Incident Number: nAPP2334849928

Remediation Closure

Poker Lake Unit 342 Battery

Unit E, Section 23, Township 24 South, Range 30 East

Facility: fAPP2126357602

County: Eddy

Vertex File Number: 23E-06066

Prepared for:

XTO Energy, Inc.

Prepared by:

Vertex Resource Services Inc.

Date:

August 2024

Remediation Closure
Poker Lake Unit 342 Battery
Unit E, Section 23, Township 24 South, Range 30 East
Facility: fAPP2126357602
County: Eddy

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

New Mexico Oil Conservation Division – District 2 Artesia
508 West Texas Avenue
Artesia, New Mexico 88210

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

Lakin Pullman

Lakin Pullman, B.Sc.
ENVIRONMENTAL SPECIALIST, REPORTING

August 27, 2024
Date

Sally Carttar

Sally Carttar, B.A.
PROJECT MANAGER, REPORT REVIEW

August 27, 2024
Date

Table of Contents

In-text Tables

List of Figures

List of Tables

List of Appendices

1.0 Introduction

XTO Energy, Inc. (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Remediation Closure for a produced water release that occurred on December 7, 2023, at Poker Lake Unit 342 Battery (hereafter referred to as the "site"). XTO submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on December 14, 2023. Incident ID number nAPP2334849928 was assigned to this incident.

This report describes the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release, with the understanding that restoration of the release site will be 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 release occurred on December 7, 2023, due to a failure at a pump. The incident was reported on December 14, 2023, and involved the release of approximately 15 barrels (bbl) of produced water on the facility pad. Approximately 15 bbl of free fluid was removed during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

3.0 Site Characteristics

The site is located approximately 12 miles east of Malaga, New Mexico. The legal location for the site is Unit E, Section 23, Township 24 South and Range 30 East in Eddy County, New Mexico. The release area is located on Bureau of Land Management property. An aerial photograph and site schematic are presented on Figure 1.

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

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2024) indicates the site's surface geology primarily comprises Qep - Eolian and piedmont deposits (New Mexico Bureau of Geology and Mineral Resources, 2024). The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018). The surrounding landscape is associated with plains and alluvial fans with elevations ranging between 1,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 24 inches. Predominant soil textures around the site are well-drained gravelly fine sandy loams with high runoff potential (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses interspersed with shrubs and half-shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted facility pad.

4.0 Closure Criteria Determination

The nearest active well to the site is a United States Department of Energy monitoring well 0.60 miles to the east. 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 an intermittent stream located approximately 1,743 feet southwest of the site (United States Fish and Wildlife Service, 2024). 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

The nearest depth to groundwater reference to the site is an exploratory borehole advanced 0.59 miles to the northeast on January 4, 2022. The borehole was terminated at 105 feet below ground surface (bgs) without encountering the water surface (New Mexico Office of the State Engineer, 2024). Information pertaining to the depth to ground water determination is included in Appendix B.

Table 1. Closure Criteria Determination			
Site Name: Poker Lake Unit 342 Battery			
Spill Coordinates: 32.206893, -103.858726		**X: 607560**	**Y: 3563940**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	**>105**	feet
	Distance between release and nearest DTGW reference	**3,107**	feet
		0.59	miles
	Date of nearest DTGW reference measurement	**January 4, 2022**	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	1,743	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	17,794	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	45,998	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**	3,604	feet
	ii) Within 1000 feet of any fresh water well or spring	3,210	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	2,323	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	**54,384**	feet
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	**25,344**	feet
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	**1,532**	feet
11	Soil Type	Gravelly fine sandy loam, indurated	
12	Ecological Classification	Shallow Sandy	
13	Geology	Eolian piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

The depth to groundwater reference exceeded 0.5 miles from the release area; therefore, the closure criteria for remediation and reclamation of the site was determined to be associated with the strictest 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
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

Inspection and site characterization of the release northwest and north of the tank battery containment was completed by Vertex between February 5 and May 7, 2024, including vertical and horizontal delineation. The release area was determined to be 2,826 square feet. The Daily Field Reports (DFRs) associated with the site visits are included in Appendix C. Characterization sample locations and approximate release areas are presented on Figure 1. Characterization field screening and laboratory results are summarized in Table 3.

