023 4:13:15 PM

JOB DESCRIPTION

PLU 25 CTB
SDG NUMBER 23E-01501

JOB NUMBER

890-4515-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

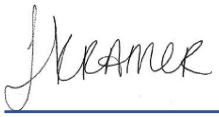
Eurofins Carlsbad

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



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

Client: Vertex
Project/Site: PLU 25 CTB

Laboratory Job ID: 890-4515-1
SDG: 23E-01501

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 890-4515-1
Project/Site: PLU 25 CTB SDG: 23E-01501

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Job ID: 890-4515-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4515-1

Receipt
The samples were received on 4/13/2023 3:11 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 12.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-14 0FT (890-4515-1), BH23-14 2FT (890-4515-2), BH23-14 4FT (890-4515-3), BH23-15 0FT (890-4515-4), BH23-15 2FT (890-4515-5), BH23-15 4FT (890-4515-6), BH23-16 0FT (890-4515-7), BH23-16 2FT (890-4515-8), BH23-16 4FT (890-4515-9), BH23-17 0FT (890-4515-10), BH23-17 2FT (890-4515-11) and BH23-17 4FT (890-4515-12).

GC VOA
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: BH23-14 4FT (890-4515-3) and BH23-15 2FT (890-4515-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-51294 and analytical batch 880-51265 was outside the upper control limits.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-51311 and 880-51311 and analytical batch 880-51414 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.BH23-15 4FT (890-4515-6), BH23-16 0FT (890-4515-7), BH23-16 2FT (890-4515-8), BH23-16 4FT (890-4515-9), BH23-17 0FT (890-4515-10), BH23-17 2FT (890-4515-11), BH23-17 4FT (890-4515-12), (890-4515-A-6-C MS) and (890-4515-A-6-D MSD)

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

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-14 0FT

Lab Sample ID: 890-4515-1
Matrix: Solid
Date Collected: 04/13/23 09:00
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 12:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/17/23 13:48	04/18/23 12:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/17/23 13:48	04/18/23 12:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*04/17/23 13:48*	*04/18/23 12:40*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 13:48*	*04/18/23 12:40*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 18:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 18:32	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*04/17/23 09:17*	*04/17/23 18:32*	*1*
o-Terphenyl	*97*		*70 - 130*	*04/17/23 09:17*	*04/17/23 18:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**995**		4.97		mg/Kg			04/21/23 13:36	1

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4515-2
Matrix: Solid
Date Collected: 04/13/23 09:05
Date Received: 04/13/23 15:11
Sample Depth: 2

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		04/17/23 13:48	04/18/23 13:00	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 13:00	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 13:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 13:00	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 13:00	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 13:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:00*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4515-2
Matrix: Solid
Date Collected: 04/13/23 09:05
Date Received: 04/13/23 15:11
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:00*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 18:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		04/17/23 09:17	04/17/23 18:53	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		04/17/23 09:17	04/17/23 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*04/17/23 09:17*	*04/17/23 18:53*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/17/23 09:17*	*04/17/23 18:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90.5**		5.03	mg/Kg			04/21/23 13:41	1

Client Sample ID: BH23-14 4FT

Lab Sample ID: 890-4515-3
Matrix: Solid
Date Collected: 04/13/23 09:10
Date Received: 04/13/23 15:11
Sample Depth: 4

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		04/17/23 13:48	04/18/23 13:21	1
Toluene	<0.00199	U	0.00199	mg/Kg		04/17/23 13:48	04/18/23 13:21	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		04/17/23 13:48	04/18/23 13:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		04/17/23 13:48	04/18/23 13:21	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		04/17/23 13:48	04/18/23 13:21	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		04/17/23 13:48	04/18/23 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:21*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:21*	*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			04/18/23 16:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/18/23 10:29	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-14 4FT

Lab Sample ID: 890-4515-3
Matrix: Solid
Date Collected: 04/13/23 09:10
Date Received: 04/13/23 15:11
Sample Depth: 4

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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:15	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 19:15*	*1*
o-Terphenyl	*102*		*70 - 130*	*04/17/23 09:17*	*04/17/23 19:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	146		5.02		mg/Kg			04/21/23 13:45	1

