Location:	PLU Big Sinks 23 CTB	
Spill Date:	2/27/2023	
Area 1		
Approximate Area =	1616.00	sq. ft.
Average Saturation (or depth) of spill =	0.25	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	0.18	bbls
Total Produced Water =	0.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.18**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

Incident Number: nAPP2300933098, nAPP2304648171, nAPP2306653673

Release Assessment and Closure

PLU 23 Big Sinks CTB

Section 23, Township 24 South, Range 30 East

County: Eddy

Vertex File Number: 23E-01500

Prepared for:

XTO Energy

Prepared by:

Vertex Resource Services Inc.

Date:

May 2023

Release Assessment and Closure
PLU 23 Big Sinks CTB
Section 23, Township 24 South, Range 30 East
County: Eddy

Prepared for:
XTO Energy
3104 E Greene St
Carlsbad, NM 88220

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

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

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

6/26/2023
Date

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

6/26/2023
Date

Table of Contents

In-text Tables

List of Figures

List of Tables

List of Appendices

1.0 Introduction

XTO Energy (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for three crude oil releases at PLU 23 Big Sinks CTB (hereafter referred to as the "site"). The first release occurred on December 28, 2022, the second XTO submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on January 9, 2023. Incident ID number nAPP2300933098 was assigned to this incident. The second release was discovered on February 3, 2023, was reported on February 15, 2023, and was assigned incident ID number nAPP2304648171. The third and final release was discovered on February 27, 2023, reported on March 7, 2023, and assigned incident number nAPP2306653673.

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 the closure of this release, with the understanding that restoration of the release site will be deferred until such time as all oil and gas activities are terminated and the site is reclaimed as per NMAC 19.15.29.13.

2.0 Incident Description

The first and second releases occurred on December 28, 2022, and February 3, 2023, respectively, due to a small amount of fluid escaping the flare and igniting on the pad surface before extinguishing itself. The December incident was reported on January 9, 2023, and involved the release of approximately 0.13 barrels (bbl) of crude oil on the pad site. The February 3 release was reported on February 15, 2023, and involved the release of 0.17 barrels of crude oil. The third release occurred on February 27, 2023, due to fluid escaping the flare and igniting on the pad surface before being extinguished by a crew on site. An estimated volume of 0.18 bbl of crude oil was released. All three incidents resulted in a release onto the pad site, and no free fluid was removed during the initial clean-up. Additional details relevant to the releases are presented in the C-141 Reports. Daily Field Reports (DFRs), and site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 13 miles East of Malaga, New Mexico. The legal location for the site is Section 23, Township 24 South and Range 30 East in Eddy County, New Mexico. The release area is located on the Bureau of Land Management (BLM) 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 surrounding the flare on the constructed pad (Figure 1).

The surrounding landscape is associated with uplands, plains, dunes, fan piedmonts, and inter-dunal areas with elevations ranging between 2,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grassland. Grasses with forbs dependent on precipitation dominate the historic plant community

(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.

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 loamy sand (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 low. The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018).

4.0 Closure Criteria Determination

The nearest DTGW reference to the site is a New Mexico Office of the State Engineer (NMOSE) borehole located approximately 0.26 miles northwest of the location (New Mexico Office of the State Engineer, 2023). Data from 2022 shows the NMOSE was a dry borehole recorded at 105 feet below ground surface (bgs). Information pertaining to the depth to groundwater 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 Nearest Watercourse (National Wetlands Inventory) located approximately 7 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.

Closure Criteria Worksheet			
Site Name: PLU 23 Big Sinks Battery Fire			
Spill Coordinates:		**X: 32.208660**	**Y: -103.845890**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**>100**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	38,333	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	38,789	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	12,811	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	1,258	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	850	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	sand to sandy loam	
12	Ecological Classification	Loamy Sand	
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

The initial spill inspection and site characterization activities at the site were completed by Vertex on April 10, 2023. The DFR associated with the visit is included in Appendix C. Initial Characterization sample locations are presented in Figure 1 and laboratory results are presented in Table 3. Remediation extension requests were submitted to NMOCD and approved for the remediation to be due on June 26, 2023. Documentation depicting the extension approvals are included in Appendix D.

Remediation efforts began on May 9, 2023, and were finalized on June 9, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of 9 sample points and consisted of analysis using Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and electrical conductivity (chlorides). Field screening results were used to identify areas requiring further remediation. Contaminated soils were removed to a depth of 0.5 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. The DFR documenting the remediation is presented in Appendix C.

Two notifications that confirmatory samples were being collected were provided to the NMOCD on May 23, 2023, and June 6, 2023. Both notifications are included in Appendix D. Confirmatory 5-point composite samples were collected from the base and walls of the excavation in no more than 200 square foot increments. A total of eight (8) samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D), and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below the applicable closure criteria for the site.

Sample point WS23-03 was collected on May 23, 2023, and lab results demonstrated that the sample was above the applicable criteria for TPH. On June 9, 2023, the sample point was excavated to WS23-06, and lab results demonstrated that this sample was below the applicable criteria for chloride, TPH, and BTEX.

6.0 Closure Request

Vertex recommends no additional remediation action to address the release at the site. Laboratory analyses of confirmation samples collected at the site show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is more than 100 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological, or hydrological receptors at the release site.

The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent water ponding and erosion.

Vertex requests that these incidents (nAPP2300933098, nAPP2304648171, and nAPP2306653673) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. XTO certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure in the releases at PLU 23 Big Sinks Battery.

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. (2022). *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/

New Mexico Department of Surface Water Quality Bureau. (2023). *Assessed and Impaired Waters of New Mexico*. Retrieved from https://gis.web.env.nm.gov/oem/?map=swqb

New Mexico Energy, Minerals and Natural Resources Department. (2023). *OCD Permitting - Spill Search*. Retrieved from https://wwwapps.emnrd.nm.gov/ocd/ocdpermitting/Data/Spills/Spills.aspx

New Mexico Mining and Minerals Division. (2023). *Coal Mine Resources in New Mexico*. Retrieved from https://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=5f80f3b0faa545e58fe747cc7b037a93

New Mexico Office of the State Engineer. (2023a). *Point of Diversion Location Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.html

New Mexico Office of the State Engineer. (2023b). *Water Column/Average Depth to Water Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html

New Mexico Office of the State Engineer. (2023c). *Well Log/Meter Information Report - New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/meterReport.html

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2023). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Homeland Security, Federal Emergency Management Agency. (2023). *FEMA Flood Map Service: Search by Address*. Retrieved from https://msc.fema.gov/portal/search?AddressQuery=malaga%20new%20mexico#searchresultsanchor

United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karst*. Retrieved from https://www.nm.blm.gov/shapeFiles/cfo/carlsbad_spatial_data.html

United States Geological Survey. (2023). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis

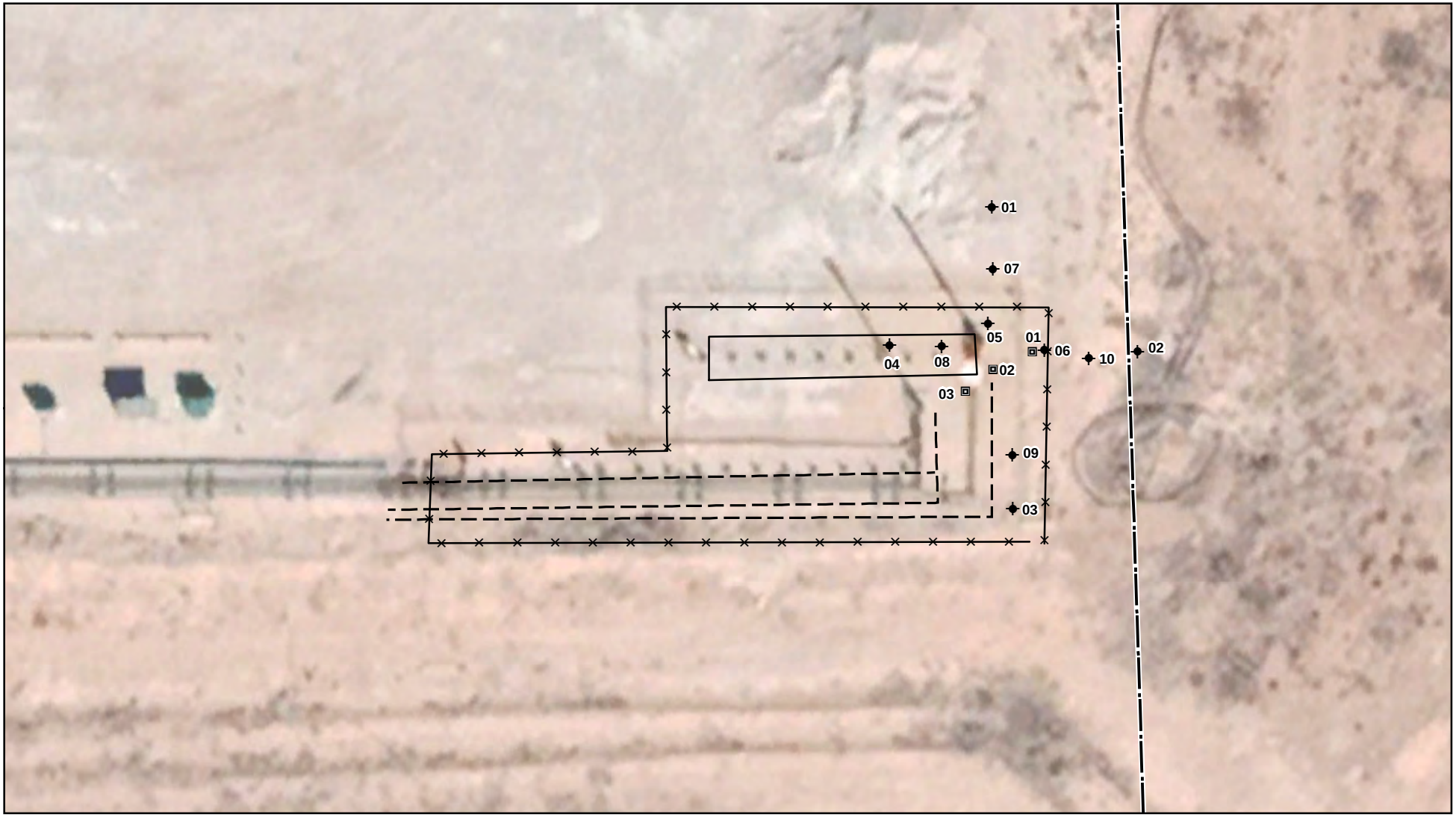
United States Fish and Wildlife Service. (2023). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

8.0 Limitations

This report has been prepared for the sole benefit of XTO Energy (XTO). This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and XTO. 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-")
Surface Sample (Prefixed by "SS23")
Fence
Pipeline (Aboveground)
Approximate Lease Boundry
Infrastructure

VERTEX

0 20 40 ft.

Map Center:
Lat/Long: 32.208583, -103.846026

NAD 1983 UTM Zone 13N

Date: Apr 17/23

N

Characterization Schematic
PLU 23 Big Sinks CTB
(nAPP2300933098, nAPP2304648171, nAPP2306653673)

FIGURE:
1

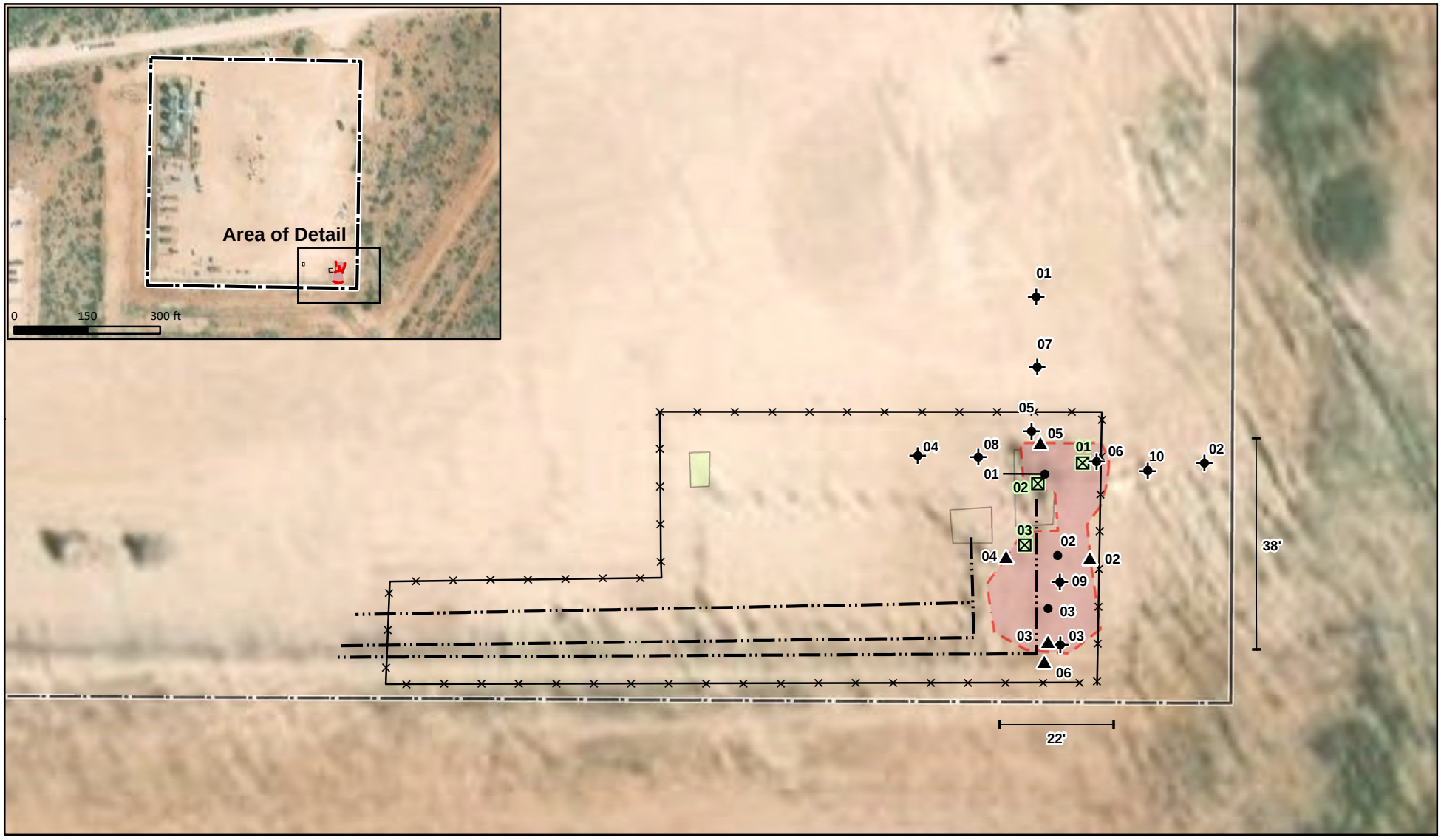
XTO ENERGY

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 Esri 2022. Features from GPS. Approximate lease boundary from imagery. Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECT S\XTO Energy\23E-01500\Figure 1 Characterization Schematic PLU 23 Big Sinks CTB(23E-01500).mxd



- Base Sample (Prefixed by "BS23-")
- Borehole (Prefixed by "BH23-")
- Surface Sample (Prefixed by "SS23-")
- Wall Sample (Prefixed by "WS23-")
- Fence
- Pipeline (Aboveground)
- Approximate Lease Boundary
- Approximate Excavation to 0.5' (~517 sq.ft.)
- Electrical Box/Solar Panel
- Infrastructure

VERTEX

0 15 30 ft

Map Center:
Lat/Long: 32.208636, -103.846031

NAD 1983 UTM Zone 13N
Date: Jan 05/24

N

Confirmation Schematic
PLU 23 Big Sinks Battery

FIGURE:
2

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

VERSATILITY. EXPERTISE.

Document Path: C:\Users\kmorash\OneDrive - Vertex Resource Group Ltd\Documents\Local Projects\US\XTO\Figure 2 Confirmatory Schematic (23E-01500).mxd

TABLES

Table 2. Initial Characterization Laboratory Results - Depth to Groundwater >100 feet bgs
XTO Energy Inc.
PLU Big Sinks 23 CTB
NMOCD Tracking #: nAPP2306653673, nAPP2304648171, nAPP2300933098
Project #: 23E-01502
Lab Reports: 890-4458-1 and 890-4488-1

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
Boreholes													
SS23-01	0	April 3, 2023	ND	ND	ND	ND	ND	ND	7250	1250	**7250**	**8500**	**946**
SS23-02	0	April 3, 2023	ND	0.00285	ND	ND	0.00285	ND	7700	1500	**7700**	**9200**	**1820**
SS23-03	0	April 3, 2023	ND	ND	ND	ND	ND	ND	3760	612	**3760**	**4372**	**2920**
BH23-01	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	141
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	43
BH23-02	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	55.5
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81.8
BH23-03	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	55.3
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	64.4
BH23-04	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	72.7
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	84.1
BH23-05	0	April 10, 2023	ND	ND	ND	ND	ND	ND	91.8	ND	91.8	91.8	**807**
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98.7
	4	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110
BH23-06	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	111
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81.8
	4	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	180
BH23-07	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	105
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	257
BH23-08	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	54.2
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	118
BH23-09	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	128
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	126
BH23-10	0	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90.8
	2	April 10, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	129

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)
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

VERTEX

Table 4. Confirmatory Laboratory Results - Depth to Groundwater >100 feet bgs
XTO Energy Inc.
PLU Big Sinks 23 CTB
NMOCD Tracking #: nAPP2306653673, nAPP2304648171, nAPP2300933098
Project #: 23E-01502
Lab Reports: 890-4743-1, 890-4807-1

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
Base and Wall Samples													
BS23-01	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	270	ND	270	270	65.2
BS23-02	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	516	ND	516	516	135
BS23-03	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	885	ND	885	885	103
WS23-02	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	664	ND	664	664	169
WS23-03	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	**1760**	ND	**1760**	**1760**	246
WS23-04	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	660	ND	660	660	94.6
WS23-05	0.5	May 25, 2023	ND	ND	ND	ND	ND	ND	162	ND	162	162	85.9
WS23-06	0.5	June 9, 2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	428

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)

VERTEX

APPENDIX B – Closure Criteria Research Documentation

PLU 23 Big Sinks Battery C 04575 POD!

4/25/2023, 1:49:44 PM

GIS WATERS PODs
- Active
- Plugged

OSE District Boundary

New Mexico State Trust Lands

Both Estates

NHD Flowlines
- Artificial Path
- Stream River

SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

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

Web Generated Map
Map is generated by web users.

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT JAN 24 2022 PM3:00

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4575

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	12	38.03	N
	LONGITUDE	103	50	58.70	W

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

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

NW NE Sec. 23 T24S R30E, NMPM

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)
1-4-2022	1-4-2022	temporary well material	105	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	105	±8.5	Boring- HSA	--	--	--	--

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-4575	POD NO. 1	TRN NO. 709414
LOCATION 2-1-1 24S-30E-23	WELL TAG ID NO. —	PAGE 1 OF 2

MON

OSE DII JAN 24 2022 PM 3:00

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	Caliche, White, Dry	Y ✓N	
1	20	19	Sand, very fine grained, well graded, with caliche, Reddish Brown-Light Brown	Y N	
20	30	20	Caliche, consolidated with silt and some gravel, Off-White, Dry	Y ✓N	
30	50	20	Sand, very fine grained, well graded, with gravel, Light Brown	Y ✓N	
50	75	25	Sand, very fine grained, well graded, with gravel, Reddish Brown, slight moist	Y ✓N	
75	105	30	Sand, very fine grained, poorly graded, Reddish Brown, slight moist	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.