On March 1, 2024, a Remediation Closure Report Extension was approved by NMOCD for the incident, which is included in Appendix D. Remediation efforts began on July 9, 2024, and were finalized on July 11, 2024. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of 26 sample points and consisted of analysis using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Silver Nitrate Titration (chlorides). Field screening results were used to identify areas requiring further remediation. Soils were removed to depths of 0.5 and 1 foot bgs. Field screening results and DFRs documenting various phases of the remediation are presented in Appendix C.

Notifications that confirmatory samples were being collected were provided to the NMOCD for July 9 through July 12, 2024, and are included in Appendix D. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square-foot increments. A total of 26 samples, 20 base samples and six wall samples, were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Eurofins Environment Testing under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below the closure criteria for the site.

Notification that a liner inspection was scheduled to be completed was provided to the NMOCD on August 7, 2024. Visual observation of the liner was completed on all sides and the base of the containment, around equipment, and of all seams in the liner. As evidenced in the site photographs (Appendix C), liner integrity was confirmed, and the Liner Inspection Notification is presented in Appendix D.

6.0 Closure Request

Vertex recommends no additional reclamation or remediation actions to address the release at Poker Lake Unit 342 Battery. Laboratory analyses of the confirmation samples showed constituent of concern concentration levels below NMOCD closure criteria for areas where depth to groundwater is "under 50 feet to groundwater" as shown in Table 2. There are no anticipated or imminent risks to human, ecological, or hydrological receptors associated with the release site.

On behalf of XTO Energy, Inc., Vertex requests that the incident (nAPP2334849928) 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 attachments is correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the historical releases at the site.

Should you have any questions or concerns, please do not hesitate to contact Sally Carttar at 575.361.3561 or Scarttar@vertexresource.com.

7.0 References

Google Inc. (2024). *Google Earth Pro (Version 7.3.6)* [Software]. Retrieved from https://earth.google.com

New Mexico Bureau of Geology and Mineral Resources. (2024). *Interactive Geologic Map*. Retrieved from https://maps.nmt.edu/

New Mexico Office of the State Engineer. (2024). *New Mexico Water Rights Reporting System*. Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/wellSurfaceDiversion.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. (2024). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Department of Homeland Security, Federal Emergency Management Agency. (2024). *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