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4515-4
Matrix: Solid
Date Collected: 04/13/23 09:15
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 13:41	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/17/23 13:48	04/18/23 13:41	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/17/23 13:48	04/18/23 13:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/17/23 13:48	04/18/23 13:41	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/17/23 13:48	04/18/23 13:41	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/17/23 13:48	04/18/23 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:41*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/17/23 13:48*	*04/18/23 13:41*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 19:36	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 19:36	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/17/23 09:17	04/17/23 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*04/17/23 09:17*	*04/17/23 19:36*	*1*
o-Terphenyl	*100*		*70 - 130*	*04/17/23 09:17*	*04/17/23 19:36*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4515-4
Matrix: Solid
Date Collected: 04/13/23 09:15
Date Received: 04/13/23 15:11
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4740		25.0		mg/Kg			04/21/23 13:50	5

Client Sample ID: BH23-15 2FT

Lab Sample ID: 890-4515-5
Matrix: Solid
Date Collected: 04/13/23 09:20
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 14:02	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 14:02	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 14:02	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/17/23 13:48	04/18/23 14:02	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 14:02	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/17/23 13:48	04/18/23 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:02*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:02*	*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			04/18/23 16:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 10:29	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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 19:58*	*1*
o-Terphenyl	*105*		*70 - 130*	*04/17/23 09:17*	*04/17/23 19:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		5.00		mg/Kg			04/21/23 13:55	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-15 4FT

Lab Sample ID: 890-4515-6
Matrix: Solid
Date Collected: 04/13/23 09:25
Date Received: 04/13/23 15:11
Sample Depth: 4

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		04/17/23 13:48	04/18/23 14:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 14:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:22*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:22*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 20:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 20:20	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/17/23 09:17*	*04/17/23 20:20*	*1*
o-Terphenyl	*92*		*70 - 130*	*04/17/23 09:17*	*04/17/23 20:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**126**	**F1**	5.01		mg/Kg			04/21/23 13:59	1

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4515-7
Matrix: Solid
Date Collected: 04/13/23 09:30
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 14:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 14:42	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 14:42	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:42*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4515-7
Matrix: Solid
Date Collected: 04/13/23 09:30
Date Received: 04/13/23 15:11
Sample Depth: 0

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/17/23 13:48*	*04/18/23 14:42*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 20:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/17/23 09:17	04/17/23 20:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/17/23 09:17	04/17/23 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/17/23 09:17*	*04/17/23 20:41*	*1*
o-Terphenyl	*92*		*70 - 130*	*04/17/23 09:17*	*04/17/23 20:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**431**		4.99	mg/Kg			04/21/23 14:13	1

Client Sample ID: BH23-16 2FT

Lab Sample ID: 890-4515-8
Matrix: Solid
Date Collected: 04/13/23 09:35
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 15:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/17/23 13:48	04/18/23 15:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/17/23 13:48	04/18/23 15:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		04/17/23 13:48	04/18/23 15:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/17/23 13:48	04/18/23 15:03	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		04/17/23 13:48	04/18/23 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:03*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:03*	*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			04/18/23 16:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/18/23 10:29	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-16 2FT

Lab Sample ID: 890-4515-8
Matrix: Solid
Date Collected: 04/13/23 09:35
Date Received: 04/13/23 15:11
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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:03	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:03*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	101		4.95		mg/Kg			04/21/23 14:17	1

Client Sample ID: BH23-16 4FT

Lab Sample ID: 890-4515-9
Matrix: Solid
Date Collected: 04/13/23 09:40
Date Received: 04/13/23 15:11
Sample Depth: 4

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		04/17/23 13:48	04/18/23 15:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/17/23 13:48	04/18/23 15:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/17/23 13:48	04/18/23 15:23	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		04/17/23 13:48	04/18/23 15:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/17/23 13:48	04/18/23 15:23	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		04/17/23 13:48	04/18/23 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:23*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:23*	*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			04/18/23 16:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 10:29	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	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:24	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:17	04/17/23 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:24*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:24*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-16 4FT

Lab Sample ID: 890-4515-9
Matrix: Solid
Date Collected: 04/13/23 09:40
Date Received: 04/13/23 15:11
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	122		4.99		mg/Kg			04/21/23 15:41	1