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

Shane Eldridge, Cameron Pruitt, Carmelo Trevino

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 — 1/21/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

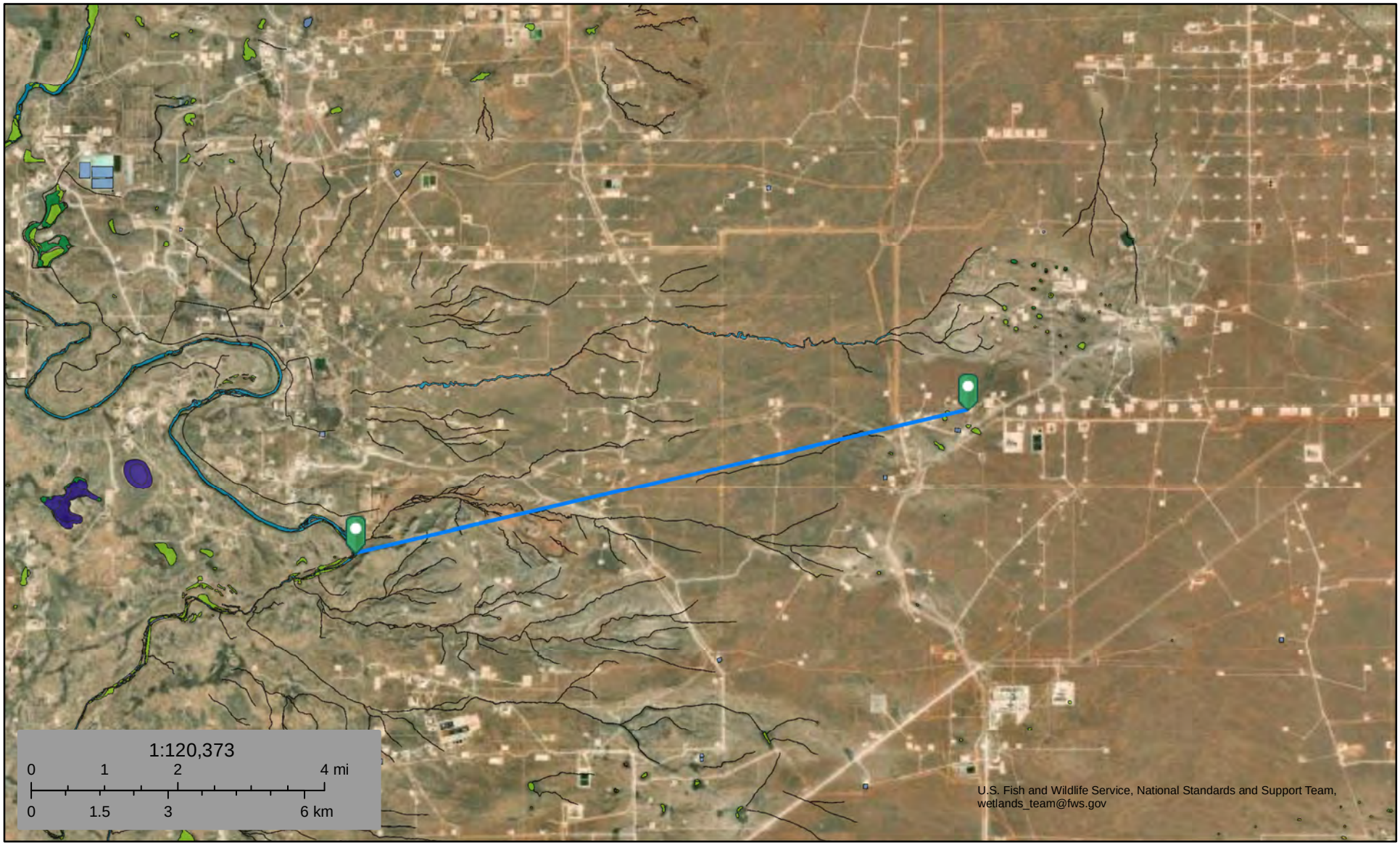
FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4573	POD NO. 1	TRN NO. 709414	
LOCATION 2-1-1 24S-30E-23		WELL TAG ID NO.	PAGE 2 OF 2

MON

U.S. Fish and Wildlife Service
National Wetlands Inventory

Big Sink Battery Watercourse 38,333ft.



April 2, 2023

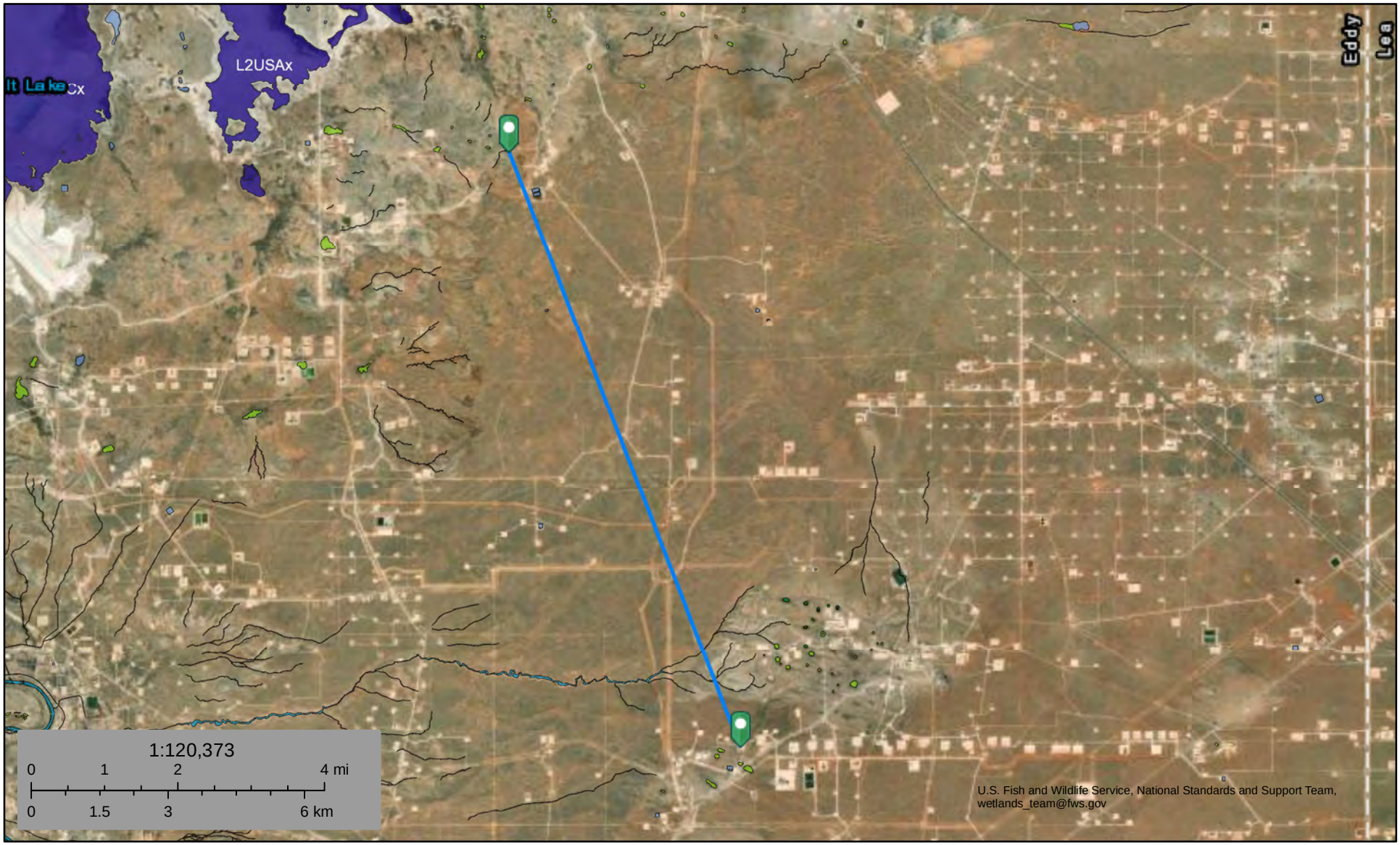
Wetlands

- 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.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Big Sinks Battery Lakebed 38,789ft.



April 2, 2023

Wetlands

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

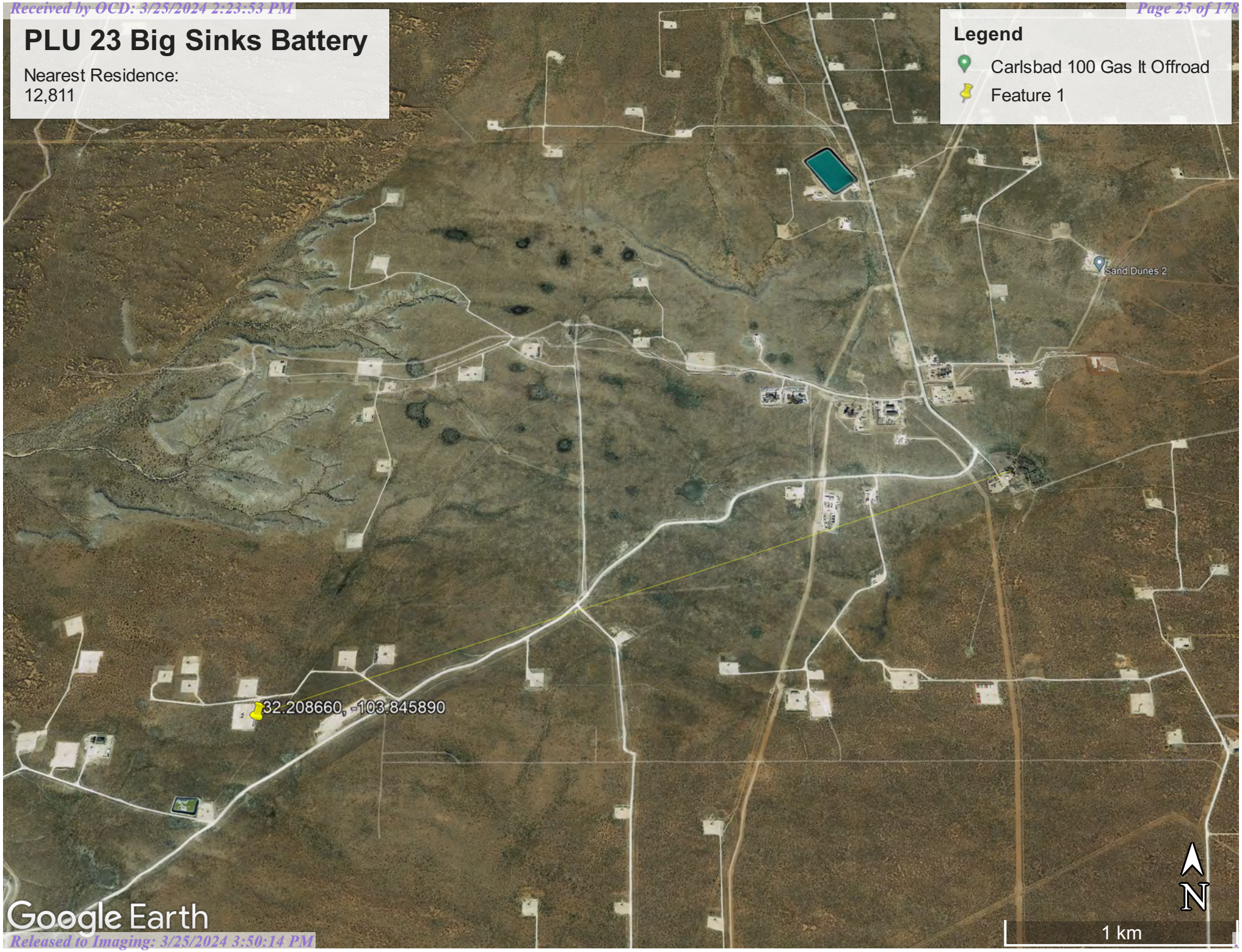
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

PLU 23 Big Sinks Battery

Nearest Residence:
12,811

Legend

- Carlsbad 100 Gas It Offroad
- Feature 1



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
	C 02780	2	3	2	23	24S	30E	608535	3563857*

Driller License:		**Driller Company:**			
Driller Name:	SANDIA NATIONAL LABS/USGS				
Drill Start Date:		**Drill Finish Date:**	12/31/1979	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	7.00	**Depth Well:**	505 feet	**Depth Water:**	

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

Big Sinks Wetland 850ft.

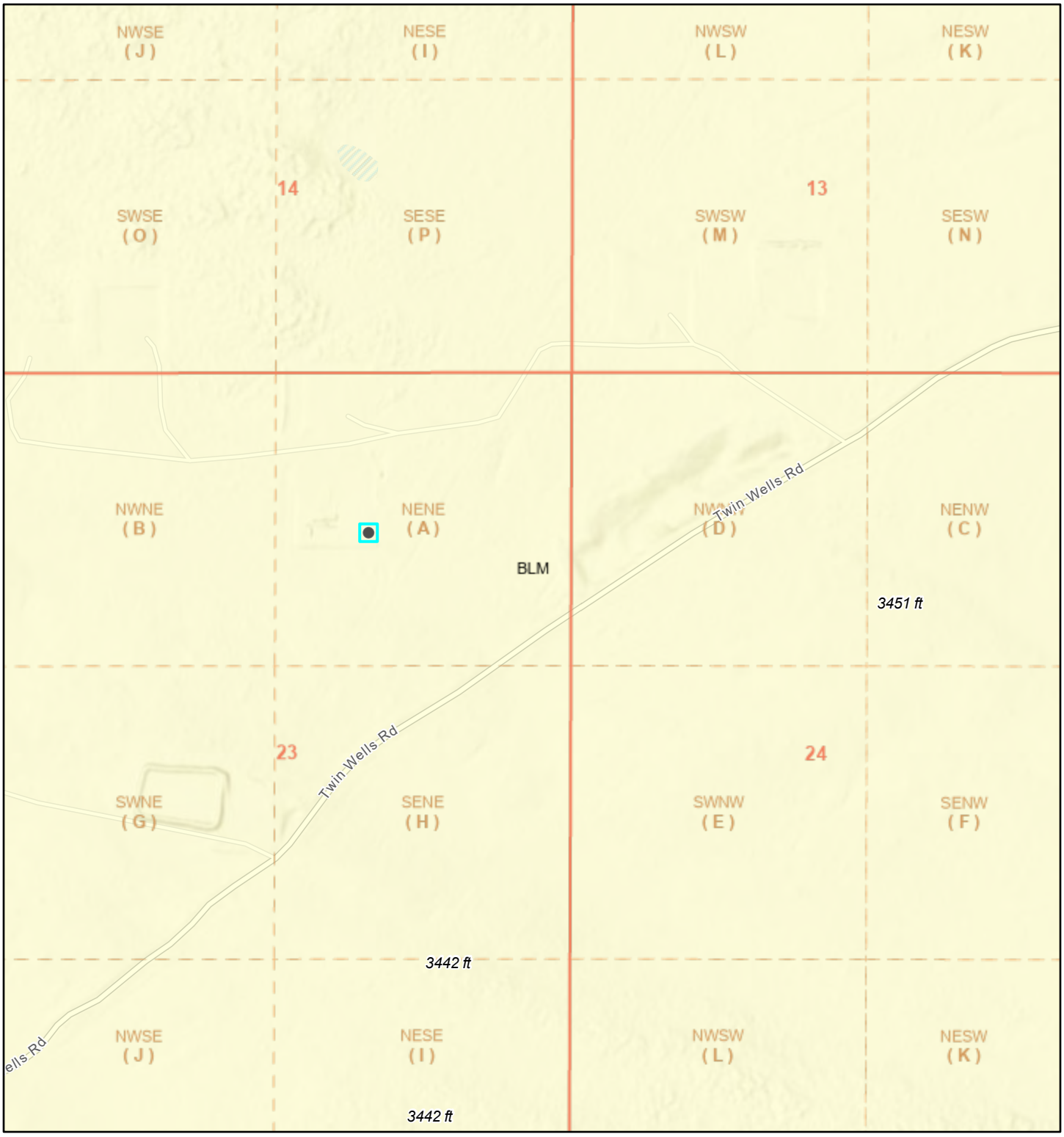
April 2, 2023

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.

Active Mines in New Mexico



4/2/2023, 12:48:12 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Land Ownership

BLM

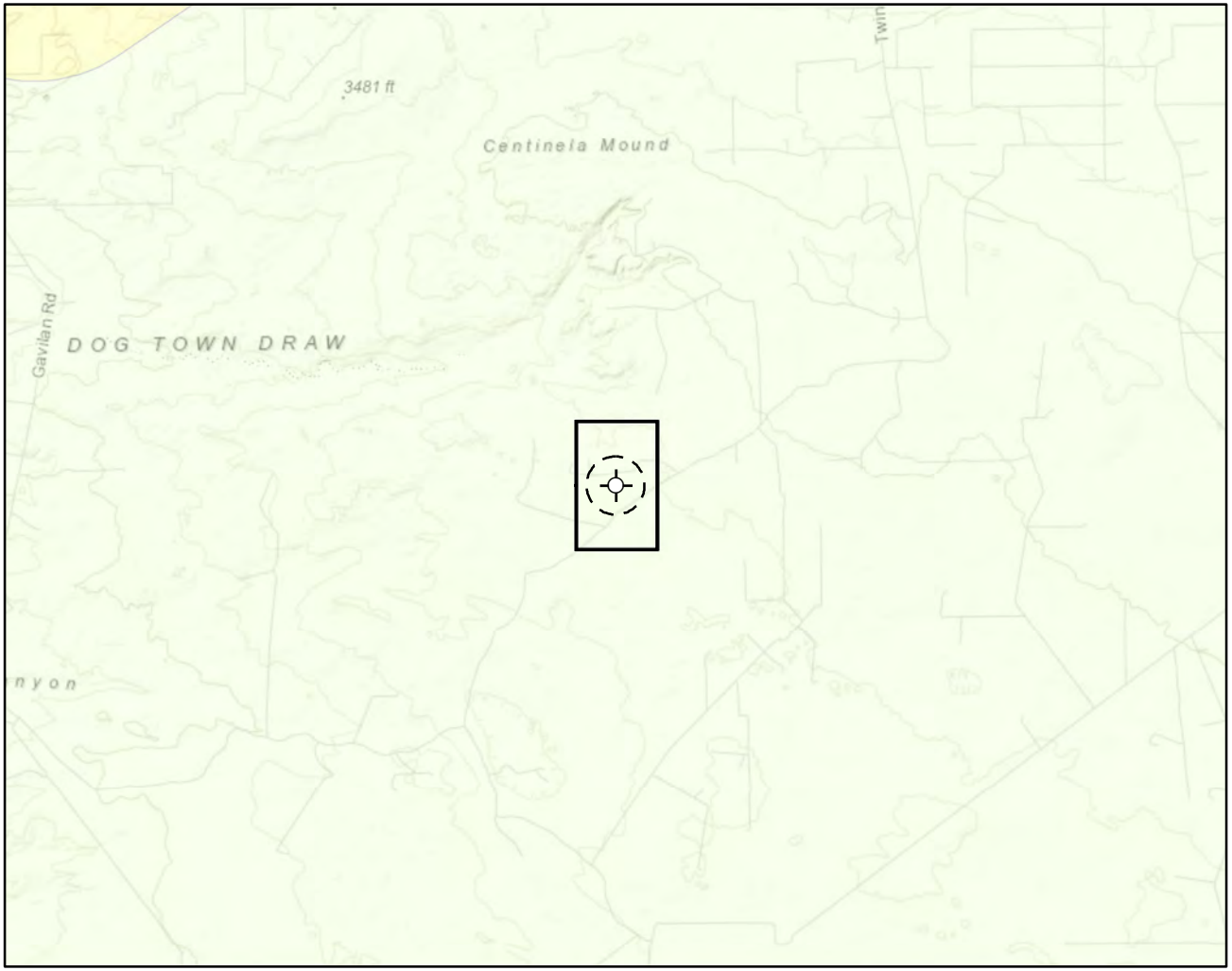
PLSS Second Division

PLSS First Division

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

EMNRD MMD GIS Coordinator

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



Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1,000 ft.)