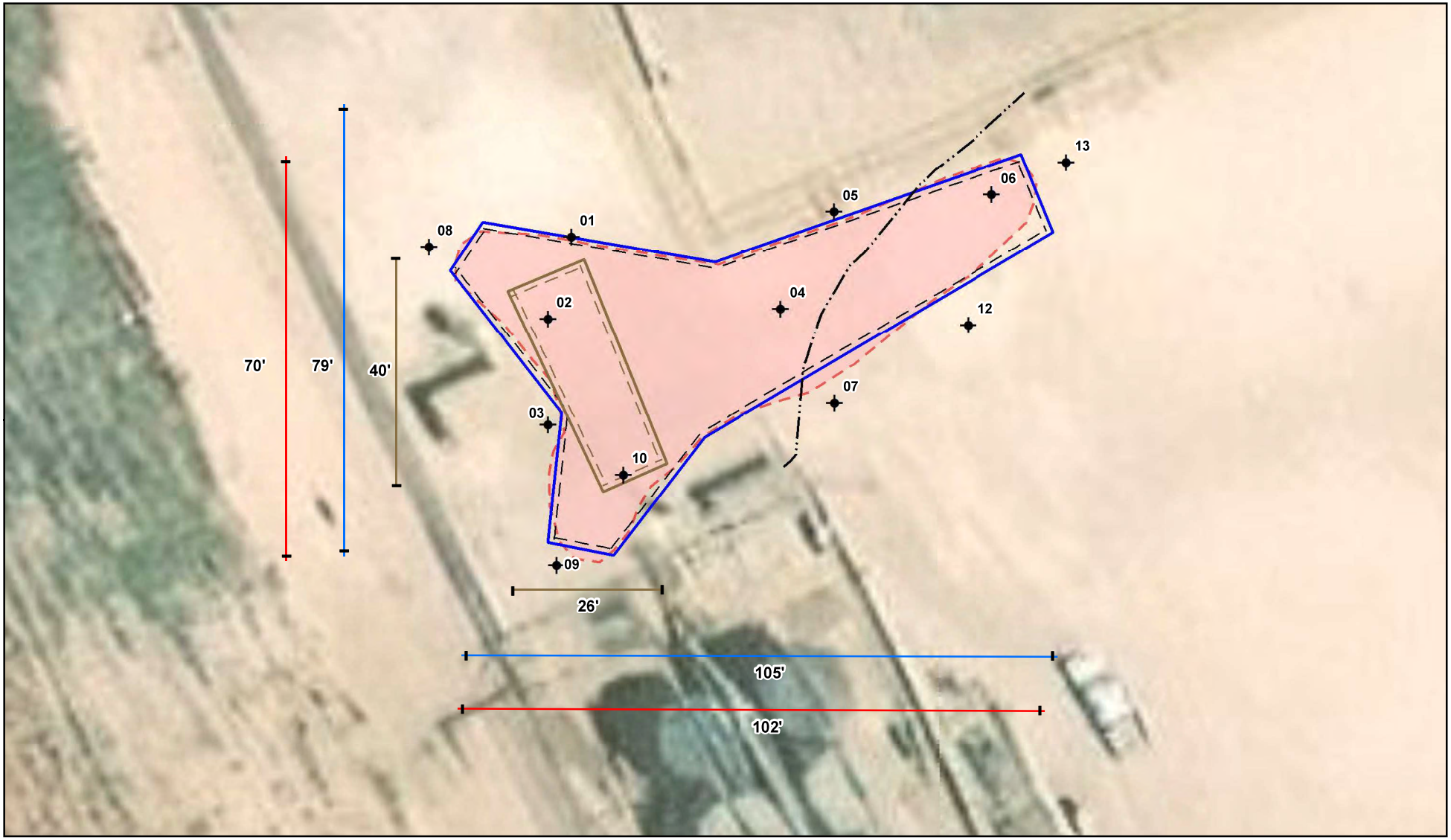
United States Fish and Wildlife Service. (2024). *National Wetland Inventory - Surface Waters and Wetlands*. Retrieved from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

8.0 Limitations

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

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgment 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 "BH24-")
Electrical Line (Underground)
Proposed Excavation to 0.5' bgs (~2,918 sq.ft.)
Proposed Excavation to 1' bgs (~516 sq.ft.)
Approximate Release Area (~2,826 sq.ft.)

VERTEX

0 10 20 ft

Map Center:
Lat/Long: 32.206842, -103.858676

NAD 1983 UTM Zone 13N
Date: May 24/24

N

Characterization Sampling Site Schematic
Poker Lake Unit 342 Battery

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: Georeferenced image from Esri, 2023. Site features from GPS by Vertex Professional Services Ltd., 2024.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-06066 - PLU 342\Figure 1 Characterization Sampling Schematic (23E-06066)ID18294.mxd

● Base Sample (Excavated) (Prefixed by "BS24-")

▲ Wall Sample (Excavated) (PRefixed by "WS24-")

Excavation to 0.5' bgs (~2,915 sq.ft.)

Excavation to 1' bgs (~585 sq.ft.)

Lease Boundary

Total Area of Excavation Base (~3,500 sq.ft.)
Total Area of Excavation Walls (~258 sq.ft.)

VERTEX

0 5 10 20 ft

NAD 1983 UTM Zone 13N

Date: Jul 16/24

Map Center:
Lat/Long
32.206863°,-103.858644°

N

Confirmation Sampling Site Schematic
Poker Lake Unit 342 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 site boundary from sketch by Vertex Professional Services Ltd. (Vertex), 2024. Site features from GPS, Vertex, 2024.

VERSATILITY. EXPERTISE.

Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\XTO Energy\23E-06066 - PLU 342\Project\23E-06066.aprx

TABLES

Client Name: XTO Energy
Site Name: Poker Lake Unit 342 Battery
NMOCD Tracking #: nAPP2334849928
Project #: 23E-06066
Lab Reports: 890-6118-1, 890-6119-1, 890-6150-1, 890-6149-1, 885-1475-1, 885-4188-1

Table 3. Initial Characterization Sample Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Petroleum Hydrocarbons							Inorganic
			Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Benzene	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)
BH24-01	0	February 5, 2024	ND	ND	ND	ND	ND	ND	ND	334
	0.5	February 5, 2024	ND	ND	ND	ND	ND	ND	ND	112
BH24-02	0	February 5, 2024	ND	ND	ND	ND	ND	ND	ND	**5,550**
	0.5	February 5, 2024	ND	ND	ND	ND	ND	ND	ND	**2,030**
	2	May 7, 2024	ND	ND	ND	ND	ND	ND	ND	ND
	4	May 7, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BH24-03	0	March 15, 2024	ND	ND	ND	ND	ND	ND	ND	73
	1	February 5, 2024	ND	ND	ND	ND	ND	ND	ND	41
BH24-04	0	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	**1250**
	0.5	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	161
BH24-05	0	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	72
	0.05	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	46
BH24-06	0	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	190
	0.05	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	152
BH24-07	0	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	54
	0.5	February 6, 2024	ND	ND	ND	ND	ND	ND	ND	38
BH24-08	0	February 7, 2024	ND	ND	ND	ND	ND	ND	ND	66
	0.5	February 7, 2024	ND	ND	ND	ND	ND	ND	ND	71
BH24-09	0	February 7, 2024	ND	ND	ND	ND	ND	ND	ND	110
	1	February 7, 2024	ND	ND	ND	ND	ND	ND	ND	93
BH24-10	0	February 8, 2024	ND	ND	ND	52.9	ND	52.9	52.9	**4680**
	1	February 8, 2024	ND	ND	ND	ND	ND	ND	ND	**643**
	2	May 7, 2024	ND	ND	ND	ND	ND	ND	ND	ND
BH24-12	0	February 8, 2024	ND	ND	ND	ND	ND	ND	ND	64
	0.5	February 8, 2024	ND	ND	ND	ND	ND	ND	ND	78
BH24-13	0	February 8, 2024	ND	ND	ND	ND	ND	ND	ND	66
	0.5	February 8, 2024	ND	ND	ND	ND	ND	ND	ND	73

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria

Client Name: XTO Energy, Inc.
Site Name: Poker Lake Unit 342 Battery
NMOCD Tracking #: nAPP2334849928
Project #: 23E-06066
Lab Reports: 885-7863-1 and 885-7928-1

Table 4. Confirmation Sample Field Screen and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS24-01	0.5	July 9, 2024	0	28	118	ND	ND	ND	ND	ND	ND	ND	150
BS24-02	0.5	July 9, 2024	0	18	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-03	0.5	July 9, 2024	0	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-04	0.5	July 9, 2024	0	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-05	0.5	July 9, 2024	0	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS24-06	0.5	July 10, 2024	0	25	148	ND	ND	ND	ND	ND	ND	ND	76
BS24-07	0.5	July 10, 2024	1	22	168	ND	ND	ND	ND	ND	ND	ND	ND
BS24-08	0.5	July 10, 2024	1	61	590	ND	ND	ND	ND	ND	ND	ND	140
BS24-09	0.5	July 10, 2024	1	32	334	ND	ND	ND	ND	ND	ND	ND	ND
BS24-10	0.5	July 10, 2024	1	40	313	ND	ND	ND	ND	ND	ND	ND	76
BS24-11	0.5	July 10, 2024	0	37	14	ND	ND	ND	ND	ND	ND	ND	92
BS24-12	0.5	July 10, 2024	0	27	30	ND	ND	ND	ND	ND	ND	ND	ND
BS24-13	0.5	July 10, 2024	0	85	99	ND	ND	ND	ND	ND	ND	ND	79
BS24-14	0.5	July 11, 2024	0	54	150	ND	ND	ND	ND	ND	ND	ND	79
BS24-15	0.5	July 11, 2024	0	64	67	ND	ND	ND	ND	ND	ND	ND	ND
BS24-16	0.5	July 11, 2024	0	57	36	ND	ND	ND	ND	ND	ND	ND	ND
BS24-17	0.5	July 11, 2024	0	25	11	ND	ND	ND	ND	ND	ND	ND	ND
BS24-18	1	July 11, 2024	0	51	103	ND	ND	ND	ND	ND	ND	ND	ND
BS24-19	1	July 11, 2024	0	52	317	ND	ND	ND	ND	ND	ND	ND	ND
BS24-20	1	July 11, 2024	0	51	375	ND	ND	ND	ND	ND	ND	ND	100
WS24-01	0-0.5	July 10, 2024	0	57	37	ND	ND	ND	ND	ND	ND	ND	ND
WS24-02	0-0.5	July 10, 2024	0	54	290	ND	ND	ND	12	ND	12	12	110
WS24-03	0-0.5	July 11, 2024	0	93	274	ND	ND	ND	ND	ND	ND	ND	100
WS24-04	0-0.5	July 11, 2024	0	52	499	ND	ND	ND	ND	ND	ND	ND	100
WS24-05	0.5-1	July 11, 2024	0	57	323	ND	ND	ND	ND	ND	ND	ND	160
WS24-06	0-1	July 11, 2024	0	60	125	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria

APPENDIX A - NMOCD C-141 Report

Location:	Poker Lake Unit 342 Battery	
Spill Date:	12/7/2023	

Area 1		
Approximate Area =	84.21	cu. Ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	15.00	bbls

Area 2		
Approximate Area =	1099.10	sq. ft.
Average Saturation (or depth) of spill =	0.50	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	0.24	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**15.24**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**15.00**	**bbls**

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 294782
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Initial C-141 Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Poker Lake Unit 342 Battery
Date Release Discovered	12/07/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
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	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pump | Produced Water | Released: 15 BBL | Recovered: 15 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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)	*Not answered.*

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: 294782
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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: Melanie Collins Title: Regulatory Analyst Email: Melanie.Collins@exxonmobil.com Date: 12/14/2023

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: 294782
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

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)	*Not answered.*
What method was used to determine the depth to ground water	*Not answered.*
Did this release impact groundwater or surface water	*Not answered.*
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	*Not answered.*
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	*Not answered.*
An occupied permanent residence, school, hospital, institution, or church	*Not answered.*
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	*Not answered.*
Any other fresh water well or spring	*Not answered.*
Incorporated municipal boundaries or a defined municipal fresh water well field	*Not answered.*
A wetland	*Not answered.*
A subsurface mine	*Not answered.*
An (non-karst) unstable area	*Not answered.*
Categorize the risk of this well / site being in a karst geology	*Not answered.*
A 100-year floodplain	*Not answered.*
Did the release impact areas not on an exploration, development, production, or storage site	*Not answered.*

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	No
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