Client Sample ID: BH23-17 0FT

Lab Sample ID: 890-4515-10
Matrix: Solid
Date Collected: 04/13/23 09:45
Date Received: 04/13/23 15:11
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		04/17/23 13:48	04/18/23 15:44	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 15:44	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 15:44	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		04/17/23 13:48	04/18/23 15:44	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/17/23 13:48	04/18/23 15:44	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		04/17/23 13:48	04/18/23 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:44*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/17/23 13:48*	*04/18/23 15:44*	*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			04/18/23 16:22	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			04/18/23 10:29	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		04/17/23 09:17	04/17/23 21:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 21:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:45*	*1*
o-Terphenyl	*93*		*70 - 130*	*04/17/23 09:17*	*04/17/23 21:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		5.04		mg/Kg			04/21/23 14:32	1

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-17 2FT

Lab Sample ID: 890-4515-11
Matrix: Solid
Date Collected: 04/13/23 09:50
Date Received: 04/13/23 15:11
Sample Depth: 2

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		04/17/23 13:48	04/18/23 17:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 17:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 17:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 17:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 17:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*04/17/23 13:48*	*04/18/23 17:35*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 13:48*	*04/18/23 17:35*	*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			04/19/23 12:34	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			04/18/23 09:33	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		04/17/23 09:25	04/17/23 15:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:25	04/17/23 15:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:25	04/17/23 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*04/17/23 09:25*	*04/17/23 15:24*	*1*
o-Terphenyl	*92*		*70 - 130*	*04/17/23 09:25*	*04/17/23 15:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**99.2**		5.05		mg/Kg			04/21/23 14:37	1

Client Sample ID: BH23-17 4FT

Lab Sample ID: 890-4515-12
Matrix: Solid
Date Collected: 04/13/23 09:55
Date Received: 04/13/23 15:11
Sample Depth: 4

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		04/17/23 13:48	04/18/23 19:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 19:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 19:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 19:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/17/23 13:48	04/18/23 19:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/17/23 13:48	04/18/23 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*04/17/23 13:48*	*04/18/23 19:17*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-17 4FT

Date Collected: 04/13/23 09:55
Date Received: 04/13/23 15:11
Sample Depth: 4

Lab Sample ID: 890-4515-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*04/17/23 13:48*	*04/18/23 19:17*	*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			04/19/23 12:34	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/18/23 09:33	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	<49.9	U	49.9		mg/Kg		04/17/23 09:25	04/17/23 15:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/17/23 09:25	04/17/23 15:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/17/23 09:25	04/17/23 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*04/17/23 09:25*	*04/17/23 15:46*	*1*
o-Terphenyl	*83*		*70 - 130*	*04/17/23 09:25*	*04/17/23 15:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**163**		4.99		mg/Kg			04/21/23 14:41	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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)
890-4515-1	BH23-14 0FT	103	106
890-4515-1 MS	BH23-14 0FT	107	112
890-4515-1 MSD	BH23-14 0FT	109	107
890-4515-2	BH23-14 2FT	106	104
890-4515-3	BH23-14 4FT	104	104
890-4515-4	BH23-15 0FT	108	103
890-4515-5	BH23-15 2FT	100	105
890-4515-6	BH23-15 4FT	102	105
890-4515-7	BH23-16 0FT	106	107
890-4515-8	BH23-16 2FT	107	102
890-4515-9	BH23-16 4FT	105	105
890-4515-10	BH23-17 0FT	114	105
890-4515-11	BH23-17 2FT	100	106
890-4515-12	BH23-17 4FT	107	106
LCS 880-51325/1-A	Lab Control Sample	104	111
LCSD 880-51325/2-A	Lab Control Sample Dup	105	112
MB 880-51325/5-A	Method Blank	92	97

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)
890-4506-A-1-D MS	Matrix Spike	110	80
890-4506-A-1-E MSD	Matrix Spike Duplicate	122	93
890-4513-A-1-B MS	Matrix Spike	84	75
890-4513-A-1-C MSD	Matrix Spike Duplicate	76	70
890-4515-1	BH23-14 0FT	126	97
890-4515-2	BH23-14 2FT	123	96
890-4515-3	BH23-14 4FT	132 S1+	102
890-4515-4	BH23-15 0FT	130	100
890-4515-5	BH23-15 2FT	131 S1+	105
890-4515-6	BH23-15 4FT	117	92
890-4515-7	BH23-16 0FT	117	92
890-4515-8	BH23-16 2FT	124	96
890-4515-9	BH23-16 4FT	123	95
890-4515-10	BH23-17 0FT	117	93
890-4515-11	BH23-17 2FT	84	92
890-4515-12	BH23-17 4FT	75	83
LCS 880-51294/2-A	Lab Control Sample	96	77
LCS 880-51297/2-A	Lab Control Sample	98	97
LCSD 880-51294/3-A	Lab Control Sample Dup	102	75
LCSD 880-51297/3-A	Lab Control Sample Dup	86	87
MB 880-51294/1-A	Method Blank	153 S1+	134 S1+
MB 880-51297/1-A	Method Blank	108	120