VERTEX

Map Center:
Lat/Long: 32.208660, -103.845890

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

N

Karst Potential
Big Sinks Battery - Fire

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-01500\Figure x Karst Potentinal Schematic(23E-01500).mxd

National Flood Hazard Layer FIRMette

FEMA

103°51'4"W 32°12'46"N

103°50'26"W 32°12'16"N

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

1:6,000

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 Cross Sections with 1% Annual Chance
- 17.5 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 2:52 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.

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	5/9/2023
Site Location Name:	PLU Big Sinks 23 CTB	Report Run Date:	5/10/2023 12:30 AM
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	5/9/2023 8:00 AM
Departed Site	5/9/2023 4:00 PM

Field Notes

9:13 On site. Completed safety meeting with Standard, XTO, and hydrovac teams

9:14 Planning excavation and taking down fence for access

9:39 Ran secondary line sweep, found nothing of concern

10:16 Cleaning up more staining around the south and east side of the flare

10:25 Collecting samples as excavation is completed,
BS23-01 10:20
BS23-02 10:25

12:17 Preparing the liner for the contaminated soil

13:18 Continuing scraping the stained areas by hand

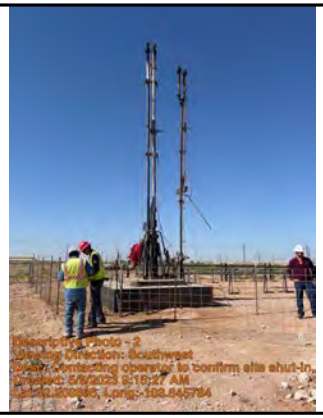
15:28 Completed excavation, putting up the fence and closing up site

Next Steps & Recommendations

1 Send dirt to landfill

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: Southwest
	
Excavation area	Contacting operator to confirm site shut-in, no flare activity

Viewing Direction: Northwest	**Viewing Direction**: Northwest
	
SS23-03	SS23-02

Daily Site Visit Report

Viewing Direction: Northwest	**Viewing Direction**: Northeast
	
SS23-01	Excavation area
Viewing Direction: West	**Viewing Direction**: North
	
Excavation south of flare	Excavation east of flare

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	5/17/2023
Site Location Name:	PLU Big Sinks 23 CTB	Report Run Date:	5/17/2023 11:28 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 11:45 AM
Departed Site	5/17/2023 12:45 PM

Field Notes

11:56 On site, working under PLU 25 JSA. Performed LMRA, beginning excavation

12:18 Finished stepping out north wall. Collected WS23-05 at 12:05, now running petroflag

Next Steps & Recommendations

1 Take sample to lab

Daily Site Visit Report

Site Photos

Viewing Direction: North

New north wall, back about 6”

Viewing Direction: East

Excavation area

Viewing Direction: South

Excavation area

Viewing Direction: South

Excavation area

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	5/25/2023
Site Location Name:	PLU Big Sinks 23 CTB	Report Run Date:	5/25/2023 10:39 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	5/25/2023 8:10 AM
Departed Site	5/25/2023 2:19 PM

Field Notes

8:40 Arrived at site and filled out safety paperwork. Conducted JSA and PSMS procedures for XTO. On site to collect confirmatory samples for the location. Will conduct Last Minute Risk Assessment before starting tasks.

9:42 Done collecting confirmation samples. Collected four wall samples and three base samples @ 0-0.5ft depth. 5pt composite grab method was used for each sample point. Will start field screening them for chlorides and TPH.

13:01 Field screening determined that all soil samples tested under required criteria. Placed all soil samples into glass containers and will send in for laboratory analysis. Updated/added sample points to Field Maps and DSS.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: East	**Viewing Direction**: Southeast
	
Overview of work area	Overview of work area
Viewing Direction: South	**Viewing Direction**: Northwest
	
Overview of work area	Overview of work area

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: East
	
Overview of work area	Overview of work area
Viewing Direction: North	**Viewing Direction**: Southeast
	
Overview of work area	Pasture side of work area

APPENDIX D – Notifications

From:	Green, Garrett J
To:	Chance Dixon
Subject:	FW: XTO Energy 48 hr sampling notification PLU 23 Big Sinks CTB nAPP2300933098, nAPP2304648171, nAPP230665673
Date:	May 22, 2023 3:00:13 PM
Attachments:	image001.png

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Monday, May 22, 2023 2:34 PM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov) <ocd.enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov) <Robert.Hamlet@emnrd.nm.gov>; Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov) <mike.bratcher@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov) <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO Energy 48 hr sampling notification PLU 23 Big Sinks CTB nAPP2300933098, nAPP2304648171, nAPP230665673

Please see the notification below for scheduled confirmation sampling at PLU 23 Big Sinks CTB. Please reach out with questions or concerns.

Site Name	PLU 23 Big Sinks CTB
Location	A-23-24S-30E; Eddy County, NM
Incident ID	nAPP2300933098, nAPP2304648171, nAPP230665673
Source & Description of Activities	Confirmation Sampling
Expected Duration for Activities	1 Day 05.25.2023
Env Consultant	Vertex
Contractor	N/A
Sampling Notification Required	Yes, 05.25.2023 (NMOCD District 2)
Surface Owner	Bureau of Land Management

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

From: Green, Garrett J
To: Chance Dixon
Subject: FW: [EXTERNAL] XTO Sampling Notification
Date: June 6, 2023 9:55:28 AM

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Tuesday, June 6, 2023 9:23 AM
To: Green, Garrett J <garrett.green@exxonmobil.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Subject: RE: [EXTERNAL] XTO Sampling Notification

External Email – Think Before You Click

Garrett,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Tuesday, June 6, 2023 8:19 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Chance Dixon <cdixon@vertex.ca>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: [EXTERNAL] XTO Sampling Notification

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

All,

XTO will be conducting final sampling at PLU 23 Big Sinks CTB on Friday 6/9/23. Please reach out if you have any questions.

Site Name	PLU 23 Big Sinks CTB
Location	A-23-24S-30E; Eddy County, NM
Incident ID	nAPP2300933098, nAPP2304648171, nAPP230665673
Source & Description of Activities	Excavation and Sampling
Expected Duration for Activities	1 Day 06.09.2023
Env Consultant	Vertex
Contractor	N/A
Sampling Notification Required	Yes, 06.09.2023 (NMOCD District 2)
Surface Owner	Bureau of Land Management

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

Collins, Melanie

From: Collins, Melanie
Sent: Wednesday, March 29, 2023 5:00 PM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov)
Cc: Green, Garrett J; DelawareSpills /SM; Pennington, Shelby G
Subject: XTO Extension Request nAPP2300933098 PLU Big Sinks 23

All,

XTO is requesting an extension to submit a remediation work plan or closure report for the 12/28/22 release at the PLU Big Sinks 23 Battery. We are requesting a 90-day extension until June 26, 2023 to complete remediation activities.

Thank you,

Melanie Collins

XTO ENERGY

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

Collins, Melanie

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, May 4, 2023 10:27 AM
To: Collins, Melanie
Cc: Green, Garrett J; Pennington, Shelby G; DelawareSpills /SM; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Approval) - XTO - NAPP2304648171 PLU Big Sinks 23

Categories: External Sender

External Email – Think Before You Click

RE: Incident #**NAPP2304648171**

Melanie,

Your request for an extension to **August 2nd, 2023** 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: Thursday, May 4, 2023 7:47 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@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 nAPP2304648171 PLU Big Sinks 23

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 2/3/2023 release at the PLU Big Sinks 23 Battery. We are requesting a 90-day extension to August 2, 2023 to complete remediation activities.

Thank you,

Melanie Collins

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

Collins, Melanie

From: Collins, Melanie
Sent: Friday, May 26, 2023 9:44 AM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov); Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov)
Cc: Green, Garrett J; DelawareSpills /SM
Subject: XTO Extension Request nAPP2306653673 PLU Big Sinks 23

All,

XTO is requesting an extension to submit a remediation work plan or closure report for the 2/27/2023 release at the PLU Big Sinks 23 Battery. We are requesting a 90-day extension to August 26, 2023 to complete remediation activities.

Thank you,

Melanie Collins

XTO ENERGY

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

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Marshall Boles
XTO Energy
6401 N. Holiday Hill Road
Midland, Texas 79707

Generated 4/11/2023 10:03:01 AM

JOB DESCRIPTION

PLU 23 CTB
SDG NUMBER 23E-01502

JOB NUMBER

890-4458-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

Eurofins Carlsbad

Job Notes

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
4/11/2023 10:03:01 AM

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

Client: XTO Energy
Project/Site: PLU 23 CTB

Laboratory Job ID: 890-4458-1
SDG: 23E-01502

Table of Contents

Definitions/Glossary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Job ID: 890-4458-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4458-1

Receipt
The samples were received on 4/3/2023 4:17 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 16.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS23-01 0ft (890-4458-1), SS23-02 0ft (890-4458-2) and SS23-03 0ft (890-4458-3).

GC VOA
Method 8021B: The laboratory control sample (LCS) for preparation batch 880-50805 and analytical batch 880-50769 recovered outside control limits for the following analytes: o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS23-01 0ft (890-4458-1). 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: The surrogate recovery for the blank associated with preparation batch 880-50386 and analytical batch 880-50350 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS23-01 0ft (890-4458-1). 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.

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

Client Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Client Sample ID: SS23-01 0ft

Lab Sample ID: 890-4458-1
Matrix: Solid
Date Collected: 04/03/23 10:00
Date Received: 04/03/23 16:17
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/11/23 01:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/11/23 01:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/11/23 01:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/10/23 10:30	04/11/23 01:34	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		04/10/23 10:30	04/11/23 01:34	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/10/23 10:30	04/11/23 01:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*04/10/23 10:30*	*04/11/23 01:34*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/10/23 10:30*	*04/11/23 01:34*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			04/11/23 10:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**8500**		250		mg/Kg			04/05/23 21:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<250	U	250		mg/Kg		04/05/23 09:42	04/05/23 18:48	5
Diesel Range Organics (Over C10-C28)	**7250**		250		mg/Kg		04/05/23 09:42	04/05/23 18:48	5
Oil Range Organics (Over C28-C36)	**1250**		250		mg/Kg		04/05/23 09:42	04/05/23 18:48	5
Total TPH	**8500**		250		mg/Kg		04/05/23 09:42	04/05/23 18:48	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*04/05/23 09:42*	*04/05/23 18:48*	*5*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*04/05/23 09:42*	*04/05/23 18:48*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**946**		25.3		mg/Kg			04/09/23 15:42	5

Client Sample ID: SS23-02 0ft

Lab Sample ID: 890-4458-2
Matrix: Solid
Date Collected: 04/03/23 10:05
Date Received: 04/03/23 16:17
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/10/23 10:30	04/11/23 01:55	1
Toluene	**0.00285**		0.00198		mg/Kg		04/10/23 10:30	04/11/23 01:55	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/10/23 10:30	04/11/23 01:55	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/10/23 10:30	04/11/23 01:55	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		04/10/23 10:30	04/11/23 01:55	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/10/23 10:30	04/11/23 01:55	1

Client Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Client Sample ID: SS23-02 0ft

Lab Sample ID: 890-4458-2
Matrix: Solid
Date Collected: 04/03/23 10:05
Date Received: 04/03/23 16:17
Sample Depth: 0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*04/10/23 10:30*	*04/11/23 01:55*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/10/23 10:30*	*04/11/23 01:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			04/11/23 10:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**9200**		249		mg/Kg			04/05/23 21:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<249	U	249		mg/Kg		04/05/23 09:42	04/05/23 19:09	5
Diesel Range Organics (Over C10-C28)	**7700**		249		mg/Kg		04/05/23 09:42	04/05/23 19:09	5
Oil Range Organics (Over C28-C36)	**1500**		249		mg/Kg		04/05/23 09:42	04/05/23 19:09	5
Total TPH	**9200**		249		mg/Kg		04/05/23 09:42	04/05/23 19:09	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*96*		*70 - 130*	*04/05/23 09:42*	*04/05/23 19:09*	*5*
o-Terphenyl	*121*		*70 - 130*	*04/05/23 09:42*	*04/05/23 19:09*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1820**		24.9		mg/Kg			04/09/23 15:56	5

Client Sample ID: SS23-03 0ft

Lab Sample ID: 890-4458-3
Matrix: Solid
Date Collected: 04/03/23 10:10
Date Received: 04/03/23 16:17
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/10/23 10:30	04/11/23 03:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/10/23 10:30	04/11/23 03:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/10/23 10:30	04/11/23 03:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/10/23 10:30	04/11/23 03:18	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		04/10/23 10:30	04/11/23 03:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/10/23 10:30	04/11/23 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*04/10/23 10:30*	*04/11/23 03:18*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*04/10/23 10:30*	*04/11/23 03:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			04/11/23 10:21	1

Client Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Client Sample ID: SS23-03 0ft
Date Collected: 04/03/23 10:10
Date Received: 04/03/23 16:17
Sample Depth: 0

Lab Sample ID: 890-4458-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	4370		49.9		mg/Kg			04/05/23 21:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/05/23 09:42	04/05/23 19:31	1
Diesel Range Organics (Over C10-C28)	3760		49.9		mg/Kg		04/05/23 09:42	04/05/23 19:31	1
Oil Range Organics (Over C28-C36)	612		49.9		mg/Kg		04/05/23 09:42	04/05/23 19:31	1
Total TPH	4370		49.9		mg/Kg		04/05/23 09:42	04/05/23 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/05/23 09:42*	*04/05/23 19:31*	*1*
o-Terphenyl	*113*		*70 - 130*	*04/05/23 09:42*	*04/05/23 19:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2920		49.6		mg/Kg			04/09/23 16:00	10

Surrogate Summary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

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)
890-4458-1	SS23-01 0ft	139 S1+	103
890-4458-2	SS23-02 0ft	128	99
890-4458-3	SS23-03 0ft	112	89
LCS 880-50805/1-A	Lab Control Sample	120	110
LCSD 880-50805/2-A	Lab Control Sample Dup	122	109
MB 880-50536/5-B	Method Blank	80	96
MB 880-50805/5-A	Method Blank	80	76

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)
890-4458-1	SS23-01 0ft	89	132 S1+
890-4458-2	SS23-02 0ft	96	121
890-4458-3	SS23-03 0ft	101	113
LCS 880-50386/2-A	Lab Control Sample	109	124
LCSD 880-50386/3-A	Lab Control Sample Dup	117	129
MB 880-50386/1-A	Method Blank	139 S1+	168 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50536/5-B
Matrix: Solid
Analysis Batch: 50769

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/10/23 09:30	04/10/23 11:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/10/23 09:30	04/10/23 11:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/10/23 09:30	04/10/23 11:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/10/23 09:30	04/10/23 11:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/10/23 09:30	04/10/23 11:54	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/10/23 09:30	04/10/23 11:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*04/10/23 09:30*	*04/10/23 11:54*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*04/10/23 09:30*	*04/10/23 11:54*	*1*

Lab Sample ID: MB 880-50805/5-A
Matrix: Solid
Analysis Batch: 50769

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50805

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/10/23 22:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/10/23 22:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/10/23 22:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/10/23 10:30	04/10/23 22:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/10/23 10:30	04/10/23 22:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/10/23 10:30	04/10/23 22:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*04/10/23 10:30*	*04/10/23 22:29*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*04/10/23 10:30*	*04/10/23 22:29*	*1*

Lab Sample ID: LCS 880-50805/1-A
Matrix: Solid
Analysis Batch: 50769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50805

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1165		mg/Kg		117	70 - 130
Toluene	0.100	0.1127		mg/Kg		113	70 - 130
Ethylbenzene	0.100	0.1194		mg/Kg		119	70 - 130
m-Xylene & p-Xylene	0.200	0.2585		mg/Kg		129	70 - 130
o-Xylene	0.100	0.1315	*+	mg/Kg		131	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-50805/2-A
Matrix: Solid
Analysis Batch: 50769

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50805

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1147		mg/Kg		115	70 - 130	2	35

QC Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

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

Lab Sample ID: LCSD 880-50805/2-A
Matrix: Solid
Analysis Batch: 50769

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50805

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1081		mg/Kg		108	70 - 130	4	35
Ethylbenzene			0.100	0.1150		mg/Kg		115	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2470		mg/Kg		123	70 - 130	5	35
o-Xylene			0.100	0.1252		mg/Kg		125	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-50386/1-A
Matrix: Solid
Analysis Batch: 50350

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/05/23 08:42	04/05/23 08:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/05/23 08:42	04/05/23 08:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/05/23 08:42	04/05/23 08:57	1
Total TPH	<50.0	U	50.0		mg/Kg		04/05/23 08:42	04/05/23 08:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*04/05/23 08:42*	*04/05/23 08:57*	*1*
o-Terphenyl	*168*	*S1+*	*70 - 130*	*04/05/23 08:42*	*04/05/23 08:57*	*1*

Lab Sample ID: LCS 880-50386/2-A
Matrix: Solid
Analysis Batch: 50350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50386

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1056		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)			1000	917.4		mg/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*124*		*70 - 130*

Lab Sample ID: LCSD 880-50386/3-A
Matrix: Solid
Analysis Batch: 50350

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50386

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1118		mg/Kg		112	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	979.7		mg/Kg		98	70 - 130	7	20

Eurofins Carlsbad

QC Sample Results

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	129		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50506/1-A
Matrix: Solid
Analysis Batch: 50741

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/09/23 15:01	1

Lab Sample ID: LCS 880-50506/2-A
Matrix: Solid
Analysis Batch: 50741

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	240.8		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-50506/3-A
Matrix: Solid
Analysis Batch: 50741

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	237.0		mg/Kg		95	90 - 110	2	20

QC Association Summary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

GC VOA

Prep Batch: 50536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-50536/5-B	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 50769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	8021B	50805
890-4458-2	SS23-02 0ft	Total/NA	Solid	8021B	50805
890-4458-3	SS23-03 0ft	Total/NA	Solid	8021B	50805
MB 880-50536/5-B	Method Blank	Total/NA	Solid	8021B	50536
MB 880-50805/5-A	Method Blank	Total/NA	Solid	8021B	50805
LCS 880-50805/1-A	Lab Control Sample	Total/NA	Solid	8021B	50805
LCSD 880-50805/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	50805