CONDITIONS

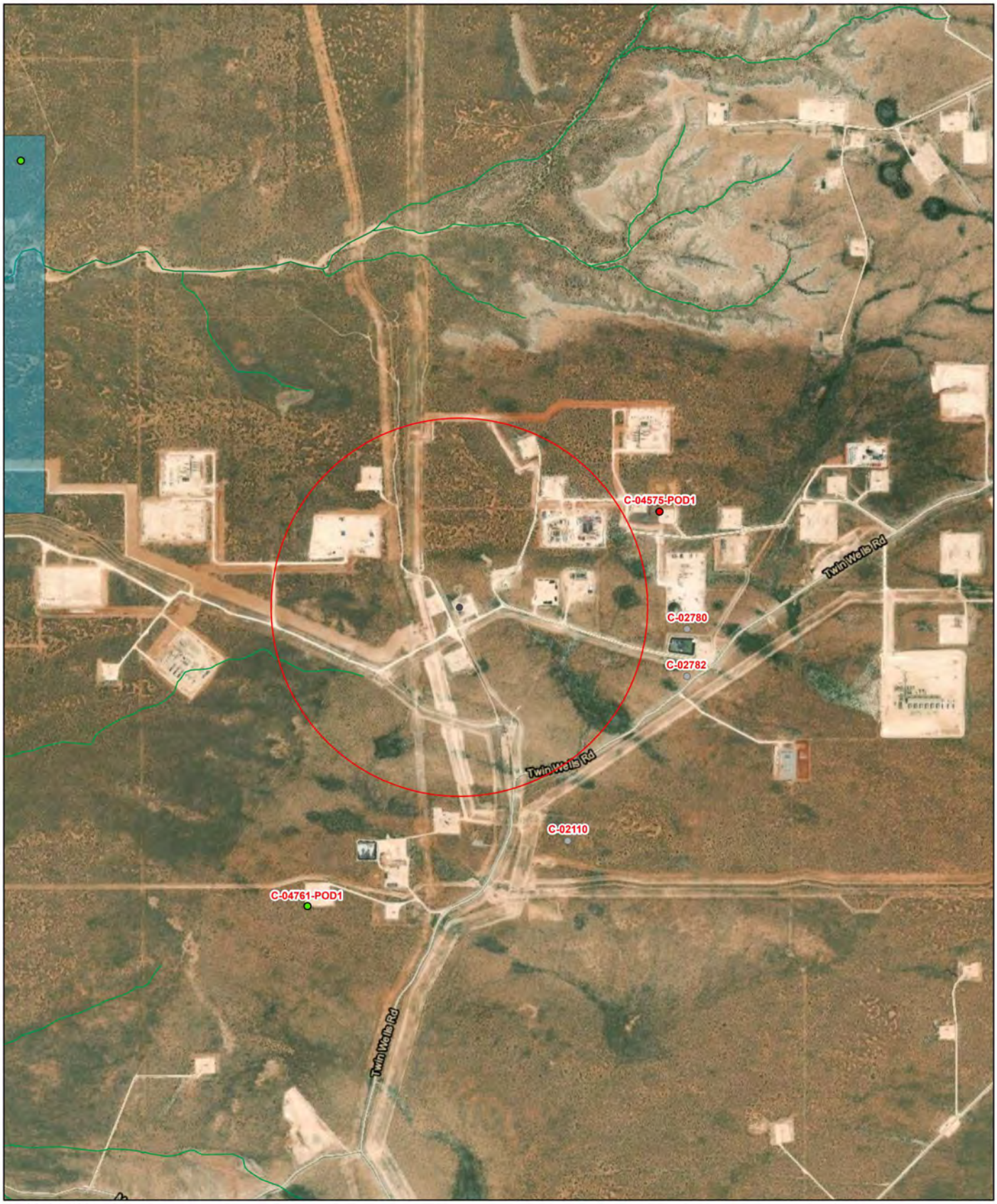
Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 294782
	Action Type: [C-141] Initial C-141 (C-141-v-Initial)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	12/14/2023

APPENDIX B – Closure Criteria Research Documentation

OSE POD 0.5 miles



8/4/2024, 8:10:59 AM

GIS WATERS PODs
- Pending
- Plugged

OSE District Boundary

Water Right Regulations
- Artesian Planning Area

New Mexico State Trust Lands
- Both Estates

NHD Flowlines
- Artificial Path
- Stream River

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

Online web user

This is an unofficial map from the OSE's online application.

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced, O=orphaned, C=the file is closed)			(quarters are smallest to largest)						(NAD83 UTM in meters)				(In feet)	(In feet)	(In feet)
POD Number	**Code**	**Sub basin**	**County**	**Q64**	**Q16**	**Q4**	**Sec**	**Tws**	**Range**	**X**	**Y**	**Map**	**Distance**	**Well Depth**	**Depth Water**	**Water Column**
C 04575 POD1		CUB	ED	NW	NW	NE	23	24S	30E	608411.9	3564355.7		947	105		
C 02780		CUB	ED	NE	SW	NE	23	24S	30E	608535.0	3563857.0 *		978	505		
C 02781		CUB	ED	SE	SW	NE	23	24S	30E	608535.0	3563657.0 *		1015	624		
C 02782		CUB	ED	SE	SW	NE	23	24S	30E	608535.0	3563657.0 *		1015	808		
C 02110		CUB	ED		SE	SW	23	24S	30E	608036.0	3562950.0 *		1098	600	400	200

Average Depth to Water: **400 feet**

Minimum Depth: **400 feet**

Maximum Depth: **400 feet**

Record Count: 5

UTM Filters (in meters):
Easting: 607560
Northing: 3563940
Radius: 002000

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

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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
NA	C 04575 POD1	NW	NW	NE	23	24S	30E	608411.9	3564355.7	