Surrogate Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51325/5-A
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51325

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/17/23 13:48	04/18/23 12:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/17/23 13:48	04/18/23 12:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/17/23 13:48	04/18/23 12:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*04/17/23 13:48*	*04/18/23 12:11*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/17/23 13:48*	*04/18/23 12:11*	*1*

Lab Sample ID: LCS 880-51325/1-A
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51325

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09727		mg/Kg		97	70 - 130		
Toluene			0.100	0.09414		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.08776		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1761		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.08791		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-51325/2-A
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51325

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1032		mg/Kg		103	70 - 130	6	35
Toluene			0.100	0.1006		mg/Kg		101	70 - 130	7	35
Ethylbenzene			0.100	0.09382		mg/Kg		94	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1870		mg/Kg		94	70 - 130	6	35
o-Xylene			0.100	0.09367		mg/Kg		94	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-4515-1 MS
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: BH23-14 0FT
Prep Type: Total/NA
Prep Batch: 51325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.09364		mg/Kg		94	70 - 130		
Toluene	<0.00200	U	0.0996	0.08925		mg/Kg		90	70 - 130		

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QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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

Lab Sample ID: 890-4515-1 MS
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: BH23-14 0FT
Prep Type: Total/NA
Prep Batch: 51325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.08114		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1605		mg/Kg		81	70 - 130
o-Xylene	<0.00200	U	0.0996	0.08055		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-4515-1 MSD
Matrix: Solid
Analysis Batch: 51362

Client Sample ID: BH23-14 0FT
Prep Type: Total/NA
Prep Batch: 51325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.09458		mg/Kg		95	70 - 130	1	35
Toluene	<0.00200	U	0.0994	0.09114		mg/Kg		92	70 - 130	2	35
Ethylbenzene	<0.00200	U	0.0994	0.08313		mg/Kg		84	70 - 130	2	35
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1650		mg/Kg		83	70 - 130	3	35
o-Xylene	<0.00200	U	0.0994	0.08268		mg/Kg		83	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-51294/1-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51294

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:17	04/17/23 09:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*153*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 09:56*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*04/17/23 09:17*	*04/17/23 09:56*	*1*

Lab Sample ID: LCS 880-51294/2-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51294

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	919.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)			1000	826.9		mg/Kg		83	70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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

Lab Sample ID: LCS 880-51294/2-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51294

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: LCSD 880-51294/3-A
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51294

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	909.7		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	868.2		mg/Kg		87	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	75		70 - 130

Lab Sample ID: 890-4506-A-1-D MS
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51294

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1048		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	833.3		mg/Kg		83	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	110		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: 890-4506-A-1-E MSD
Matrix: Solid
Analysis Batch: 51265

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 51294

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	<49.9	U	999	1084		mg/Kg		106	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	980.4		mg/Kg		98	70 - 130	16	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	122		70 - 130
o-Terphenyl	93		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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

Lab Sample ID: MB 880-51297/1-A
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51297

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/17/23 09:25	04/17/23 10:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/17/23 09:25	04/17/23 10:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/17/23 09:25	04/17/23 10:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*04/17/23 09:25*	*04/17/23 10:10*	*1*
o-Terphenyl	*120*		*70 - 130*	*04/17/23 09:25*	*04/17/23 10:10*	*1*

Lab Sample ID: LCS 880-51297/2-A
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51297

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1066		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1176		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-51297/3-A
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51297

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1020		mg/Kg		102	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	1023		mg/Kg		102	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-4513-A-1-B MS
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	998.5		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	1165		mg/Kg		113	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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

Lab Sample ID: 890-4513-A-1-B MS
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51297

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*75*		*70 - 130*

Lab Sample ID: 890-4513-A-1-C MSD
Matrix: Solid
Analysis Batch: 51269

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 51297

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	<50.0	U	998	1010		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1077		mg/Kg		105	70 - 130	8	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	*76*		*70 - 130*
o-Terphenyl	*70*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-51311/1-A
Matrix: Solid
Analysis Batch: 51414