Prep Batch: 50805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	5035	
890-4458-2	SS23-02 0ft	Total/NA	Solid	5035	
890-4458-3	SS23-03 0ft	Total/NA	Solid	5035	
MB 880-50805/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-50805/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-50805/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 50893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	Total BTEX	
890-4458-2	SS23-02 0ft	Total/NA	Solid	Total BTEX	
890-4458-3	SS23-03 0ft	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 50350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	8015B NM	50386
890-4458-2	SS23-02 0ft	Total/NA	Solid	8015B NM	50386
890-4458-3	SS23-03 0ft	Total/NA	Solid	8015B NM	50386
MB 880-50386/1-A	Method Blank	Total/NA	Solid	8015B NM	50386
LCS 880-50386/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50386
LCSD 880-50386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50386

Prep Batch: 50386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	8015NM Prep	
890-4458-2	SS23-02 0ft	Total/NA	Solid	8015NM Prep	
890-4458-3	SS23-03 0ft	Total/NA	Solid	8015NM Prep	
MB 880-50386/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50386/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Total/NA	Solid	8015 NM	
890-4458-2	SS23-02 0ft	Total/NA	Solid	8015 NM	

QC Association Summary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

GC Semi VOA (Continued)

Analysis Batch: 50448 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-3	SS23-03 0ft	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Soluble	Solid	DI Leach	
890-4458-2	SS23-02 0ft	Soluble	Solid	DI Leach	
890-4458-3	SS23-03 0ft	Soluble	Solid	DI Leach	
MB 880-50506/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50506/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50506/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 50741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4458-1	SS23-01 0ft	Soluble	Solid	300.0	50506
890-4458-2	SS23-02 0ft	Soluble	Solid	300.0	50506
890-4458-3	SS23-03 0ft	Soluble	Solid	300.0	50506
MB 880-50506/1-A	Method Blank	Soluble	Solid	300.0	50506
LCS 880-50506/2-A	Lab Control Sample	Soluble	Solid	300.0	50506
LCSD 880-50506/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50506

Lab Chronicle

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Client Sample ID: SS23-01 0ft

Lab Sample ID: 890-4458-1

Date Collected: 04/03/23 10:00
Matrix: Solid
Date Received: 04/03/23 16:17

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	50805	04/10/23 10:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50769	04/11/23 01:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50893	04/11/23 10:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			50448	04/05/23 21:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	50386	04/05/23 09:42	AM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	50350	04/05/23 18:48	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50741	04/09/23 15:42	SMC	EET MID

Client Sample ID: SS23-02 0ft

Lab Sample ID: 890-4458-2

Date Collected: 04/03/23 10:05
Matrix: Solid
Date Received: 04/03/23 16:17

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	50805	04/10/23 10:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50769	04/11/23 01:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50893	04/11/23 10:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			50448	04/05/23 21:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	50386	04/05/23 09:42	AM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	50350	04/05/23 19:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50741	04/09/23 15:56	SMC	EET MID

Client Sample ID: SS23-03 0ft

Lab Sample ID: 890-4458-3

Date Collected: 04/03/23 10:10
Matrix: Solid
Date Received: 04/03/23 16:17

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	50805	04/10/23 10:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50769	04/11/23 03:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50893	04/11/23 10:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			50448	04/05/23 21:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50386	04/05/23 09:42	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50350	04/05/23 19:31	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	50741	04/09/23 16:00	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

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
8015B NM	8015NM Prep	Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

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: XTO Energy
Project/Site: PLU 23 CTB

Job ID: 890-4458-1
SDG: 23E-01502

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4458-1	SS23-01 0ft	Solid	04/03/23 10:00	04/03/23 16:17	0
890-4458-2	SS23-02 0ft	Solid	04/03/23 10:05	04/03/23 16:17	0
890-4458-3	SS23-03 0ft	Solid	04/03/23 10:10	04/03/23 16:17	0

eurofins | Environment Testing Xenco

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 _____ of _____

Project Manager:	Chance Dixon	Bill to: (if different)	XTO Energy
Company Name:	Vertex	Company Name:	Garrett Green
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	Penniman@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 23 CTB	Turn Around	
Project Number:	23E-01502	☒ Routine ☐ Rush	
Project Location:		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:	TM-001	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	16.2	
Total Containers:	3	Corrected Temperature:	16.0	

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	Chlorides	Sample Comments
5523-01 Oft	Soil	4/3	10:00	Oft		1		✓	✓	✓	
5523-02 Oft	Soil	4/3	10:05	Oft		1		✓	✓	✓	
5523-03 Oft	Soil	4/3	10:10	Oft		1		✓	✓	✓	

890-4458 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	4/3/23 1617	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: XTO Energy

Job Number: 890-4458-1
SDG Number: 23E-01502

Login Number: 4458
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: XTO Energy

Job Number: 890-4458-1
SDG Number: 23E-01502

Login Number: 4458
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/05/23 11:34 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/16/2023 10:37:52 AM

JOB DESCRIPTION

PLU 23 CTB
SDG NUMBER Carlsbad NM

JOB NUMBER

890-4488-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

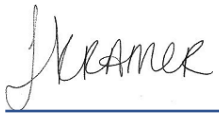
Eurofins Carlsbad

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
4/16/2023 10:37:52 AM

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

Client: Vertex
Project/Site: PLU 23 CTB

Laboratory Job ID: 890-4488-1
SDG: Carlsbad NM

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Job ID: 890-4488-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4488-1

Receipt
The samples were received on 4/11/2023 8:00 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 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH 23-01 0FT (890-4488-1), BH 23-01 2FT (890-4488-2), BH 23-02 0FT (890-4488-3), BH 23-02 2FT (890-4488-4), BH 23-03 0FT (890-4488-5), BH 23-03 2FT (890-4488-6), BH 23-04 0FT (890-4488-7), BH 23-04 2FT (890-4488-8), BH 23-05 0FT (890-4488-9), BH 23-05 2FT (890-4488-10), BH 23-05 4FT (890-4488-11), BH 23-06 0FT (890-4488-12), BH 23-06 2FT (890-4488-13), BH 23-06 4FT (890-4488-14), BH 23-07 0FT (890-4488-15), BH 23-07 2FT (890-4488-16), BH 23-08 0FT (890-4488-17), BH 23-08 2FT (890-4488-18), BH 23-09 0FT (890-4488-19), BH 23-09 2FT (890-4488-20), BH 23-10 0FT (890-4488-21) and BH 23-10 2FT (890-4488-22).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-51145 and analytical batch 880-51138 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH 23-02 2FT (890-4488-4), BH 23-03 0FT (890-4488-5), BH 23-05 0FT (890-4488-9) and BH 23-09 2FT (890-4488-20). 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: (LCS 880-51020/2-A) and (MB 880-51020/1-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH 23-05 2FT (890-4488-10), BH 23-07 0FT (890-4488-15) and (890-4488-A-1-G MSD). 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-50993 and analytical batch 880-51172 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.BH 23-01 0FT (890-4488-1)

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 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-01 0FT

Lab Sample ID: 890-4488-1
Matrix: Solid
Date Collected: 04/10/23 09:00
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 21:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 21:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 21:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 21:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 21:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*04/13/23 11:19*	*04/14/23 21:59*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/13/23 11:19*	*04/14/23 21:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 10:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 10:59	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*04/13/23 08:17*	*04/13/23 10:59*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/13/23 08:17*	*04/13/23 10:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		4.99		mg/Kg			04/14/23 01:31	1

Client Sample ID: BH 23-01 2FT

Lab Sample ID: 890-4488-2
Matrix: Solid
Date Collected: 04/10/23 09:05
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 22:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 22:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 22:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 22:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 22:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 22:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/13/23 11:19*	*04/14/23 22:19*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-01 2FT

Lab Sample ID: 890-4488-2
Matrix: Solid
Date Collected: 04/10/23 09:05
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/13/23 11:19*	*04/14/23 22:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 12:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 12:04	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 12:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*04/13/23 08:17*	*04/13/23 12:04*	*1*
o-Terphenyl	*95*		*70 - 130*	*04/13/23 08:17*	*04/13/23 12:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**43.0**		5.03		mg/Kg			04/14/23 01:36	1

Client Sample ID: BH 23-02 0FT

Lab Sample ID: 890-4488-3
Matrix: Solid
Date Collected: 04/10/23 09:10
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 22:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 22:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 22:40	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/14/23 22:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 22:40	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/14/23 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/13/23 11:19*	*04/14/23 22:40*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*04/13/23 11:19*	*04/14/23 22:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			04/14/23 12:19	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-02 0FT

Lab Sample ID: 890-4488-3
Matrix: Solid
Date Collected: 04/10/23 09:10
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:05	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:05*	*1*
o-Terphenyl	*93*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**55.5**		4.99		mg/Kg			04/14/23 01:50	1

Client Sample ID: BH 23-02 2FT

Lab Sample ID: 890-4488-4
Matrix: Solid
Date Collected: 04/10/23 09:15
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/14/23 23:00	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/14/23 23:00	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/14/23 23:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/14/23 23:00	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/14/23 23:00	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/14/23 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*145*	*S1+*	*70 - 130*	*04/13/23 11:19*	*04/14/23 23:00*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/13/23 11:19*	*04/14/23 23:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 13:26	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 13:26	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 13:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:26*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:26*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-02 2FT

Lab Sample ID: 890-4488-4
Matrix: Solid
Date Collected: 04/10/23 09:15
Date Received: 04/11/23 08:00
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	81.8		5.02		mg/Kg			04/14/23 01:54	1

Client Sample ID: BH 23-03 0FT

Lab Sample ID: 890-4488-5
Matrix: Solid
Date Collected: 04/10/23 09:20
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:21	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:21	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 23:21	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:21	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*04/13/23 11:19*	*04/14/23 23:21*	*1*
1,4-Difluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*04/13/23 11:19*	*04/14/23 23:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:48*	*1*
o-Terphenyl	*88*		*70 - 130*	*04/13/23 08:17*	*04/13/23 13:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.3		5.02		mg/Kg			04/14/23 02:08	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-03 2FT

Lab Sample ID: 890-4488-6
Matrix: Solid
Date Collected: 04/10/23 09:25
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 23:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/14/23 23:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/14/23 23:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/13/23 11:19*	*04/14/23 23:41*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*04/13/23 11:19*	*04/14/23 23:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:10*	*1*
o-Terphenyl	*93*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.4**		4.98		mg/Kg			04/14/23 02:13	1

Client Sample ID: BH 23-04 0FT

Lab Sample ID: 890-4488-7
Matrix: Solid
Date Collected: 04/10/23 09:30
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 00:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:01	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 00:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/13/23 11:19*	*04/15/23 00:01*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-04 0FT

Lab Sample ID: 890-4488-7
Matrix: Solid
Date Collected: 04/10/23 09:30
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/13/23 11:19*	*04/15/23 00:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 14:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 14:32	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:32*	*1*
o-Terphenyl	*94*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72.7**		4.99		mg/Kg			04/14/23 02:17	1

Client Sample ID: BH 23-04 2FT

Lab Sample ID: 890-4488-8
Matrix: Solid
Date Collected: 04/10/23 09:35
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 00:22	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 00:22	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 00:22	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/15/23 00:22	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 00:22	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/15/23 00:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*04/13/23 11:19*	*04/15/23 00:22*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*04/13/23 11:19*	*04/15/23 00:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			04/14/23 12:19	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-04 2FT

Lab Sample ID: 890-4488-8
Matrix: Solid
Date Collected: 04/10/23 09:35
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:54*	*1*
o-Terphenyl	*91*		*70 - 130*	*04/13/23 08:17*	*04/13/23 14:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**84.1**		5.04		mg/Kg			04/14/23 02:22	1

Client Sample ID: BH 23-05 0FT

Lab Sample ID: 890-4488-9
Matrix: Solid
Date Collected: 04/10/23 09:40
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:42	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/13/23 11:19	04/15/23 00:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 00:42	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/13/23 11:19	04/15/23 00:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*04/13/23 11:19*	*04/15/23 00:42*	*1*
1,4-Difluorobenzene (Surr)	*58*	*S1-*	*70 - 130*	*04/13/23 11:19*	*04/15/23 00:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**91.8**		49.9		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 15:16	1
Diesel Range Organics (Over C10-C28)	**91.8**		49.9		mg/Kg		04/13/23 08:17	04/13/23 15:16	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*04/13/23 08:17*	*04/13/23 15:16*	*1*
o-Terphenyl	*93*		*70 - 130*	*04/13/23 08:17*	*04/13/23 15:16*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-05 0FT

Lab Sample ID: 890-4488-9
Matrix: Solid
Date Collected: 04/10/23 09:40
Date Received: 04/11/23 08:00
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	807		5.05		mg/Kg			04/13/23 23:42	1

Client Sample ID: BH 23-05 2FT

Lab Sample ID: 890-4488-10
Matrix: Solid
Date Collected: 04/10/23 09:45
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 01:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 01:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 01:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 01:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 01:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 01:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/13/23 11:19*	*04/15/23 01:03*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*04/13/23 11:19*	*04/15/23 01:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 15:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 15:37	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*04/13/23 08:17*	*04/13/23 15:37*	*1*
o-Terphenyl	*108*		*70 - 130*	*04/13/23 08:17*	*04/13/23 15:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.7		5.02		mg/Kg			04/13/23 23:47	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-05 4FT

Lab Sample ID: 890-4488-11
Matrix: Solid
Date Collected: 04/10/23 09:50
Date Received: 04/11/23 08:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 02:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 02:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 02:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 02:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 02:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*04/13/23 11:19*	*04/15/23 02:25*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/13/23 11:19*	*04/15/23 02:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 16:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 16:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*04/13/23 08:17*	*04/13/23 16:20*	*1*
o-Terphenyl	*104*		*70 - 130*	*04/13/23 08:17*	*04/13/23 16:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		4.98		mg/Kg			04/13/23 23:51	1

Client Sample ID: BH 23-06 0FT

Lab Sample ID: 890-4488-12
Matrix: Solid
Date Collected: 04/10/23 09:55
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 02:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 02:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 02:46	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 02:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 02:46	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*04/13/23 11:19*	*04/15/23 02:46*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-06 0FT

Lab Sample ID: 890-4488-12
Matrix: Solid
Date Collected: 04/10/23 09:55
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*04/13/23 11:19*	*04/15/23 02:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 16:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 16:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*126*		*70 - 130*	*04/13/23 08:17*	*04/13/23 16:42*	*1*
o-Terphenyl	*99*		*70 - 130*	*04/13/23 08:17*	*04/13/23 16:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**111**		4.98		mg/Kg			04/13/23 23:56	1

Client Sample ID: BH 23-06 2FT

Lab Sample ID: 890-4488-13
Matrix: Solid
Date Collected: 04/10/23 10:00
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 03:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 03:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:06*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-06 2FT

Lab Sample ID: 890-4488-13
Matrix: Solid
Date Collected: 04/10/23 10:00
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 17:04	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 17:04	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/13/23 08:17*	*04/13/23 17:04*	*1*
o-Terphenyl	*93*		*70 - 130*	*04/13/23 08:17*	*04/13/23 17:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**81.8**		5.00		mg/Kg			04/13/23 20:49	1

Client Sample ID: BH 23-06 4FT

Lab Sample ID: 890-4488-14
Matrix: Solid
Date Collected: 04/10/23 10:05
Date Received: 04/11/23 08:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:27	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:27	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 03:27	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 11:19	04/15/23 03:27	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 11:19	04/15/23 03:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:27*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 17:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 17:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*04/13/23 08:17*	*04/13/23 17:27*	*1*
o-Terphenyl	*106*		*70 - 130*	*04/13/23 08:17*	*04/13/23 17:27*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-06 4FT

Lab Sample ID: 890-4488-14
Matrix: Solid
Date Collected: 04/10/23 10:05
Date Received: 04/11/23 08:00
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		4.99		mg/Kg			04/13/23 21:17	1

Client Sample ID: BH 23-07 0FT

Lab Sample ID: 890-4488-15
Matrix: Solid
Date Collected: 04/10/23 10:10
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 03:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 03:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 03:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 03:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 03:47	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:47*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*04/13/23 11:19*	*04/15/23 03:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 17:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 17:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:17	04/13/23 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*252*	*S1+*	*70 - 130*	*04/13/23 08:17*	*04/13/23 17:49*	*1*
o-Terphenyl	*198*	*S1+*	*70 - 130*	*04/13/23 08:17*	*04/13/23 17:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		4.98		mg/Kg			04/13/23 20:54	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-07 2FT

Lab Sample ID: 890-4488-16
Matrix: Solid
Date Collected: 04/10/23 10:15
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:07	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/13/23 11:19	04/15/23 04:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:07	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/13/23 11:19	04/15/23 04:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:07*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:11	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:11*	*1*
o-Terphenyl	*99*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**257**		4.98		mg/Kg			04/13/23 20:58	1

Client Sample ID: BH 23-08 0FT

Lab Sample ID: 890-4488-17
Matrix: Solid
Date Collected: 04/10/23 10:20
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 04:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/15/23 04:28	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/13/23 11:19	04/15/23 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:28*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-08 0FT

Lab Sample ID: 890-4488-17
Matrix: Solid
Date Collected: 04/10/23 10:20
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:33	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:33	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*127*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:33*	*1*
o-Terphenyl	*102*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.2**		4.96		mg/Kg			04/13/23 21:03	1

Client Sample ID: BH 23-08 2FT

Lab Sample ID: 890-4488-18
Matrix: Solid
Date Collected: 04/10/23 10:25
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 04:48	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 04:48	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 04:48	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/15/23 04:48	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/13/23 11:19	04/15/23 04:48	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/13/23 11:19	04/15/23 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:48*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/13/23 11:19*	*04/15/23 04:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-08 2FT

Lab Sample ID: 890-4488-18
Matrix: Solid
Date Collected: 04/10/23 10:25
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 18:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 18:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:55*	*1*
o-Terphenyl	*99*		*70 - 130*	*04/13/23 08:17*	*04/13/23 18:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**118**		5.04		mg/Kg			04/13/23 21:08	1

Client Sample ID: BH 23-09 0FT

Lab Sample ID: 890-4488-19
Matrix: Solid
Date Collected: 04/10/23 10:30
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/13/23 11:19	04/15/23 05:09	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/13/23 11:19	04/15/23 05:09	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/13/23 11:19	04/15/23 05:09	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/13/23 11:19	04/15/23 05:09	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/13/23 11:19	04/15/23 05:09	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/13/23 11:19	04/15/23 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*04/13/23 11:19*	*04/15/23 05:09*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*04/13/23 11:19*	*04/15/23 05:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/14/23 12:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 19:17	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 19:17	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/13/23 08:17	04/13/23 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*04/13/23 08:17*	*04/13/23 19:17*	*1*
o-Terphenyl	*99*		*70 - 130*	*04/13/23 08:17*	*04/13/23 19:17*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-09 0FT

Lab Sample ID: 890-4488-19
Matrix: Solid
Date Collected: 04/10/23 10:30
Date Received: 04/11/23 08:00
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	128		5.03		mg/Kg			04/13/23 21:12	1

Client Sample ID: BH 23-09 2FT

Lab Sample ID: 890-4488-20
Matrix: Solid
Date Collected: 04/10/23 10:35
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/13/23 11:19	04/15/23 05:29	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/13/23 11:19	04/15/23 05:29	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/13/23 11:19	04/15/23 05:29	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/13/23 11:19	04/15/23 05:29	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/13/23 11:19	04/15/23 05:29	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/13/23 11:19	04/15/23 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*04/13/23 11:19*	*04/15/23 05:29*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/13/23 11:19*	*04/15/23 05:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			04/16/23 11:01	1