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

Driller License:	1249	**Driller Company:**	ATKINS ENGINEERING ASSOC. INC.		
Driller Name:	ATKINS, JACKIE D.UELENER				
Drill Start Date:	2022-01-04	**Drill Finish Date:**	2022-01-04	**Plug Date:**	2022-01-21
Log File Date:	2022-01-24	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	0
Casing Size:	0.00	**Depth Well:**	105	**Depth Water:**	

Casing Perforations:

Top	Bottom
0	105

Water Right Summary

get image list

WR File Number:	C 04575	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	MON MONITORING WELL			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	XTO ENERGY INC			
Contact:	ADRIAN BAKER			
Owner:	WSP USA			
Contact:	KALEI JENNINGS			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	709414	EXPL	2021-10-06	PMT	LOG	C 04575 POD1	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 04575 POD1	NA		NW	NW	NE	23	24S	30E	608411.9	3564355.7		BH01

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

Transaction Summary

EXPL Permit To Explore

Transaction Number:	709414	**Transaction Desc:**	C 04575 POD1	**File Date:**	2021-10-04
Primary Status:	PMT Permit				
Secondary Status:	LOG Well Log Received				
Person Assigned:	*******				
Agent:	XTO ENERGY INC				
Contact:	ADRIAN BAKER				
User:	WSP USA				
Contact:	KALEI JENNINGS				

Events

Event Images	Date	Type	Description	Comment	Processed By
get images	2021-10-04	APP	Application Received	*	*******
get images	2021-10-04	TEC	Technical Report	*PLG PLN OPS C-4575POD1	*******
	2021-10-06	FTN	Finalize non-published Trans.		*******
	2021-11-10	QAT	Quality Assurance Completed	DATA	*******
get images	2022-01-24	LOG	Well Log Received	*	*******
get images	2022-01-24	LGI	Well Log Image	*PLG RECORD C-4575 POD1	*******
	2022-01-26	DRY	Dry well log received		*******
	2022-03-10	QAT	Quality Assurance Completed	IMAGE	*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
C 04575	0.000	0.000		MON MONITORING WELL

Point of Diversion

POD Nbr	Easting	Northing	Map	Grant
C 04575 POD1	608411.9	3564355.7		

* UTM location was derived from PLSS - see Help

Remarks:

"XTO ENERGY RESPECTFULY REQUESTS TO ADVANCE ONE (1) SOIL BORING LOCATED 32.210565,-103.849639 ON THE POKER LAKE CVX JV BS #009H PAD TO ASSIST WITH DEPTH TO WATER DETERMINATION FOR INCIDENT NUMBER NAPP2113830327, ASSOCIATED WITH THE NEARBY POKER

LAKE UNIT 430H FACILITY LOCATED AT 32.21146,-103.85449. THE SOIL BORING WILL BE ADVANCED TO APPROX 110 FT FELOW GRUND SURFACE VIA TRUCK-MOUNTED RIGH WITH HALLOW STEM AUGER EQUIPMENT THE BORING WILL BE SECURED AND LEFT OPEN

FOR 72 HRS AT WHICH TIME, XTO WILL ASSESS THE PRESENCE OR ABSENCE OF GRUNDWATER. FOLLOWING THE ASSESSMENT, XTO WILL BACKFILL THE BORING FOLLOWING NMOSE ABANDONMENT PROCEDURES FOR SOIL BORINGS. BLM ACCESS IS ATTACHED"

Conditions:

16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller.This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.

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

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

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

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

6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternativeplugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. Toplug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable

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

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

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

Q The State Engineer retains jurisdiction over this permit.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A

Action Date: 2021-10-06

Log Due Date: 2022-10-06

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

8/4/24 7:55 AM MST **Transaction Summary**

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

OSE_Well Record and Log_-forsign

Final Audit Report 2022-01-22

Created:	2022-01-21
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAHFW29aZiQH1D931B0LxyAz3o1wYi88ri

"OSE_Well Record and Log_-forsign" History

OSE DIT JAN 24 2022 PM3:00

Document created by Lucas Middleton (lucas@atkinseng.com)
2022-01-21 - 10:47:34 PM GMT- IP address: 69.21.248.123

Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2022-01-21 - 10:48:19 PM GMT

Email viewed by Jack Atkins (jack@atkinseng.com)
2022-01-21 - 10:49:13 PM GMT- IP address: 64.90.153.232