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			04/21/23 12:41	1

Lab Sample ID: LCS 880-51311/2-A
Matrix: Solid
Analysis Batch: 51414

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.5		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-51311/3-A
Matrix: Solid
Analysis Batch: 51414

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	250.6		mg/Kg		100	90 - 110	2	20

Lab Sample ID: 890-4515-6 MS
Matrix: Solid
Analysis Batch: 51414

Client Sample ID: BH23-15 4FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	126	F1	251	426.8	F1	mg/Kg		120	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4515-6 MSD
Matrix: Solid
Analysis Batch: 51414

Client Sample ID: BH23-15 4FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	126	F1	251	420.8	F1	mg/Kg		118	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

GC VOA

Prep Batch: 51325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	5035	
890-4515-2	BH23-14 2FT	Total/NA	Solid	5035	
890-4515-3	BH23-14 4FT	Total/NA	Solid	5035	
890-4515-4	BH23-15 0FT	Total/NA	Solid	5035	
890-4515-5	BH23-15 2FT	Total/NA	Solid	5035	
890-4515-6	BH23-15 4FT	Total/NA	Solid	5035	
890-4515-7	BH23-16 0FT	Total/NA	Solid	5035	
890-4515-8	BH23-16 2FT	Total/NA	Solid	5035	
890-4515-9	BH23-16 4FT	Total/NA	Solid	5035	
890-4515-10	BH23-17 0FT	Total/NA	Solid	5035	
890-4515-11	BH23-17 2FT	Total/NA	Solid	5035	
890-4515-12	BH23-17 4FT	Total/NA	Solid	5035	
MB 880-51325/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-51325/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51325/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4515-1 MS	BH23-14 0FT	Total/NA	Solid	5035	
890-4515-1 MSD	BH23-14 0FT	Total/NA	Solid	5035	

Analysis Batch: 51362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	8021B	51325
890-4515-2	BH23-14 2FT	Total/NA	Solid	8021B	51325
890-4515-3	BH23-14 4FT	Total/NA	Solid	8021B	51325
890-4515-4	BH23-15 0FT	Total/NA	Solid	8021B	51325
890-4515-5	BH23-15 2FT	Total/NA	Solid	8021B	51325
890-4515-6	BH23-15 4FT	Total/NA	Solid	8021B	51325
890-4515-7	BH23-16 0FT	Total/NA	Solid	8021B	51325
890-4515-8	BH23-16 2FT	Total/NA	Solid	8021B	51325
890-4515-9	BH23-16 4FT	Total/NA	Solid	8021B	51325
890-4515-10	BH23-17 0FT	Total/NA	Solid	8021B	51325
890-4515-11	BH23-17 2FT	Total/NA	Solid	8021B	51325
890-4515-12	BH23-17 4FT	Total/NA	Solid	8021B	51325
MB 880-51325/5-A	Method Blank	Total/NA	Solid	8021B	51325
LCS 880-51325/1-A	Lab Control Sample	Total/NA	Solid	8021B	51325
LCSD 880-51325/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51325
890-4515-1 MS	BH23-14 0FT	Total/NA	Solid	8021B	51325
890-4515-1 MSD	BH23-14 0FT	Total/NA	Solid	8021B	51325

Analysis Batch: 51435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	Total BTEX	
890-4515-2	BH23-14 2FT	Total/NA	Solid	Total BTEX	
890-4515-3	BH23-14 4FT	Total/NA	Solid	Total BTEX	
890-4515-4	BH23-15 0FT	Total/NA	Solid	Total BTEX	
890-4515-5	BH23-15 2FT	Total/NA	Solid	Total BTEX	
890-4515-6	BH23-15 4FT	Total/NA	Solid	Total BTEX	
890-4515-7	BH23-16 0FT	Total/NA	Solid	Total BTEX	
890-4515-8	BH23-16 2FT	Total/NA	Solid	Total BTEX	
890-4515-9	BH23-16 4FT	Total/NA	Solid	Total BTEX	
890-4515-10	BH23-17 0FT	Total/NA	Solid	Total BTEX	
890-4515-11	BH23-17 2FT	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

GC VOA (Continued)