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

Analyte	Result	Qualifier	RL	MDL	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	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 19:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 19:39	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/13/23 08:17	04/13/23 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*04/13/23 08:17*	*04/13/23 19:39*	*1*
o-Terphenyl	*96*		*70 - 130*	*04/13/23 08:17*	*04/13/23 19:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	126		5.00		mg/Kg			04/14/23 02:26	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-10 0FT

Lab Sample ID: 890-4488-21
Matrix: Solid
Date Collected: 04/10/23 10:40
Date Received: 04/11/23 08:00
Sample Depth: 0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/14/23 09:33	04/14/23 14:43	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/14/23 09:33	04/14/23 14:43	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		04/14/23 09:33	04/14/23 14:43	1
m-Xylene & p-Xylene	<0.00402	U *-	0.00402		mg/Kg		04/14/23 09:33	04/14/23 14:43	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/14/23 09:33	04/14/23 14:43	1
Xylenes, Total	<0.00402	U *-	0.00402		mg/Kg		04/14/23 09:33	04/14/23 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*04/14/23 09:33*	*04/14/23 14:43*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/14/23 09:33*	*04/14/23 14:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			04/14/23 17:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			04/13/23 17:12	1

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

Analyte	Result	Qualifier	RL	MDL	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 10:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 10:59	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:22	04/13/23 10:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*04/13/23 08:22*	*04/13/23 10:59*	*1*
o-Terphenyl	*105*		*70 - 130*	*04/13/23 08:22*	*04/13/23 10:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90.8**		4.99		mg/Kg			04/14/23 02:31	1

Client Sample ID: BH 23-10 2FT

Lab Sample ID: 890-4488-22
Matrix: Solid
Date Collected: 04/10/23 10:45
Date Received: 04/11/23 08:00
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 15:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 15:04	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		04/14/23 09:33	04/14/23 15:04	1
m-Xylene & p-Xylene	<0.00401	U *-	0.00401		mg/Kg		04/14/23 09:33	04/14/23 15:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 15:04	1
Xylenes, Total	<0.00401	U *-	0.00401		mg/Kg		04/14/23 09:33	04/14/23 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*04/14/23 09:33*	*04/14/23 15:04*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-10 2FT

Date Collected: 04/10/23 10:45
Date Received: 04/11/23 08:00
Sample Depth: 2

Lab Sample ID: 890-4488-22

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*	*04/14/23 09:33*	*04/14/23 15:04*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			04/14/23 17:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			04/16/23 11:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		04/12/23 10:00	04/12/23 21:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/12/23 10:00	04/12/23 21:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/12/23 10:00	04/12/23 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*04/12/23 10:00*	*04/12/23 21:09*	*1*
o-Terphenyl	*121*		*70 - 130*	*04/12/23 10:00*	*04/12/23 21:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**129**		5.05		mg/Kg			04/14/23 02:35	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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)										
890-4488-1	BH 23-01 0FT	100	82										
890-4488-1 MS	BH 23-01 0FT	93	119										
890-4488-1 MSD	BH 23-01 0FT	105	118										
890-4488-2	BH 23-01 2FT	102	97										
890-4488-3	BH 23-02 0FT	109	81										
890-4488-4	BH 23-02 2FT	145 S1+	97										
890-4488-5	BH 23-03 0FT	85	64 S1-										
890-4488-6	BH 23-03 2FT	102	84										
890-4488-7	BH 23-04 0FT	105	104										
890-4488-8	BH 23-04 2FT	100	77										
890-4488-9	BH 23-05 0FT	103	58 S1-										
890-4488-10	BH 23-05 2FT	109	96										
890-4488-11	BH 23-05 4FT	101	102										
890-4488-12	BH 23-06 0FT	101	74										
890-4488-13	BH 23-06 2FT	99	87										
890-4488-14	BH 23-06 4FT	106	78										
890-4488-15	BH 23-07 0FT	100	87										
890-4488-16	BH 23-07 2FT	108	98										
890-4488-17	BH 23-08 0FT	112	94										
890-4488-18	BH 23-08 2FT	102	105										
890-4488-19	BH 23-09 0FT	104	84										
890-4488-20	BH 23-09 2FT	138 S1+	105										
890-4488-21	BH 23-10 0FT	105	107										
890-4488-22	BH 23-10 2FT	107	106										
LCS 880-51054/1-A	Lab Control Sample	103	111										
LCS 880-51145/1-A	Lab Control Sample	101	106										
LCSD 880-51054/2-A	Lab Control Sample Dup	122	114										
LCSD 880-51145/2-A	Lab Control Sample Dup	100	111										
MB 880-51054/5-A	Method Blank	74	97										
MB 880-51069/5-A	Method Blank	71	73										
MB 880-51145/5-A	Method Blank	93	100										

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)										
890-4488-1	BH 23-01 0FT	109	96										
890-4488-1 MS	BH 23-01 0FT	124	95										
890-4488-1 MSD	BH 23-01 0FT	131 S1+	96										
890-4488-2	BH 23-01 2FT	110	95										
890-4488-3	BH 23-02 0FT	115	93										
890-4488-4	BH 23-02 2FT	125	96										
890-4488-5	BH 23-03 0FT	110	88										
890-4488-6	BH 23-03 2FT	111	93										

Surrogate Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-4488-7	BH 23-04 0FT	119	94										
890-4488-8	BH 23-04 2FT	108	91										
890-4488-9	BH 23-05 0FT	113	93										
890-4488-10	BH 23-05 2FT	131 S1+	108										
890-4488-11	BH 23-05 4FT	130	104										
890-4488-12	BH 23-06 0FT	126	99										
890-4488-13	BH 23-06 2FT	117	93										
890-4488-14	BH 23-06 4FT	129	106										
890-4488-15	BH 23-07 0FT	252 S1+	198 S1+										
890-4488-16	BH 23-07 2FT	119	99										
890-4488-17	BH 23-08 0FT	127	102										
890-4488-18	BH 23-08 2FT	123	99										
890-4488-19	BH 23-09 0FT	125	99										
890-4488-20	BH 23-09 2FT	122	96										
890-4488-21	BH 23-10 0FT	106	105										
890-4488-21 MS	BH 23-10 0FT	116	104										
890-4488-21 MSD	BH 23-10 0FT	118	106										
890-4488-22	BH 23-10 2FT	98	121										
LCS 880-50958/2-A	Lab Control Sample	116	134 S1+										
LCS 880-51019/2-A	Lab Control Sample	100	84										
LCS 880-51020/2-A	Lab Control Sample	133 S1+	132 S1+										
LCSD 880-50958/3-A	Lab Control Sample Dup	103	121										
LCSD 880-51019/3-A	Lab Control Sample Dup	96	79										
LCSD 880-51020/3-A	Lab Control Sample Dup	124	121										
MB 880-50958/1-A	Method Blank	116	148 S1+										
MB 880-51019/1-A	Method Blank	127	112										
MB 880-51020/1-A	Method Blank	136 S1+	173 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51054/5-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 21:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 21:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 21:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/13/23 11:19	04/14/23 21:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/13/23 11:19	04/14/23 21:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/13/23 11:19	04/14/23 21:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*04/13/23 11:19*	*04/14/23 21:37*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*04/13/23 11:19*	*04/14/23 21:37*	*1*

Lab Sample ID: LCS 880-51054/1-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51054

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1058		mg/Kg		106	70 - 130		
Toluene			0.100	0.09715		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09051		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			0.200	0.1896		mg/Kg		95	70 - 130		
o-Xylene			0.100	0.09639		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: LCSD 880-51054/2-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51054

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1053		mg/Kg		105	70 - 130	0	35
Toluene			0.100	0.09844		mg/Kg		98	70 - 130	1	35
Ethylbenzene			0.100	0.1024		mg/Kg		102	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.2211		mg/Kg		111	70 - 130	15	35
o-Xylene			0.100	0.1126		mg/Kg		113	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 890-4488-1 MS
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0998	0.1093		mg/Kg		109	70 - 130		
Toluene	<0.00199	U	0.0998	0.09075		mg/Kg		91	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Lab Sample ID: 890-4488-1 MS
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0998	0.08239		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1605		mg/Kg		80	70 - 130
o-Xylene	<0.00199	U	0.0998	0.08087		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*

Lab Sample ID: 890-4488-1 MSD
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1043		mg/Kg		104	70 - 130	5	35
Toluene	<0.00199	U	0.100	0.08930		mg/Kg		89	70 - 130	2	35
Ethylbenzene	<0.00199	U	0.100	0.08243		mg/Kg		82	70 - 130	0	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1640		mg/Kg		82	70 - 130	2	35
o-Xylene	<0.00199	U	0.100	0.08235		mg/Kg		82	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: MB 880-51069/5-A
Matrix: Solid
Analysis Batch: 51139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/13/23 12:06	04/14/23 10:58	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/13/23 12:06	04/14/23 10:58	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/13/23 12:06	04/14/23 10:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/13/23 12:06	04/14/23 10:58	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/13/23 12:06	04/14/23 10:58	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/13/23 12:06	04/14/23 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*04/13/23 12:06*	*04/14/23 10:58*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*04/13/23 12:06*	*04/14/23 10:58*	*1*

Lab Sample ID: MB 880-51145/5-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/14/23 09:33	04/14/23 12:53	1

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Lab Sample ID: MB 880-51145/5-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/14/23 09:33	04/14/23 12:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*04/14/23 09:33*	*04/14/23 12:53*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/14/23 09:33*	*04/14/23 12:53*	*1*

Lab Sample ID: LCS 880-51145/1-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07915		mg/Kg		79	70 - 130
Toluene	0.100	0.07582		mg/Kg		76	70 - 130
Ethylbenzene	0.100	0.06842	*-	mg/Kg		68	70 - 130
m-Xylene & p-Xylene	0.200	0.1359	*-	mg/Kg		68	70 - 130
o-Xylene	0.100	0.07189		mg/Kg		72	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-51145/2-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51145

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1083		mg/Kg		108	70 - 130	31	35
Toluene	0.100	0.1065		mg/Kg		106	70 - 130	34	35
Ethylbenzene	0.100	0.09740		mg/Kg		97	70 - 130	35	35
m-Xylene & p-Xylene	0.200	0.1940		mg/Kg		97	70 - 130	35	35
o-Xylene	0.100	0.09725		mg/Kg		97	70 - 130	30	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

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

Lab Sample ID: MB 880-50958/1-A
Matrix: Solid
Analysis Batch: 50962

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50958

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/12/23 08:16	04/12/23 09:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/12/23 08:16	04/12/23 09:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/12/23 08:16	04/12/23 09:02	1

Eurofins Carlsbad

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130	04/12/23 08:16	04/12/23 09:02	1
o-Terphenyl	148	S1+	70 - 130	04/12/23 08:16	04/12/23 09:02	1

Lab Sample ID: LCS 880-50958/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50962 — **Prep Batch: 50958**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1120		mg/Kg		112	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1006		mg/Kg		101	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	134	S1+	70 - 130

Lab Sample ID: LCSD 880-50958/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50962 — **Prep Batch: 50958**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1065		mg/Kg		106	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	934.1		mg/Kg		93	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: MB 880-51019/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 51008 — **Prep Batch: 51019**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		04/13/23 08:00	04/13/23 08:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/13/23 08:00	04/13/23 08:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/13/23 08:00	04/13/23 08:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	04/13/23 08:00	04/13/23 08:14	1
o-Terphenyl	112		70 - 130	04/13/23 08:00	04/13/23 08:14	1

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Lab Sample ID: LCS 880-51019/2-A
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51019

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	852.6		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	851.2		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Lab Sample ID: LCSD 880-51019/3-A
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51019

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	834.0		mg/Kg		83	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	806.6		mg/Kg		81	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: 890-4488-1 MS
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51019

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	997	1172		mg/Kg		118	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1038		mg/Kg		102	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Lab Sample ID: 890-4488-1 MSD
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51019

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	1187		mg/Kg		119	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1074		mg/Kg		106	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

Lab Sample ID: 890-4488-1 MSD
Matrix: Solid
Analysis Batch: 51008

Client Sample ID: BH 23-01 0FT
Prep Type: Total/NA
Prep Batch: 51019

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	96		70 - 130

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	MDL	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
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

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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

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

Client Sample ID: BH 23-10 0FT
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*

Lab Sample ID: 890-4488-21 MSD
Matrix: Solid
Analysis Batch: 51010

Client Sample ID: BH 23-10 0FT
Prep Type: Total/NA
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*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50992/1-A
Matrix: Solid
Analysis Batch: 51101

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/13/23 19:00	1

Lab Sample ID: LCS 880-50992/2-A
Matrix: Solid
Analysis Batch: 51101

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	254.0		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-50992/3-A
Matrix: Solid
Analysis Batch: 51101

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.4		mg/Kg		101	90 - 110	1	20

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-50991/1-A
Matrix: Solid
Analysis Batch: 51106

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/13/23 21:39	1

Lab Sample ID: LCS 880-50991/2-A
Matrix: Solid
Analysis Batch: 51106

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	245.9		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-50991/3-A
Matrix: Solid
Analysis Batch: 51106

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

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

Lab Sample ID: MB 880-50993/1-A
Matrix: Solid
Analysis Batch: 51172

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/14/23 00:19	1

Lab Sample ID: LCS 880-50993/2-A
Matrix: Solid
Analysis Batch: 51172

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	250.0		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-50993/3-A
Matrix: Solid
Analysis Batch: 51172

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	246.3		mg/Kg		99	90 - 110	2	20

Lab Sample ID: 890-4488-2 MS
Matrix: Solid
Analysis Batch: 51172

Client Sample ID: BH 23-01 2FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	43.0		252	316.6		mg/Kg		109	90 - 110

Lab Sample ID: 890-4488-2 MSD
Matrix: Solid
Analysis Batch: 51172

Client Sample ID: BH 23-01 2FT
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	43.0		252	316.5		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

GC VOA

Prep Batch: 51054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	5035	
890-4488-2	BH 23-01 2FT	Total/NA	Solid	5035	
890-4488-3	BH 23-02 0FT	Total/NA	Solid	5035	
890-4488-4	BH 23-02 2FT	Total/NA	Solid	5035	
890-4488-5	BH 23-03 0FT	Total/NA	Solid	5035	
890-4488-6	BH 23-03 2FT	Total/NA	Solid	5035	
890-4488-7	BH 23-04 0FT	Total/NA	Solid	5035	
890-4488-8	BH 23-04 2FT	Total/NA	Solid	5035	
890-4488-9	BH 23-05 0FT	Total/NA	Solid	5035	
890-4488-10	BH 23-05 2FT	Total/NA	Solid	5035	
890-4488-11	BH 23-05 4FT	Total/NA	Solid	5035	
890-4488-12	BH 23-06 0FT	Total/NA	Solid	5035	
890-4488-13	BH 23-06 2FT	Total/NA	Solid	5035	
890-4488-14	BH 23-06 4FT	Total/NA	Solid	5035	
890-4488-15	BH 23-07 0FT	Total/NA	Solid	5035	
890-4488-16	BH 23-07 2FT	Total/NA	Solid	5035	
890-4488-17	BH 23-08 0FT	Total/NA	Solid	5035	
890-4488-18	BH 23-08 2FT	Total/NA	Solid	5035	
890-4488-19	BH 23-09 0FT	Total/NA	Solid	5035	
890-4488-20	BH 23-09 2FT	Total/NA	Solid	5035	
MB 880-51054/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-51054/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51054/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4488-1 MS	BH 23-01 0FT	Total/NA	Solid	5035	
890-4488-1 MSD	BH 23-01 0FT	Total/NA	Solid	5035	

Prep Batch: 51069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-51069/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 51138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-21	BH 23-10 0FT	Total/NA	Solid	8021B	51145
890-4488-22	BH 23-10 2FT	Total/NA	Solid	8021B	51145
MB 880-51145/5-A	Method Blank	Total/NA	Solid	8021B	51145
LCS 880-51145/1-A	Lab Control Sample	Total/NA	Solid	8021B	51145
LCSD 880-51145/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51145

Analysis Batch: 51139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	8021B	51054
890-4488-2	BH 23-01 2FT	Total/NA	Solid	8021B	51054
890-4488-3	BH 23-02 0FT	Total/NA	Solid	8021B	51054
890-4488-4	BH 23-02 2FT	Total/NA	Solid	8021B	51054
890-4488-5	BH 23-03 0FT	Total/NA	Solid	8021B	51054
890-4488-6	BH 23-03 2FT	Total/NA	Solid	8021B	51054
890-4488-7	BH 23-04 0FT	Total/NA	Solid	8021B	51054
890-4488-8	BH 23-04 2FT	Total/NA	Solid	8021B	51054
890-4488-9	BH 23-05 0FT	Total/NA	Solid	8021B	51054
890-4488-10	BH 23-05 2FT	Total/NA	Solid	8021B	51054
890-4488-11	BH 23-05 4FT	Total/NA	Solid	8021B	51054

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

GC VOA (Continued)

Analysis Batch: 51139 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-12	BH 23-06 0FT	Total/NA	Solid	8021B	51054
890-4488-13	BH 23-06 2FT	Total/NA	Solid	8021B	51054
890-4488-14	BH 23-06 4FT	Total/NA	Solid	8021B	51054
890-4488-15	BH 23-07 0FT	Total/NA	Solid	8021B	51054
890-4488-16	BH 23-07 2FT	Total/NA	Solid	8021B	51054
890-4488-17	BH 23-08 0FT	Total/NA	Solid	8021B	51054
890-4488-18	BH 23-08 2FT	Total/NA	Solid	8021B	51054
890-4488-19	BH 23-09 0FT	Total/NA	Solid	8021B	51054
890-4488-20	BH 23-09 2FT	Total/NA	Solid	8021B	51054
MB 880-51054/5-A	Method Blank	Total/NA	Solid	8021B	51054
MB 880-51069/5-A	Method Blank	Total/NA	Solid	8021B	51069
LCS 880-51054/1-A	Lab Control Sample	Total/NA	Solid	8021B	51054
LCSD 880-51054/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51054
890-4488-1 MS	BH 23-01 0FT	Total/NA	Solid	8021B	51054
890-4488-1 MSD	BH 23-01 0FT	Total/NA	Solid	8021B	51054