Analysis Batch: 51435 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-12	BH23-17 4FT	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 51265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	8015B NM	51294
890-4515-2	BH23-14 2FT	Total/NA	Solid	8015B NM	51294
890-4515-3	BH23-14 4FT	Total/NA	Solid	8015B NM	51294
890-4515-4	BH23-15 0FT	Total/NA	Solid	8015B NM	51294
890-4515-5	BH23-15 2FT	Total/NA	Solid	8015B NM	51294
890-4515-6	BH23-15 4FT	Total/NA	Solid	8015B NM	51294
890-4515-7	BH23-16 0FT	Total/NA	Solid	8015B NM	51294
890-4515-8	BH23-16 2FT	Total/NA	Solid	8015B NM	51294
890-4515-9	BH23-16 4FT	Total/NA	Solid	8015B NM	51294
890-4515-10	BH23-17 0FT	Total/NA	Solid	8015B NM	51294
MB 880-51294/1-A	Method Blank	Total/NA	Solid	8015B NM	51294
LCS 880-51294/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51294
LCSD 880-51294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51294
890-4506-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	51294
890-4506-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	51294

Analysis Batch: 51269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-11	BH23-17 2FT	Total/NA	Solid	8015B NM	51297
890-4515-12	BH23-17 4FT	Total/NA	Solid	8015B NM	51297
MB 880-51297/1-A	Method Blank	Total/NA	Solid	8015B NM	51297
LCS 880-51297/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51297
LCSD 880-51297/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51297
890-4513-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	51297
890-4513-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	51297

Prep Batch: 51294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	8015NM Prep	
890-4515-2	BH23-14 2FT	Total/NA	Solid	8015NM Prep	
890-4515-3	BH23-14 4FT	Total/NA	Solid	8015NM Prep	
890-4515-4	BH23-15 0FT	Total/NA	Solid	8015NM Prep	
890-4515-5	BH23-15 2FT	Total/NA	Solid	8015NM Prep	
890-4515-6	BH23-15 4FT	Total/NA	Solid	8015NM Prep	
890-4515-7	BH23-16 0FT	Total/NA	Solid	8015NM Prep	
890-4515-8	BH23-16 2FT	Total/NA	Solid	8015NM Prep	
890-4515-9	BH23-16 4FT	Total/NA	Solid	8015NM Prep	
890-4515-10	BH23-17 0FT	Total/NA	Solid	8015NM Prep	
MB 880-51294/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51294/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4506-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4506-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

GC Semi VOA

Prep Batch: 51297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-11	BH23-17 2FT	Total/NA	Solid	8015NM Prep	
890-4515-12	BH23-17 4FT	Total/NA	Solid	8015NM Prep	
MB 880-51297/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51297/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51297/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4513-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4513-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 51372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Total/NA	Solid	8015 NM	
890-4515-2	BH23-14 2FT	Total/NA	Solid	8015 NM	
890-4515-3	BH23-14 4FT	Total/NA	Solid	8015 NM	
890-4515-4	BH23-15 0FT	Total/NA	Solid	8015 NM	
890-4515-5	BH23-15 2FT	Total/NA	Solid	8015 NM	
890-4515-6	BH23-15 4FT	Total/NA	Solid	8015 NM	
890-4515-7	BH23-16 0FT	Total/NA	Solid	8015 NM	
890-4515-8	BH23-16 2FT	Total/NA	Solid	8015 NM	
890-4515-9	BH23-16 4FT	Total/NA	Solid	8015 NM	
890-4515-10	BH23-17 0FT	Total/NA	Solid	8015 NM	
890-4515-11	BH23-17 2FT	Total/NA	Solid	8015 NM	
890-4515-12	BH23-17 4FT	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 51311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Soluble	Solid	DI Leach	
890-4515-2	BH23-14 2FT	Soluble	Solid	DI Leach	
890-4515-3	BH23-14 4FT	Soluble	Solid	DI Leach	
890-4515-4	BH23-15 0FT	Soluble	Solid	DI Leach	
890-4515-5	BH23-15 2FT	Soluble	Solid	DI Leach	
890-4515-6	BH23-15 4FT	Soluble	Solid	DI Leach	
890-4515-7	BH23-16 0FT	Soluble	Solid	DI Leach	
890-4515-8	BH23-16 2FT	Soluble	Solid	DI Leach	
890-4515-9	BH23-16 4FT	Soluble	Solid	DI Leach	
890-4515-10	BH23-17 0FT	Soluble	Solid	DI Leach	
890-4515-11	BH23-17 2FT	Soluble	Solid	DI Leach	
890-4515-12	BH23-17 4FT	Soluble	Solid	DI Leach	
MB 880-51311/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-51311/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-51311/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4515-6 MS	BH23-15 4FT	Soluble	Solid	DI Leach	
890-4515-6 MSD	BH23-15 4FT	Soluble	Solid	DI Leach	

Analysis Batch: 51414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-1	BH23-14 0FT	Soluble	Solid	300.0	51311
890-4515-2	BH23-14 2FT	Soluble	Solid	300.0	51311
890-4515-3	BH23-14 4FT	Soluble	Solid	300.0	51311
890-4515-4	BH23-15 0FT	Soluble	Solid	300.0	51311

QC Association Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

HPLC/IC (Continued)

Analysis Batch: 51414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4515-5	BH23-15 2FT	Soluble	Solid	300.0	51311
890-4515-6	BH23-15 4FT	Soluble	Solid	300.0	51311
890-4515-7	BH23-16 0FT	Soluble	Solid	300.0	51311
890-4515-8	BH23-16 2FT	Soluble	Solid	300.0	51311
890-4515-9	BH23-16 4FT	Soluble	Solid	300.0	51311
890-4515-10	BH23-17 0FT	Soluble	Solid	300.0	51311
890-4515-11	BH23-17 2FT	Soluble	Solid	300.0	51311
890-4515-12	BH23-17 4FT	Soluble	Solid	300.0	51311
MB 880-51311/1-A	Method Blank	Soluble	Solid	300.0	51311
LCS 880-51311/2-A	Lab Control Sample	Soluble	Solid	300.0	51311
LCSD 880-51311/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	51311
890-4515-6 MS	BH23-15 4FT	Soluble	Solid	300.0	51311
890-4515-6 MSD	BH23-15 4FT	Soluble	Solid	300.0	51311

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-14 0FT

Lab Sample ID: 890-4515-1
Matrix: Solid
Date Collected: 04/13/23 09:00
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 12:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 18:32	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 13:36	SMC	EET MID

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4515-2
Matrix: Solid
Date Collected: 04/13/23 09:05
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 13:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 18:53	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 13:41	SMC	EET MID

Client Sample ID: BH23-14 4FT

Lab Sample ID: 890-4515-3
Matrix: Solid
Date Collected: 04/13/23 09:10
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 13:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 19:15	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 13:45	SMC	EET MID

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4515-4
Matrix: Solid
Date Collected: 04/13/23 09:15
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 13:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4515-4
Matrix: Solid
Date Collected: 04/13/23 09:15
Date Received: 04/13/23 15:11

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			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 19:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	51414	04/21/23 13:50	SMC	EET MID

Client Sample ID: BH23-15 2FT

Lab Sample ID: 890-4515-5
Matrix: Solid
Date Collected: 04/13/23 09:20
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 14:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 19:58	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 13:55	SMC	EET MID

Client Sample ID: BH23-15 4FT

Lab Sample ID: 890-4515-6
Matrix: Solid
Date Collected: 04/13/23 09:25
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 14:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 20:20	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 13:59	SMC	EET MID

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4515-7
Matrix: Solid
Date Collected: 04/13/23 09:30
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 14:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 20:41	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4515-7

Date Collected: 04/13/23 09:30
Matrix: Solid
Date Received: 04/13/23 15:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 14:13	SMC	EET MID

Client Sample ID: BH23-16 2FT

Lab Sample ID: 890-4515-8

Date Collected: 04/13/23 09:35
Matrix: Solid
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 15:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 21:03	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 14:17	SMC	EET MID

Client Sample ID: BH23-16 4FT

Lab Sample ID: 890-4515-9

Date Collected: 04/13/23 09:40
Matrix: Solid
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 15:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 21:24	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 15:41	SMC	EET MID

Client Sample ID: BH23-17 0FT

Lab Sample ID: 890-4515-10

Date Collected: 04/13/23 09:45
Matrix: Solid
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 15:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/18/23 16:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 10:29	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51294	04/17/23 09:17	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51265	04/17/23 21:45	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 14:32	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Client Sample ID: BH23-17 2FT