Prep Batch: 51145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-21	BH 23-10 0FT	Total/NA	Solid	5035	
890-4488-22	BH 23-10 2FT	Total/NA	Solid	5035	
MB 880-51145/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-51145/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51145/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 51221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	Total BTEX	
890-4488-2	BH 23-01 2FT	Total/NA	Solid	Total BTEX	
890-4488-3	BH 23-02 0FT	Total/NA	Solid	Total BTEX	
890-4488-4	BH 23-02 2FT	Total/NA	Solid	Total BTEX	
890-4488-5	BH 23-03 0FT	Total/NA	Solid	Total BTEX	
890-4488-6	BH 23-03 2FT	Total/NA	Solid	Total BTEX	
890-4488-7	BH 23-04 0FT	Total/NA	Solid	Total BTEX	
890-4488-8	BH 23-04 2FT	Total/NA	Solid	Total BTEX	
890-4488-9	BH 23-05 0FT	Total/NA	Solid	Total BTEX	
890-4488-10	BH 23-05 2FT	Total/NA	Solid	Total BTEX	
890-4488-11	BH 23-05 4FT	Total/NA	Solid	Total BTEX	
890-4488-12	BH 23-06 0FT	Total/NA	Solid	Total BTEX	
890-4488-13	BH 23-06 2FT	Total/NA	Solid	Total BTEX	
890-4488-14	BH 23-06 4FT	Total/NA	Solid	Total BTEX	
890-4488-15	BH 23-07 0FT	Total/NA	Solid	Total BTEX	
890-4488-16	BH 23-07 2FT	Total/NA	Solid	Total BTEX	
890-4488-17	BH 23-08 0FT	Total/NA	Solid	Total BTEX	
890-4488-18	BH 23-08 2FT	Total/NA	Solid	Total BTEX	
890-4488-19	BH 23-09 0FT	Total/NA	Solid	Total BTEX	
890-4488-20	BH 23-09 2FT	Total/NA	Solid	Total BTEX	
890-4488-21	BH 23-10 0FT	Total/NA	Solid	Total BTEX	
890-4488-22	BH 23-10 2FT	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

GC Semi VOA

Prep Batch: 50958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-22	BH 23-10 2FT	Total/NA	Solid	8015NM Prep	
MB 880-50958/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50958/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50958/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-22	BH 23-10 2FT	Total/NA	Solid	8015B NM	50958
MB 880-50958/1-A	Method Blank	Total/NA	Solid	8015B NM	50958
LCS 880-50958/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50958
LCSD 880-50958/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50958

Analysis Batch: 51008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	8015B NM	51019
890-4488-2	BH 23-01 2FT	Total/NA	Solid	8015B NM	51019
890-4488-3	BH 23-02 0FT	Total/NA	Solid	8015B NM	51019
890-4488-4	BH 23-02 2FT	Total/NA	Solid	8015B NM	51019
890-4488-5	BH 23-03 0FT	Total/NA	Solid	8015B NM	51019
890-4488-6	BH 23-03 2FT	Total/NA	Solid	8015B NM	51019
890-4488-7	BH 23-04 0FT	Total/NA	Solid	8015B NM	51019
890-4488-8	BH 23-04 2FT	Total/NA	Solid	8015B NM	51019
890-4488-9	BH 23-05 0FT	Total/NA	Solid	8015B NM	51019
890-4488-10	BH 23-05 2FT	Total/NA	Solid	8015B NM	51019
890-4488-11	BH 23-05 4FT	Total/NA	Solid	8015B NM	51019
890-4488-12	BH 23-06 0FT	Total/NA	Solid	8015B NM	51019
890-4488-13	BH 23-06 2FT	Total/NA	Solid	8015B NM	51019
890-4488-14	BH 23-06 4FT	Total/NA	Solid	8015B NM	51019
890-4488-15	BH 23-07 0FT	Total/NA	Solid	8015B NM	51019
890-4488-16	BH 23-07 2FT	Total/NA	Solid	8015B NM	51019
890-4488-17	BH 23-08 0FT	Total/NA	Solid	8015B NM	51019
890-4488-18	BH 23-08 2FT	Total/NA	Solid	8015B NM	51019
890-4488-19	BH 23-09 0FT	Total/NA	Solid	8015B NM	51019
890-4488-20	BH 23-09 2FT	Total/NA	Solid	8015B NM	51019
MB 880-51019/1-A	Method Blank	Total/NA	Solid	8015B NM	51019
LCS 880-51019/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51019
LCSD 880-51019/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51019
890-4488-1 MS	BH 23-01 0FT	Total/NA	Solid	8015B NM	51019
890-4488-1 MSD	BH 23-01 0FT	Total/NA	Solid	8015B NM	51019

Analysis Batch: 51010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-21	BH 23-10 0FT	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
890-4488-21 MS	BH 23-10 0FT	Total/NA	Solid	8015B NM	51020
890-4488-21 MSD	BH 23-10 0FT	Total/NA	Solid	8015B NM	51020

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

GC Semi VOA

Prep Batch: 51019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4488-2	BH 23-01 2FT	Total/NA	Solid	8015NM Prep	
890-4488-3	BH 23-02 0FT	Total/NA	Solid	8015NM Prep	
890-4488-4	BH 23-02 2FT	Total/NA	Solid	8015NM Prep	
890-4488-5	BH 23-03 0FT	Total/NA	Solid	8015NM Prep	
890-4488-6	BH 23-03 2FT	Total/NA	Solid	8015NM Prep	
890-4488-7	BH 23-04 0FT	Total/NA	Solid	8015NM Prep	
890-4488-8	BH 23-04 2FT	Total/NA	Solid	8015NM Prep	
890-4488-9	BH 23-05 0FT	Total/NA	Solid	8015NM Prep	
890-4488-10	BH 23-05 2FT	Total/NA	Solid	8015NM Prep	
890-4488-11	BH 23-05 4FT	Total/NA	Solid	8015NM Prep	
890-4488-12	BH 23-06 0FT	Total/NA	Solid	8015NM Prep	
890-4488-13	BH 23-06 2FT	Total/NA	Solid	8015NM Prep	
890-4488-14	BH 23-06 4FT	Total/NA	Solid	8015NM Prep	
890-4488-15	BH 23-07 0FT	Total/NA	Solid	8015NM Prep	
890-4488-16	BH 23-07 2FT	Total/NA	Solid	8015NM Prep	
890-4488-17	BH 23-08 0FT	Total/NA	Solid	8015NM Prep	
890-4488-18	BH 23-08 2FT	Total/NA	Solid	8015NM Prep	
890-4488-19	BH 23-09 0FT	Total/NA	Solid	8015NM Prep	
890-4488-20	BH 23-09 2FT	Total/NA	Solid	8015NM Prep	
MB 880-51019/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51019/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51019/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4488-1 MS	BH 23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4488-1 MSD	BH 23-01 0FT	Total/NA	Solid	8015NM Prep	

Prep Batch: 51020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-21	BH 23-10 0FT	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	
890-4488-21 MS	BH 23-10 0FT	Total/NA	Solid	8015NM Prep	
890-4488-21 MSD	BH 23-10 0FT	Total/NA	Solid	8015NM Prep	

Analysis Batch: 51124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Total/NA	Solid	8015 NM	
890-4488-2	BH 23-01 2FT	Total/NA	Solid	8015 NM	
890-4488-3	BH 23-02 0FT	Total/NA	Solid	8015 NM	
890-4488-4	BH 23-02 2FT	Total/NA	Solid	8015 NM	
890-4488-5	BH 23-03 0FT	Total/NA	Solid	8015 NM	
890-4488-6	BH 23-03 2FT	Total/NA	Solid	8015 NM	
890-4488-7	BH 23-04 0FT	Total/NA	Solid	8015 NM	
890-4488-8	BH 23-04 2FT	Total/NA	Solid	8015 NM	
890-4488-9	BH 23-05 0FT	Total/NA	Solid	8015 NM	
890-4488-10	BH 23-05 2FT	Total/NA	Solid	8015 NM	
890-4488-11	BH 23-05 4FT	Total/NA	Solid	8015 NM	
890-4488-12	BH 23-06 0FT	Total/NA	Solid	8015 NM	
890-4488-13	BH 23-06 2FT	Total/NA	Solid	8015 NM	
890-4488-14	BH 23-06 4FT	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

GC Semi VOA (Continued)

Analysis Batch: 51124 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-15	BH 23-07 0FT	Total/NA	Solid	8015 NM	
890-4488-16	BH 23-07 2FT	Total/NA	Solid	8015 NM	
890-4488-17	BH 23-08 0FT	Total/NA	Solid	8015 NM	
890-4488-18	BH 23-08 2FT	Total/NA	Solid	8015 NM	
890-4488-19	BH 23-09 0FT	Total/NA	Solid	8015 NM	
890-4488-20	BH 23-09 2FT	Total/NA	Solid	8015 NM	
890-4488-21	BH 23-10 0FT	Total/NA	Solid	8015 NM	
890-4488-22	BH 23-10 2FT	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-9	BH 23-05 0FT	Soluble	Solid	DI Leach	
890-4488-10	BH 23-05 2FT	Soluble	Solid	DI Leach	
890-4488-11	BH 23-05 4FT	Soluble	Solid	DI Leach	
890-4488-12	BH 23-06 0FT	Soluble	Solid	DI Leach	
MB 880-50991/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50991/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50991/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 50992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-13	BH 23-06 2FT	Soluble	Solid	DI Leach	
890-4488-14	BH 23-06 4FT	Soluble	Solid	DI Leach	
890-4488-15	BH 23-07 0FT	Soluble	Solid	DI Leach	
890-4488-16	BH 23-07 2FT	Soluble	Solid	DI Leach	
890-4488-17	BH 23-08 0FT	Soluble	Solid	DI Leach	
890-4488-18	BH 23-08 2FT	Soluble	Solid	DI Leach	
890-4488-19	BH 23-09 0FT	Soluble	Solid	DI Leach	
MB 880-50992/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50992/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50992/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Leach Batch: 50993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Soluble	Solid	DI Leach	
890-4488-2	BH 23-01 2FT	Soluble	Solid	DI Leach	
890-4488-3	BH 23-02 0FT	Soluble	Solid	DI Leach	
890-4488-4	BH 23-02 2FT	Soluble	Solid	DI Leach	
890-4488-5	BH 23-03 0FT	Soluble	Solid	DI Leach	
890-4488-6	BH 23-03 2FT	Soluble	Solid	DI Leach	
890-4488-7	BH 23-04 0FT	Soluble	Solid	DI Leach	
890-4488-8	BH 23-04 2FT	Soluble	Solid	DI Leach	
890-4488-20	BH 23-09 2FT	Soluble	Solid	DI Leach	
890-4488-21	BH 23-10 0FT	Soluble	Solid	DI Leach	
890-4488-22	BH 23-10 2FT	Soluble	Solid	DI Leach	
MB 880-50993/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50993/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50993/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4488-2 MS	BH 23-01 2FT	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

HPLC/IC (Continued)

Leach Batch: 50993 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-2 MSD	BH 23-01 2FT	Soluble	Solid	DI Leach	

Analysis Batch: 51101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-13	BH 23-06 2FT	Soluble	Solid	300.0	50992
890-4488-14	BH 23-06 4FT	Soluble	Solid	300.0	50992
890-4488-15	BH 23-07 0FT	Soluble	Solid	300.0	50992
890-4488-16	BH 23-07 2FT	Soluble	Solid	300.0	50992
890-4488-17	BH 23-08 0FT	Soluble	Solid	300.0	50992
890-4488-18	BH 23-08 2FT	Soluble	Solid	300.0	50992
890-4488-19	BH 23-09 0FT	Soluble	Solid	300.0	50992
MB 880-50992/1-A	Method Blank	Soluble	Solid	300.0	50992
LCS 880-50992/2-A	Lab Control Sample	Soluble	Solid	300.0	50992
LCSD 880-50992/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50992

Analysis Batch: 51106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-9	BH 23-05 0FT	Soluble	Solid	300.0	50991
890-4488-10	BH 23-05 2FT	Soluble	Solid	300.0	50991
890-4488-11	BH 23-05 4FT	Soluble	Solid	300.0	50991
890-4488-12	BH 23-06 0FT	Soluble	Solid	300.0	50991
MB 880-50991/1-A	Method Blank	Soluble	Solid	300.0	50991
LCS 880-50991/2-A	Lab Control Sample	Soluble	Solid	300.0	50991
LCSD 880-50991/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50991

Analysis Batch: 51172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4488-1	BH 23-01 0FT	Soluble	Solid	300.0	50993
890-4488-2	BH 23-01 2FT	Soluble	Solid	300.0	50993
890-4488-3	BH 23-02 0FT	Soluble	Solid	300.0	50993
890-4488-4	BH 23-02 2FT	Soluble	Solid	300.0	50993
890-4488-5	BH 23-03 0FT	Soluble	Solid	300.0	50993
890-4488-6	BH 23-03 2FT	Soluble	Solid	300.0	50993
890-4488-7	BH 23-04 0FT	Soluble	Solid	300.0	50993
890-4488-8	BH 23-04 2FT	Soluble	Solid	300.0	50993
890-4488-20	BH 23-09 2FT	Soluble	Solid	300.0	50993
890-4488-21	BH 23-10 0FT	Soluble	Solid	300.0	50993
890-4488-22	BH 23-10 2FT	Soluble	Solid	300.0	50993
MB 880-50993/1-A	Method Blank	Soluble	Solid	300.0	50993
LCS 880-50993/2-A	Lab Control Sample	Soluble	Solid	300.0	50993
LCSD 880-50993/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50993
890-4488-2 MS	BH 23-01 2FT	Soluble	Solid	300.0	50993
890-4488-2 MSD	BH 23-01 2FT	Soluble	Solid	300.0	50993

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-01 0FT

Lab Sample ID: 890-4488-1
Matrix: Solid
Date Collected: 04/10/23 09:00
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 21:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 10:59	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 01:31	SMC	EET MID

Client Sample ID: BH 23-01 2FT

Lab Sample ID: 890-4488-2
Matrix: Solid
Date Collected: 04/10/23 09:05
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 22:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 12:04	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 01:36	SMC	EET MID

Client Sample ID: BH 23-02 0FT

Lab Sample ID: 890-4488-3
Matrix: Solid
Date Collected: 04/10/23 09:10
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 22:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 13:05	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 01:50	SMC	EET MID

Client Sample ID: BH 23-02 2FT

Lab Sample ID: 890-4488-4
Matrix: Solid
Date Collected: 04/10/23 09:15
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 23:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-02 2FT
Lab Sample ID: 890-4488-4
Date Collected: 04/10/23 09:15
Matrix: Solid
Date Received: 04/11/23 08:00

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			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 13:26	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 01:54	SMC	EET MID

Client Sample ID: BH 23-03 0FT
Lab Sample ID: 890-4488-5
Date Collected: 04/10/23 09:20
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 23:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 13:48	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:08	SMC	EET MID

Client Sample ID: BH 23-03 2FT
Lab Sample ID: 890-4488-6
Date Collected: 04/10/23 09:25
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/14/23 23:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 14:10	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:13	SMC	EET MID

Client Sample ID: BH 23-04 0FT
Lab Sample ID: 890-4488-7
Date Collected: 04/10/23 09:30
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 00:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 14:32	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-04 0FT

Lab Sample ID: 890-4488-7
Matrix: Solid
Date Collected: 04/10/23 09:30
Date Received: 04/11/23 08:00

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	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:17	SMC	EET MID

Client Sample ID: BH 23-04 2FT

Lab Sample ID: 890-4488-8
Matrix: Solid
Date Collected: 04/10/23 09:35
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 00:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 14:54	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:22	SMC	EET MID

Client Sample ID: BH 23-05 0FT

Lab Sample ID: 890-4488-9
Matrix: Solid
Date Collected: 04/10/23 09:40
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 00:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 15:16	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	50991	04/12/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51106	04/13/23 23:42	SMC	EET MID

Client Sample ID: BH 23-05 2FT

Lab Sample ID: 890-4488-10
Matrix: Solid
Date Collected: 04/10/23 09:45
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 01:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 15:37	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50991	04/12/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51106	04/13/23 23:47	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-05 4FT

Lab Sample ID: 890-4488-11

Date Collected: 04/10/23 09:50
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 02:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 16:20	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50991	04/12/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51106	04/13/23 23:51	SMC	EET MID

Client Sample ID: BH 23-06 0FT

Lab Sample ID: 890-4488-12

Date Collected: 04/10/23 09:55
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 02:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 16:42	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50991	04/12/23 12:49	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51106	04/13/23 23:56	SMC	EET MID

Client Sample ID: BH 23-06 2FT

Lab Sample ID: 890-4488-13

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

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 03:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 17:04	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 20:49	SMC	EET MID

Client Sample ID: BH 23-06 4FT

Lab Sample ID: 890-4488-14

Date Collected: 04/10/23 10:05
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 03:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-06 4FT — Lab Sample ID: 890-4488-14

Date Collected: 04/10/23 10:05 — **Matrix: Solid**
Date Received: 04/11/23 08:00

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			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 17:27	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 21:17	SMC	EET MID

Client Sample ID: BH 23-07 0FT — Lab Sample ID: 890-4488-15

Date Collected: 04/10/23 10:10 — **Matrix: Solid**
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 03:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 17:49	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 20:54	SMC	EET MID

Client Sample ID: BH 23-07 2FT — Lab Sample ID: 890-4488-16

Date Collected: 04/10/23 10:15 — **Matrix: Solid**
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 04:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 18:11	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 20:58	SMC	EET MID

Client Sample ID: BH 23-08 0FT — Lab Sample ID: 890-4488-17

Date Collected: 04/10/23 10:20 — **Matrix: Solid**
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 04:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 18:33	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-08 0FT

Lab Sample ID: 890-4488-17

Date Collected: 04/10/23 10:20
Matrix: Solid
Date Received: 04/11/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 21:03	SMC	EET MID

Client Sample ID: BH 23-08 2FT

Lab Sample ID: 890-4488-18

Date Collected: 04/10/23 10:25
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 04:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 18:55	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 21:08	SMC	EET MID

Client Sample ID: BH 23-09 0FT

Lab Sample ID: 890-4488-19

Date Collected: 04/10/23 10:30
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 05:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 19:17	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50992	04/12/23 12:50	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51101	04/13/23 21:12	SMC	EET MID

Client Sample ID: BH 23-09 2FT

Lab Sample ID: 890-4488-20

Date Collected: 04/10/23 10:35
Matrix: Solid
Date Received: 04/11/23 08:00

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	51054	04/13/23 11:19	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51139	04/15/23 05:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/16/23 11:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/14/23 12:19	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	51019	04/13/23 08:17	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51008	04/13/23 19:39	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:26	SMC	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Client Sample ID: BH 23-10 0FT

Lab Sample ID: 890-4488-21

Date Collected: 04/10/23 10:40
Matrix: Solid
Date Received: 04/11/23 08:00

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	51145	04/14/23 09:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51138	04/14/23 14:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/14/23 17:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/13/23 17:12	AJ	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 10:59	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:31	SMC	EET MID

Client Sample ID: BH 23-10 2FT

Lab Sample ID: 890-4488-22

Date Collected: 04/10/23 10:45
Matrix: Solid
Date Received: 04/11/23 08:00

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	51145	04/14/23 09:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51138	04/14/23 15:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51221	04/14/23 17:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			51124	04/16/23 11:24	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	50958	04/12/23 10:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50962	04/12/23 21:09	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	50993	04/12/23 12:56	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	51172	04/14/23 02:35	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 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

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 23 CTB

Job ID: 890-4488-1
SDG: Carlsbad NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4488-1	BH 23-01 0FT	Solid	04/10/23 09:00	04/11/23 08:00	0
890-4488-2	BH 23-01 2FT	Solid	04/10/23 09:05	04/11/23 08:00	2
890-4488-3	BH 23-02 0FT	Solid	04/10/23 09:10	04/11/23 08:00	0
890-4488-4	BH 23-02 2FT	Solid	04/10/23 09:15	04/11/23 08:00	2
890-4488-5	BH 23-03 0FT	Solid	04/10/23 09:20	04/11/23 08:00	0
890-4488-6	BH 23-03 2FT	Solid	04/10/23 09:25	04/11/23 08:00	2
890-4488-7	BH 23-04 0FT	Solid	04/10/23 09:30	04/11/23 08:00	0
890-4488-8	BH 23-04 2FT	Solid	04/10/23 09:35	04/11/23 08:00	2
890-4488-9	BH 23-05 0FT	Solid	04/10/23 09:40	04/11/23 08:00	0
890-4488-10	BH 23-05 2FT	Solid	04/10/23 09:45	04/11/23 08:00	2
890-4488-11	BH 23-05 4FT	Solid	04/10/23 09:50	04/11/23 08:00	4
890-4488-12	BH 23-06 0FT	Solid	04/10/23 09:55	04/11/23 08:00	0
890-4488-13	BH 23-06 2FT	Solid	04/10/23 10:00	04/11/23 08:00	2
890-4488-14	BH 23-06 4FT	Solid	04/10/23 10:05	04/11/23 08:00	4
890-4488-15	BH 23-07 0FT	Solid	04/10/23 10:10	04/11/23 08:00	0
890-4488-16	BH 23-07 2FT	Solid	04/10/23 10:15	04/11/23 08:00	2
890-4488-17	BH 23-08 0FT	Solid	04/10/23 10:20	04/11/23 08:00	0
890-4488-18	BH 23-08 2FT	Solid	04/10/23 10:25	04/11/23 08:00	2
890-4488-19	BH 23-09 0FT	Solid	04/10/23 10:30	04/11/23 08:00	0
890-4488-20	BH 23-09 2FT	Solid	04/10/23 10:35	04/11/23 08:00	2
890-4488-21	BH 23-10 0FT	Solid	04/10/23 10:40	04/11/23 08:00	0
890-4488-22	BH 23-10 2FT	Solid	04/10/23 10:45	04/11/23 08:00	2

eurofins | Environment Testing Xenco

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 3

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:	5759881472	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 23 CTB	Turn Around	
Project Number:	23E-01500	☑ 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:	TVM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.8	
Total Containers:		Corrected Temperature:	2.6	

ANALYSIS REQUEST

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	Parameters: BTEX	TPH: 8015D	CI	Sample Comments
BH23-01 0ft	Soil	4/10	9:00	0'	Dis	1	✓	✓	✓	
BH23-01 2ft			9:05	2'			✓	✓	✓	
BH23-02 0ft			9:10	0'			✓	✓	✓	
BH23-02 2ft			9:15	2'			✓	✓	✓	
BH23-03 0ft			9:20	0'			✓	✓	✓	
BH23-03 2ft			9:29	2'			✓	✓	✓	
BH23-04 0ft			9:30	0'			✓	✓	✓	
BH23-04 2ft			9:35	2'			✓	✓	✓	
BH23-05 0ft			9:40	0'			✓	✓	✓	
BH23-05 2ft			9:45	2'			✓	✓	✓	

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		4.11.23 800	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 3

Project Manager:	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:	RW23 CTB	Turn Around	
Project Number:	23E-01500	☒ 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	BTEX	TPH:8015D	Cl	Sample Comments
BH23-05	soil	4/10	9:50	4'	DS	1		✓	✓	✓	
BH23-06	0ft		9:55	0'				✓	✓	✓	
BH23-06	2ft		10:00	2'				✓	✓	✓	
BH23-06	4ft		10:05	4'				✓	✓	✓	
BH23-07	0ft		10:10	0'				✓	✓	✓	
BH23-07	2ft		10:15	2'				✓	✓	✓	
BH23-08	0ft		10:20	0'				✓	✓	✓	
BH23-08	2ft		10:25	2'				✓	✓	✓	
BH23-09	0ft		10:30	0'				✓	✓	✓	
BH23-09	2ft		10:35	2'				✓	✓	✓	

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		4.11.23	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:	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:	5759681472	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:	PLU23 CTB	Turn Around	
Project Number:	225-01500	☒ 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:	-0.1	
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
BH23-10 0ft	soil	4/10	10:40	0'	DS	1					
BH23-10 2ft	soil	4/10	10:45	2'	DS	1					

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		4-11-23	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4488-1
SDG Number: Carlsbad NM

Login Number: 4488
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: 890-4488-1
SDG Number: Carlsbad NM

Login Number: 4488
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Midland
List Creation: 04/12/23 04:29 PM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/31/2023 10:59:07 AM

JOB DESCRIPTION

PLU 23 CTB
SDG NUMBER Carlsbad, NM

JOB NUMBER

890-4743-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

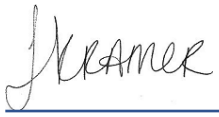
Eurofins Carlsbad

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
5/31/2023 10:59:07 AM

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

Client: Vertex
Project/Site: PLU 23 CTB

Laboratory Job ID: 890-4743-1
SDG: Carlsbad, NM

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Job ID: 890-4743-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4743-1

Receipt
The samples were received on 5/25/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BS23-01 (890-4743-1), BS23-02 (890-4743-2), BS23-03 (890-4743-3), WS23-05 (890-4743-4), WS23-02 (890-4743-5), WS23-03 (890-4743-6) and WS23-04 (890-4743-7).

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: The surrogate recovery for the blank associated with preparation batch 880-54340 and analytical batch 880-54334 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-54334/20), (CCV 880-54334/31), (CCV 880-54334/47), (CCV 880-54334/5), (CCV 880-54334/58), (LCS 880-54340/2-A) and (LCSD 880-54340/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BS23-01 (890-4743-1), BS23-02 (890-4743-2), (890-4746-A-1-A), (890-4746-A-1-B MS) and (890-4746-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BS23-03 (890-4743-3), WS23-05 (890-4743-4), WS23-02 (890-4743-5), WS23-03 (890-4743-6) and WS23-04 (890-4743-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-54340 and analytical batch 880-54334 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-54340 and analytical batch 880-54334 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

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

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

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: BS23-01

Lab Sample ID: 890-4743-1
Matrix: Solid
Date Collected: 05/25/23 09:00
Date Received: 05/25/23 16:00
Sample Depth: 0.5

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		05/30/23 09:26	05/30/23 23:08	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/30/23 23:08	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/30/23 23:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/30/23 23:08	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/30/23 23:08	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/30/23 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:08*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:08*	*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			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**270**		49.8		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 15:23	1
Diesel Range Organics (Over C10-C28)	**270**	***1**	49.8		mg/Kg		05/30/23 08:50	05/30/23 15:23	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/30/23 08:50	05/30/23 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*280*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 15:23*	*1*
o-Terphenyl	*253*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 15:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.2**		5.04		mg/Kg			05/30/23 15:09	1

Client Sample ID: BS23-02

Lab Sample ID: 890-4743-2
Matrix: Solid
Date Collected: 05/25/23 09:05
Date Received: 05/25/23 16:00
Sample Depth: 0.5

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		05/30/23 09:26	05/30/23 23:28	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/30/23 09:26	05/30/23 23:28	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/30/23 09:26	05/30/23 23:28	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		05/30/23 09:26	05/30/23 23:28	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/30/23 09:26	05/30/23 23:28	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		05/30/23 09:26	05/30/23 23:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:28*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: BS23-02

Date Collected: 05/25/23 09:05
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:28*	*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			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**516**		49.9		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 15:45	1
Diesel Range Organics (Over C10-C28)	**516**	***1**	49.9		mg/Kg		05/30/23 08:50	05/30/23 15:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/30/23 08:50	05/30/23 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*248*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 15:45*	*1*
o-Terphenyl	*216*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 15:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**135**		4.99		mg/Kg			05/30/23 15:25	1

Client Sample ID: BS23-03

Date Collected: 05/25/23 09:10
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-3

Matrix: Solid

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		05/30/23 09:26	05/30/23 23:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 23:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 23:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/30/23 09:26	05/30/23 23:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 23:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/30/23 09:26	05/30/23 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:48*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*05/30/23 09:26*	*05/30/23 23:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**885**		49.9		mg/Kg			05/31/23 09:22	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: BS23-03

Lab Sample ID: 890-4743-3
Matrix: Solid
Date Collected: 05/25/23 09:10
Date Received: 05/25/23 16:00
Sample Depth: 0.5

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		05/30/23 08:50	05/30/23 16:31	1
Diesel Range Organics (Over C10-C28)	**885**	***1**	49.9		mg/Kg		05/30/23 08:50	05/30/23 16:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/30/23 08:50	05/30/23 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*280*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 16:31*	*1*
o-Terphenyl	*235*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 16:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**103**		4.99		mg/Kg			05/30/23 15:31	1

Client Sample ID: WS23-05

Lab Sample ID: 890-4743-4
Matrix: Solid
Date Collected: 05/25/23 09:15
Date Received: 05/25/23 16:00
Sample Depth: 0.5

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		05/30/23 09:26	05/31/23 00:09	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/30/23 09:26	05/31/23 00:09	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/30/23 09:26	05/31/23 00:09	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/30/23 09:26	05/31/23 00:09	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/30/23 09:26	05/31/23 00:09	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/30/23 09:26	05/31/23 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*05/30/23 09:26*	*05/31/23 00:09*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*05/30/23 09:26*	*05/31/23 00:09*	*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			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**162**		49.9		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 16:52	1
Diesel Range Organics (Over C10-C28)	**162**	***1**	49.9		mg/Kg		05/30/23 08:50	05/30/23 16:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/30/23 08:50	05/30/23 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*246*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 16:52*	*1*
o-Terphenyl	*219*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 16:52*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: WS23-05

Date Collected: 05/25/23 09:15
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-4

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**85.9**		5.02		mg/Kg			05/30/23 15:36	1

Client Sample ID: WS23-02

Date Collected: 05/25/23 09:20
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-5

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		05/30/23 09:26	05/31/23 00:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 00:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 00:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/31/23 00:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 00:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/31/23 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*05/30/23 09:26*	*05/31/23 00:29*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*05/30/23 09:26*	*05/31/23 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			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**664**		49.8		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 17:14	1
Diesel Range Organics (Over C10-C28)	**664**	***1**	49.8		mg/Kg		05/30/23 08:50	05/30/23 17:14	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/30/23 08:50	05/30/23 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*266*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:14*	*1*
o-Terphenyl	*228*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**169**		5.04		mg/Kg			05/30/23 15:42	1

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: WS23-03

Date Collected: 05/25/23 09:25
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-6

Matrix: Solid

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		05/30/23 09:26	05/31/23 00:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/31/23 00:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/31/23 00:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/30/23 09:26	05/31/23 00:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/31/23 00:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/30/23 09:26	05/31/23 00:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*05/30/23 09:26*	*05/31/23 00:50*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*05/30/23 09:26*	*05/31/23 00:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1760**		50.0		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 17:35	1
Diesel Range Organics (Over C10-C28)	**1760**	***1**	50.0		mg/Kg		05/30/23 08:50	05/30/23 17:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/30/23 08:50	05/30/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*319*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:35*	*1*
o-Terphenyl	*255*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**246**		5.05		mg/Kg			05/30/23 15:58	1

Client Sample ID: WS23-04

Date Collected: 05/25/23 09:30
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-7

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		05/30/23 09:26	05/31/23 01:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 01:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 01:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/31/23 01:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/30/23 09:26	05/31/23 01:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/30/23 09:26	05/31/23 01:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*05/30/23 09:26*	*05/31/23 01:10*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: WS23-04
Date Collected: 05/25/23 09:30
Date Received: 05/25/23 16:00
Sample Depth: 0.5

Lab Sample ID: 890-4743-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/30/23 09:26*	*05/31/23 01:10*	*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			05/31/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**660**		49.8		mg/Kg			05/31/23 09:22	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		05/30/23 08:50	05/30/23 17:56	1
Diesel Range Organics (Over C10-C28)	**660**	***1**	49.8		mg/Kg		05/30/23 08:50	05/30/23 17:56	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/30/23 08:50	05/30/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*278*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:56*	*1*
o-Terphenyl	*243*	*S1+*	*70 - 130*	*05/30/23 08:50*	*05/30/23 17:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**94.6**		5.05		mg/Kg			05/30/23 16:03	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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)
890-4735-A-29-D MS	Matrix Spike	88	115
890-4735-A-29-E MSD	Matrix Spike Duplicate	90	113
890-4743-1	BS23-01	100	104
890-4743-2	BS23-02	97	101
890-4743-3	BS23-03	94	100
890-4743-4	WS23-05	98	96
890-4743-5	WS23-02	98	101
890-4743-6	WS23-03	114	100
890-4743-7	WS23-04	110	97
LCS 880-54363/1-A	Lab Control Sample	108	112
LCSD 880-54363/2-A	Lab Control Sample Dup	108	106
MB 880-54363/5-A	Method Blank	72	84
MB 880-54365/5-A	Method Blank	90	109

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)
890-4743-1	BS23-01	280 S1+	253 S1+
890-4743-2	BS23-02	248 S1+	216 S1+
890-4743-3	BS23-03	280 S1+	235 S1+
890-4743-4	WS23-05	246 S1+	219 S1+
890-4743-5	WS23-02	266 S1+	228 S1+
890-4743-6	WS23-03	319 S1+	255 S1+
890-4743-7	WS23-04	278 S1+	243 S1+
890-4746-A-1-B MS	Matrix Spike	339 S1+	258 S1+
890-4746-A-1-C MSD	Matrix Spike Duplicate	271 S1+	206 S1+
LCS 880-54340/2-A	Lab Control Sample	194 S1+	182 S1+
LCSD 880-54340/3-A	Lab Control Sample Dup	154 S1+	142 S1+
MB 880-54340/1-A	Method Blank	285 S1+	256 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-54363/5-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54363

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 22:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 22:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 22:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/30/23 09:26	05/30/23 22:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/30/23 09:26	05/30/23 22:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/30/23 09:26	05/30/23 22:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*05/30/23 09:26*	*05/30/23 22:05*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*05/30/23 09:26*	*05/30/23 22:05*	*1*

Lab Sample ID: LCS 880-54363/1-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54363

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1290		mg/Kg		129	70 - 130		
Toluene			0.100	0.1206		mg/Kg		121	70 - 130		
Ethylbenzene			0.100	0.1185		mg/Kg		118	70 - 130		
m-Xylene & p-Xylene			0.200	0.2423		mg/Kg		121	70 - 130		
o-Xylene			0.100	0.1228		mg/Kg		123	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-54363/2-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54363

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1226		mg/Kg		123	70 - 130	5	35
Toluene			0.100	0.1199		mg/Kg		120	70 - 130	1	35
Ethylbenzene			0.100	0.1196		mg/Kg		120	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2450		mg/Kg		123	70 - 130	1	35
o-Xylene			0.100	0.1240		mg/Kg		124	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-4735-A-29-D MS
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1299		mg/Kg		129	70 - 130		
Toluene	<0.00202	U	0.101	0.09912		mg/Kg		98	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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

Lab Sample ID: 890-4735-A-29-D MS
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54363

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.08906		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00404	U	0.202	0.1704		mg/Kg		84	70 - 130
o-Xylene	<0.00202	U	0.101	0.08521		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: 890-4735-A-29-E MSD
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54363

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1167		mg/Kg		117	70 - 130	11	35
Toluene	<0.00202	U	0.0994	0.08963		mg/Kg		90	70 - 130	10	35
Ethylbenzene	<0.00202	U	0.0994	0.08060		mg/Kg		81	70 - 130	10	35
m-Xylene & p-Xylene	<0.00404	U	0.199	0.1535		mg/Kg		77	70 - 130	10	35
o-Xylene	<0.00202	U	0.0994	0.07682		mg/Kg		77	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: MB 880-54365/5-A
Matrix: Solid
Analysis Batch: 54337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54365

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/30/23 09:40	05/30/23 11:30	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/30/23 09:40	05/30/23 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*05/30/23 09:40*	*05/30/23 11:30*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*05/30/23 09:40*	*05/30/23 11:30*	*1*

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

Lab Sample ID: MB 880-54340/1-A
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54340

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		05/30/23 07:50	05/30/23 08:14	1

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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

Lab Sample ID: MB 880-54340/1-A
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 54340

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		05/30/23 07:50	05/30/23 08:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/30/23 07:50	05/30/23 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*285*	*S1+*	*70 - 130*	*05/30/23 07:50*	*05/30/23 08:14*	*1*
o-Terphenyl	*256*	*S1+*	*70 - 130*	*05/30/23 07:50*	*05/30/23 08:14*	*1*

Lab Sample ID: LCS 880-54340/2-A
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 54340

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1102		mg/Kg		110	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	740.7		mg/Kg		74	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*194*	*S1+*	*70 - 130*
o-Terphenyl	*182*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-54340/3-A
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 54340

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1295		mg/Kg		129	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	977.7	*1	mg/Kg		98	70 - 130	28	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*154*	*S1+*	*70 - 130*
o-Terphenyl	*142*	*S1+*	*70 - 130*

Lab Sample ID: 890-4746-A-1-B MS
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 54340

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 F1 F2	998	2252	F1	mg/Kg		223	70 - 130		
Diesel Range Organics (Over C10-C28)	65.5	F1 F2 *1	998	3131	F1	mg/Kg		307	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*339*	*S1+*	*70 - 130*
o-Terphenyl	*258*	*S1+*	*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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

Lab Sample ID: 890-4746-A-1-C MSD
Matrix: Solid
Analysis Batch: 54334

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 54340

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 F1 F2	999	1769	F1 F2	mg/Kg		175	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	65.5	F1 F2 *1	999	2400	F1 F2	mg/Kg		234	70 - 130	26	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*271*	*S1+*	*70 - 130*
o-Terphenyl	*206*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-54347/1-A
Matrix: Solid
Analysis Batch: 54391

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/30/23 14:53	1

Lab Sample ID: LCS 880-54347/2-A
Matrix: Solid
Analysis Batch: 54391

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-54347/3-A
Matrix: Solid
Analysis Batch: 54391

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	235.7		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-4743-1 MS
Matrix: Solid
Analysis Batch: 54391

Client Sample ID: BS23-01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	65.2		252	307.6		mg/Kg		96	90 - 110		

Lab Sample ID: 890-4743-1 MSD
Matrix: Solid
Analysis Batch: 54391

Client Sample ID: BS23-01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.2		252	307.5		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

GC VOA

Analysis Batch: 54337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	8021B	54363
890-4743-2	BS23-02	Total/NA	Solid	8021B	54363
890-4743-3	BS23-03	Total/NA	Solid	8021B	54363
890-4743-4	WS23-05	Total/NA	Solid	8021B	54363
890-4743-5	WS23-02	Total/NA	Solid	8021B	54363
890-4743-6	WS23-03	Total/NA	Solid	8021B	54363
890-4743-7	WS23-04	Total/NA	Solid	8021B	54363
MB 880-54363/5-A	Method Blank	Total/NA	Solid	8021B	54363
MB 880-54365/5-A	Method Blank	Total/NA	Solid	8021B	54365
LCS 880-54363/1-A	Lab Control Sample	Total/NA	Solid	8021B	54363
LCSD 880-54363/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	54363
890-4735-A-29-D MS	Matrix Spike	Total/NA	Solid	8021B	54363
890-4735-A-29-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	54363