Lab Sample ID: 890-4515-11

Date Collected: 04/13/23 09:50
Matrix: Solid
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 17:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/19/23 12:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 09:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51297	04/17/23 09:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51269	04/17/23 15:24	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 14:37	SMC	EET MID

Client Sample ID: BH23-17 4FT

Lab Sample ID: 890-4515-12

Date Collected: 04/13/23 09:55
Matrix: Solid
Date Received: 04/13/23 15:11

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	51325	04/17/23 13:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51362	04/18/23 19:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51435	04/19/23 12:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			51372	04/18/23 09:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51297	04/17/23 09:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51269	04/17/23 15:46	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	51311	04/17/23 12:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51414	04/21/23 14:41	SMC	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 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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	T104704400-22-25	06-30-23

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

Method Summary

Client: Vertex
Project/Site: PLU 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

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 25 CTB

Job ID: 890-4515-1
SDG: 23E-01501

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4515-1	BH23-14 0FT	Solid	04/13/23 09:00	04/13/23 15:11	0
890-4515-2	BH23-14 2FT	Solid	04/13/23 09:05	04/13/23 15:11	2
890-4515-3	BH23-14 4FT	Solid	04/13/23 09:10	04/13/23 15:11	4
890-4515-4	BH23-15 0FT	Solid	04/13/23 09:15	04/13/23 15:11	0
890-4515-5	BH23-15 2FT	Solid	04/13/23 09:20	04/13/23 15:11	2
890-4515-6	BH23-15 4FT	Solid	04/13/23 09:25	04/13/23 15:11	4
890-4515-7	BH23-16 0FT	Solid	04/13/23 09:30	04/13/23 15:11	0
890-4515-8	BH23-16 2FT	Solid	04/13/23 09:35	04/13/23 15:11	2
890-4515-9	BH23-16 4FT	Solid	04/13/23 09:40	04/13/23 15:11	4
890-4515-10	BH23-17 0FT	Solid	04/13/23 09:45	04/13/23 15:11	0
890-4515-11	BH23-17 2FT	Solid	04/13/23 09:50	04/13/23 15:11	2
890-4515-12	BH23-17 4FT	Solid	04/13/23 09:55	04/13/23 15:11	4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	XTO Energy Garrett Green
Company Name:	Vertex	Company Name:	
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	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 25 CTB	Turn Around	☒ Routine ☐ Rush
Project Number:	23E-01501	Due Date:	
Project Location:	Carlsbad, NM		
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.3
Sample Custody Seals:	Yes No N/A	Temperature Reading:	12.3
Total Containers:	42	Corrected Temperature:	12.0

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HN
Na
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

890-4515 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D	Cl	Sample Comments
BH23-14 0ft	Soil	4/13	9:00	0'	Dis	1		✓	✓	✓	
BH23-14 2ft			9:05	2'				✓	✓	✓	
BH23-14 4ft			9:10	4'				✓	✓	✓	
BH23-15 0ft			9:15	0'				✓	✓	✓	
BH23-15 2ft			9:20	2'				✓	✓	✓	
BH23-15 4ft			9:25	4'				✓	✓	✓	
BH23-16 0ft			9:30	0'				✓	✓	✓	
BH23-16 2ft			9:35	2'				✓	✓	✓	
BH23-16 4ft			9:40	4'				✓	✓	✓	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4.13.23 1511	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	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 25 CTB	Turn Around	
Project Number:	23E-01501	☑ Routine ☐ Rush	
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	
Total Containers:		Corrected Temperature:	

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D	Cl	Sample Comments
BH23-17 0ft	Soil	4/13	9:45	0'	Grab	1		✓	✓	✓	
BH23-17 2ft		4/13	9:50	2'				✓	✓	✓	
BH23-17 4ft		4/13	9:55	4'				✓	✓	✓	

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			4.13.23 15	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4515-1
SDG Number: 23E-01501

Login Number: 4515
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: 890-4515-1
SDG Number: 23E-01501

Login Number: 4515
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/17/23 08:35 AM

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

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

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

CONDITIONS

Action 232209

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 232209
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2300639887 PLU 25 BRUSHY DRAW CTB, thank you. This closure is approved. This report has an inadequate number of floor samples. Confirmation Floor Samples must be conducted every 200 ft2. If this occurs on a future report, it will be immediately denied.	11/30/2023