Prep Batch: 54363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	5035	
890-4743-2	BS23-02	Total/NA	Solid	5035	
890-4743-3	BS23-03	Total/NA	Solid	5035	
890-4743-4	WS23-05	Total/NA	Solid	5035	
890-4743-5	WS23-02	Total/NA	Solid	5035	
890-4743-6	WS23-03	Total/NA	Solid	5035	
890-4743-7	WS23-04	Total/NA	Solid	5035	
MB 880-54363/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-54363/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-54363/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4735-A-29-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4735-A-29-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 54365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-54365/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 54472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	Total BTEX	
890-4743-2	BS23-02	Total/NA	Solid	Total BTEX	
890-4743-3	BS23-03	Total/NA	Solid	Total BTEX	
890-4743-4	WS23-05	Total/NA	Solid	Total BTEX	
890-4743-5	WS23-02	Total/NA	Solid	Total BTEX	
890-4743-6	WS23-03	Total/NA	Solid	Total BTEX	
890-4743-7	WS23-04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 54334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	8015B NM	54340
890-4743-2	BS23-02	Total/NA	Solid	8015B NM	54340
890-4743-3	BS23-03	Total/NA	Solid	8015B NM	54340
890-4743-4	WS23-05	Total/NA	Solid	8015B NM	54340

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

GC Semi VOA (Continued)

Analysis Batch: 54334 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-5	WS23-02	Total/NA	Solid	8015B NM	54340
890-4743-6	WS23-03	Total/NA	Solid	8015B NM	54340
890-4743-7	WS23-04	Total/NA	Solid	8015B NM	54340
MB 880-54340/1-A	Method Blank	Total/NA	Solid	8015B NM	54340
LCS 880-54340/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	54340
LCSD 880-54340/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	54340
890-4746-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	54340
890-4746-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	54340

Prep Batch: 54340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	8015NM Prep	
890-4743-2	BS23-02	Total/NA	Solid	8015NM Prep	
890-4743-3	BS23-03	Total/NA	Solid	8015NM Prep	
890-4743-4	WS23-05	Total/NA	Solid	8015NM Prep	
890-4743-5	WS23-02	Total/NA	Solid	8015NM Prep	
890-4743-6	WS23-03	Total/NA	Solid	8015NM Prep	
890-4743-7	WS23-04	Total/NA	Solid	8015NM Prep	
MB 880-54340/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-54340/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-54340/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4746-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4746-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 54456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Total/NA	Solid	8015 NM	
890-4743-2	BS23-02	Total/NA	Solid	8015 NM	
890-4743-3	BS23-03	Total/NA	Solid	8015 NM	
890-4743-4	WS23-05	Total/NA	Solid	8015 NM	
890-4743-5	WS23-02	Total/NA	Solid	8015 NM	
890-4743-6	WS23-03	Total/NA	Solid	8015 NM	
890-4743-7	WS23-04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 54347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Soluble	Solid	DI Leach	
890-4743-2	BS23-02	Soluble	Solid	DI Leach	
890-4743-3	BS23-03	Soluble	Solid	DI Leach	
890-4743-4	WS23-05	Soluble	Solid	DI Leach	
890-4743-5	WS23-02	Soluble	Solid	DI Leach	
890-4743-6	WS23-03	Soluble	Solid	DI Leach	
890-4743-7	WS23-04	Soluble	Solid	DI Leach	
MB 880-54347/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-54347/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-54347/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4743-1 MS	BS23-01	Soluble	Solid	DI Leach	
890-4743-1 MSD	BS23-01	Soluble	Solid	DI Leach	

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

HPLC/IC

Analysis Batch: 54391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4743-1	BS23-01	Soluble	Solid	300.0	54347
890-4743-2	BS23-02	Soluble	Solid	300.0	54347
890-4743-3	BS23-03	Soluble	Solid	300.0	54347
890-4743-4	WS23-05	Soluble	Solid	300.0	54347
890-4743-5	WS23-02	Soluble	Solid	300.0	54347
890-4743-6	WS23-03	Soluble	Solid	300.0	54347
890-4743-7	WS23-04	Soluble	Solid	300.0	54347
MB 880-54347/1-A	Method Blank	Soluble	Solid	300.0	54347
LCS 880-54347/2-A	Lab Control Sample	Soluble	Solid	300.0	54347
LCSD 880-54347/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	54347
890-4743-1 MS	BS23-01	Soluble	Solid	300.0	54347
890-4743-1 MSD	BS23-01	Soluble	Solid	300.0	54347

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: BS23-01
Date Collected: 05/25/23 09:00
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/30/23 23:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 15:23	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:09	CH	EET MID

Client Sample ID: BS23-02
Date Collected: 05/25/23 09:05
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/30/23 23:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 15:45	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:25	CH	EET MID

Client Sample ID: BS23-03
Date Collected: 05/25/23 09:10
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/30/23 23:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 16:31	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:31	CH	EET MID

Client Sample ID: WS23-05
Date Collected: 05/25/23 09:15
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/31/23 00:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: WS23-05
Date Collected: 05/25/23 09:15
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 16:52	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:36	CH	EET MID

Client Sample ID: WS23-02
Date Collected: 05/25/23 09:20
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/31/23 00:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 17:14	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:42	CH	EET MID

Client Sample ID: WS23-03
Date Collected: 05/25/23 09:25
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/31/23 00:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 17:35	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 15:58	CH	EET MID

Client Sample ID: WS23-04
Date Collected: 05/25/23 09:30
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	54363	05/30/23 09:26	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54337	05/31/23 01:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54472	05/31/23 09:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			54456	05/31/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	54340	05/30/23 08:50	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54334	05/30/23 17:56	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Client Sample ID: WS23-04
Date Collected: 05/25/23 09:30
Date Received: 05/25/23 16:00

Lab Sample ID: 890-4743-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	54347	05/30/23 09:04	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54391	05/30/23 16:03	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

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 23 CTB

Job ID: 890-4743-1
SDG: Carlsbad, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4743-1	BS23-01	Solid	05/25/23 09:00	05/25/23 16:00	0.5
890-4743-2	BS23-02	Solid	05/25/23 09:05	05/25/23 16:00	0.5
890-4743-3	BS23-03	Solid	05/25/23 09:10	05/25/23 16:00	0.5
890-4743-4	WS23-05	Solid	05/25/23 09:15	05/25/23 16:00	0.5
890-4743-5	WS23-02	Solid	05/25/23 09:20	05/25/23 16:00	0.5
890-4743-6	WS23-03	Solid	05/25/23 09:25	05/25/23 16:00	0.5
890-4743-7	WS23-04	Solid	05/25/23 09:30	05/25/23 16:00	0.5

eurofins | Environment Testing Xenco

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 Resources	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	On File
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	Permian@vertexca Dixon@vertexca

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:	PLW23 CTB	Turn Around	
Project Number:	22E-01500	☐ Routine ☒ Rush 48HR	Pres. Code
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:	TRM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.6
Total Containers:		Corrected Temperature:	3.4

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	Parameters: BTEX	TPH 8015D	Cl	Sample Comments
[redacted] PS23-01	SO,I	5/25	9:00	0.5ft	G	2	✓	✓	✓	
PS23-02			9:05				✓	✓	✓	
PS23-03			9:10				✓	✓	✓	
WS23-05			9:15				✓	✓	✓	
WS23-02			9:20				✓	✓	✓	
WS23-03			9:25				✓	✓	✓	
WS23-04			9:30				✓	✓	✓	

890-4743 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 Stuff	5/25/23 1600			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4743-1
SDG Number: Carlsbad, NM

Login Number: 4743
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: 890-4743-1
SDG Number: Carlsbad, NM

Login Number: 4743
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 05/30/23 08:27 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/13/2023 4:24:41 PM

JOB DESCRIPTION

PLU 23 CTB
SDG NUMBER 23E-01500

JOB NUMBER

890-4807-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

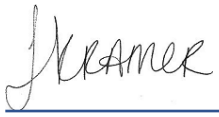
Eurofins Carlsbad

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
6/13/2023 4:24:41 PM

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

Client: Vertex
Project/Site: PLU 23 CTB

Laboratory Job ID: 890-4807-1
SDG: 23E-01500

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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
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 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Job ID: 890-4807-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4807-1

Receipt
The sample was received on 6/9/2023 1:17 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: WS23-06 0.5' (890-4807-1).

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 sample was outside control limits: (MB 880-55253/1-A). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Client Sample ID: WS23-06 0.5'

Date Collected: 06/09/23 11:00
Date Received: 06/09/23 13:17
Sample Depth: 0.5

Lab Sample ID: 890-4807-1

Matrix: Solid

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		06/12/23 12:50	06/13/23 05:30	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/12/23 12:50	06/13/23 05:30	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/12/23 12:50	06/13/23 05:30	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/12/23 12:50	06/13/23 05:30	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/12/23 12:50	06/13/23 05:30	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/12/23 12:50	06/13/23 05:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*06/12/23 12:50*	*06/13/23 05:30*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*06/12/23 12:50*	*06/13/23 05:30*	*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			06/13/23 11:33	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			06/13/23 17:15	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		06/12/23 10:46	06/13/23 12:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/12/23 10:46	06/13/23 12:24	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/12/23 10:46	06/13/23 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*06/12/23 10:46*	*06/13/23 12:24*	*1*
o-Terphenyl	*123*		*70 - 130*	*06/12/23 10:46*	*06/13/23 12:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**428**		5.04		mg/Kg			06/12/23 13:37	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-29238-A-1-D MS	Matrix Spike	98	97										
880-29238-A-1-E MSD	Matrix Spike Duplicate	94	98										
890-4807-1	WS23-06 0.5'	92	109										
LCS 880-55036/1-A	Lab Control Sample	93	103										
LCSD 880-55036/2-A	Lab Control Sample Dup	101	96										
MB 880-55036/5-A	Method Blank	88	124										
MB 880-55246/5-A	Method Blank	82	115										

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)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-4807-1	WS23-06 0.5'	105	123										
890-4807-1 MS	WS23-06 0.5'	108	119										
890-4807-1 MSD	WS23-06 0.5'	108	118										
LCS 880-55253/2-A	Lab Control Sample	100	119										
LCSD 880-55253/3-A	Lab Control Sample Dup	97	113										
MB 880-55253/1-A	Method Blank	114	146 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-55036/5-A
Matrix: Solid
Analysis Batch: 55244

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55036

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/08/23 12:50	06/13/23 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/08/23 12:50	06/13/23 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/08/23 12:50	06/13/23 01:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/08/23 12:50	06/13/23 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/08/23 12:50	06/13/23 01:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/08/23 12:50	06/13/23 01:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*06/08/23 12:50*	*06/13/23 01:58*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*06/08/23 12:50*	*06/13/23 01:58*	*1*

Lab Sample ID: LCS 880-55036/1-A
Matrix: Solid
Analysis Batch: 55244

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55036

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1174		mg/Kg		117	70 - 130		
Toluene			0.100	0.1153		mg/Kg		115	70 - 130		
Ethylbenzene			0.100	0.08959		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1843		mg/Kg		92	70 - 130		
o-Xylene			0.100	0.09010		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-55036/2-A
Matrix: Solid
Analysis Batch: 55244

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55036

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1182		mg/Kg		118	70 - 130	1	35
Toluene			0.100	0.1222		mg/Kg		122	70 - 130	6	35
Ethylbenzene			0.100	0.1011		mg/Kg		101	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.2058		mg/Kg		103	70 - 130	11	35
o-Xylene			0.100	0.1020		mg/Kg		102	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-29238-A-1-D MS
Matrix: Solid
Analysis Batch: 55244

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55036

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1201		mg/Kg		119	70 - 130		
Toluene	<0.00201	U	0.101	0.1242		mg/Kg		123	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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

Lab Sample ID: 880-29238-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 55244 — **Prep Batch: 55036**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.09435		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1925		mg/Kg		95	70 - 130
o-Xylene	<0.00201	U	0.101	0.09510		mg/Kg		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-29238-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 55244 — **Prep Batch: 55036**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.1158		mg/Kg		116	70 - 130	4	35
Toluene	<0.00201	U	0.0996	0.1135		mg/Kg		114	70 - 130	9	35
Ethylbenzene	<0.00201	U	0.0996	0.08527		mg/Kg		86	70 - 130	10	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1784		mg/Kg		90	70 - 130	8	35
o-Xylene	<0.00201	U	0.0996	0.08836		mg/Kg		89	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 880-55246/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 55244 — **Prep Batch: 55246**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/12/23 08:57	06/12/23 14:03	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/12/23 08:57	06/12/23 14:03	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/12/23 08:57	06/12/23 14:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/12/23 08:57	06/12/23 14:03	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/12/23 08:57	06/12/23 14:03	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/12/23 08:57	06/12/23 14:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*06/12/23 08:57*	*06/12/23 14:03*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*06/12/23 08:57*	*06/12/23 14:03*	*1*

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

Lab Sample ID: MB 880-55253/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 55372 — **Prep Batch: 55253**

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		06/12/23 10:46	06/13/23 09:46	1

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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

Lab Sample ID: MB 880-55253/1-A
Matrix: Solid
Analysis Batch: 55372

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55253

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		06/12/23 10:46	06/13/23 09:46	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/12/23 10:46	06/13/23 09:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*06/12/23 10:46*	*06/13/23 09:46*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*06/12/23 10:46*	*06/13/23 09:46*	*1*

Lab Sample ID: LCS 880-55253/2-A
Matrix: Solid
Analysis Batch: 55372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55253

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	900.1		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1169		mg/Kg		117	70 - 130		

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

Lab Sample ID: LCSD 880-55253/3-A
Matrix: Solid
Analysis Batch: 55372

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 55253

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	950.4		mg/Kg		95	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	1090		mg/Kg		109	70 - 130	7	20

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

Lab Sample ID: 890-4807-1 MS
Matrix: Solid
Analysis Batch: 55372

Client Sample ID: WS23-06 0.5'
Prep Type: Total/NA
Prep Batch: 55253

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	1000	1227		mg/Kg		120	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	874.4		mg/Kg		83	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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

Lab Sample ID: 890-4807-1 MSD
Matrix: Solid
Analysis Batch: 55372

Client Sample ID: WS23-06 0.5'
Prep Type: Total/NA
Prep Batch: 55253

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	998	1205		mg/Kg		118	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	867.7		mg/Kg		83	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55248/1-A
Matrix: Solid
Analysis Batch: 55258

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			06/12/23 11:19	1

Lab Sample ID: LCS 880-55248/2-A
Matrix: Solid
Analysis Batch: 55258

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.4		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-55248/3-A
Matrix: Solid
Analysis Batch: 55258

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	257.2		mg/Kg		103	90 - 110	2	20

Lab Sample ID: 880-29359-A-5-B MS
Matrix: Solid
Analysis Batch: 55258

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	176		249	423.7		mg/Kg		99	90 - 110		

Lab Sample ID: 880-29359-A-5-C MSD
Matrix: Solid
Analysis Batch: 55258

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	176		249	432.7		mg/Kg		103	90 - 110	2	20

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

GC VOA

Prep Batch: 55036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	5035	
MB 880-55036/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-55036/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-55036/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-29238-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-29238-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 55244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	8021B	55036
MB 880-55036/5-A	Method Blank	Total/NA	Solid	8021B	55036
MB 880-55246/5-A	Method Blank	Total/NA	Solid	8021B	55246
LCS 880-55036/1-A	Lab Control Sample	Total/NA	Solid	8021B	55036
LCSD 880-55036/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	55036
880-29238-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	55036
880-29238-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	55036

Prep Batch: 55246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-55246/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 55394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 55253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	8015NM Prep	
MB 880-55253/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-55253/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-55253/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4807-1 MS	WS23-06 0.5'	Total/NA	Solid	8015NM Prep	
890-4807-1 MSD	WS23-06 0.5'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 55372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	8015B NM	55253
MB 880-55253/1-A	Method Blank	Total/NA	Solid	8015B NM	55253
LCS 880-55253/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	55253
LCSD 880-55253/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	55253
890-4807-1 MS	WS23-06 0.5'	Total/NA	Solid	8015B NM	55253
890-4807-1 MSD	WS23-06 0.5'	Total/NA	Solid	8015B NM	55253

Analysis Batch: 55450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

HPLC/IC

Leach Batch: 55248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Soluble	Solid	DI Leach	
MB 880-55248/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-55248/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-55248/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-29359-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-29359-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 55258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4807-1	WS23-06 0.5'	Soluble	Solid	300.0	55248
MB 880-55248/1-A	Method Blank	Soluble	Solid	300.0	55248
LCS 880-55248/2-A	Lab Control Sample	Soluble	Solid	300.0	55248
LCSD 880-55248/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	55248
880-29359-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	55248
880-29359-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	55248

Lab Chronicle

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Client Sample ID: WS23-06 0.5'

Date Collected: 06/09/23 11:00
Date Received: 06/09/23 13:17

Lab Sample ID: 890-4807-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	55036	06/12/23 12:50	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	55244	06/13/23 05:30	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55394	06/13/23 11:33	AJ	EET MID
Total/NA	Analysis	8015 NM		1			55450	06/13/23 17:15	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	55253	06/12/23 10:46	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	55372	06/13/23 12:24	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	55248	06/12/23 09:16	KS	EET MID
Soluble	Analysis	300.0		1			55258	06/12/23 13:37	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

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 23 CTB

Job ID: 890-4807-1
SDG: 23E-01500

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4807-1	WS23-06 0.5'	Solid	06/09/23 11:00	06/09/23 13:17	0.5

eurofins | Environment Testing Xenco

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:	On File
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	CDixon@vertexca.com/permian@vertex.ca

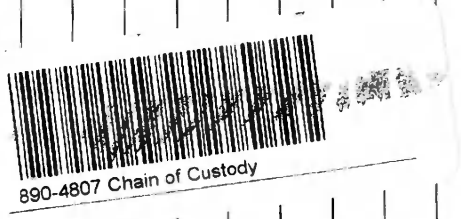
Work Order Comments

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 23 CTB	Turn Around	
Project Number:	23E-01500	☐ Routine ☒ Rush 48HR	Pres. Code
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:	TM 001
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0
Total Containers:		Corrected Temperature:	1.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	TPH: 8015D	Cl
W523-06 0.5Ft	Soil	6/9	11:00	0.5Ft	G	1	✓	✓	✓



Preservative Codes

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

Sample 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		6/9/23 1317	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4807-1
SDG Number: 23E-01500

Login Number: 4807
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	

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

QUESTIONS

Action 326450

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2306653673**
Incident Name	**NAPP2306653673 PLU BIG SINKS 23 CTB @ 0**
Incident Type	**Fire**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU BIG SINKS 23 CTB
Date Release Discovered	02/27/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Fire
Did this release result in a fire or is the result of a fire	Yes
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Liquids Unloading | Other (Specify) | Crude Oil | Released: 0 BBL | Recovered: 0 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Flare line loaded up with fluid, which exited the flare stack and ignited on pad surface.

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(2) an unauthorized release of a volume that:** **(a) results in a fire or is the result of a fire.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 03/25/2024

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 200 and 300 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	807
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	9200
GRO+DRO (EPA SW-846 Method 8015M)	7700
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	05/09/2023
On what date will (or did) the final sampling or liner inspection occur	06/09/2023
On what date will (or was) the remediation complete(d)	06/09/2023
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	517
What is the estimated volume (in cubic yards) that will be remediated	10
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	Yes
Which OCD approved facility will be used for **on-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **on-site** disposal	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 03/25/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**326483**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**06/09/2023**
What was the (estimated) number of samples that were to be gathered	**21**
What was the sampling surface area in square feet	**517**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	517
What was the total volume (cubic yards) remediated	10
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	This remediation closure request is associated with the following incident IDs: nAPP2300933098, nAPP2304648171, nAPP2306653673

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 03/25/2024

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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 326450

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 326450
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	3/25/2024