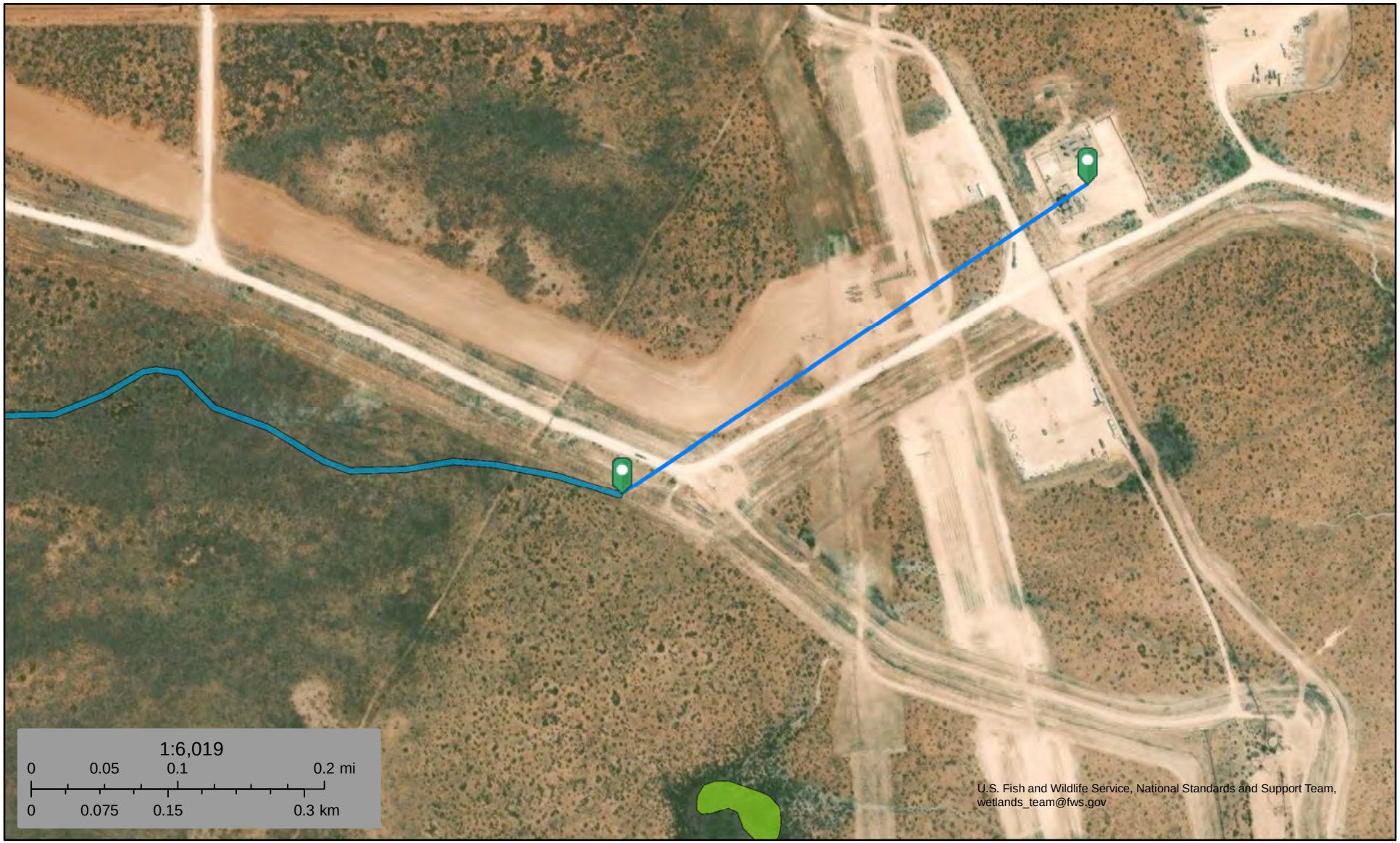
Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2022-01-22 - 0:16:23 AM GMT - Time Source: server- IP address: 64.90.153.232

Agreement completed.
2022-01-22 - 0:16:23 AM GMT

Adobe Sign

U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU342 R45BJ 1743FT



January 16, 2024

Wetlands

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

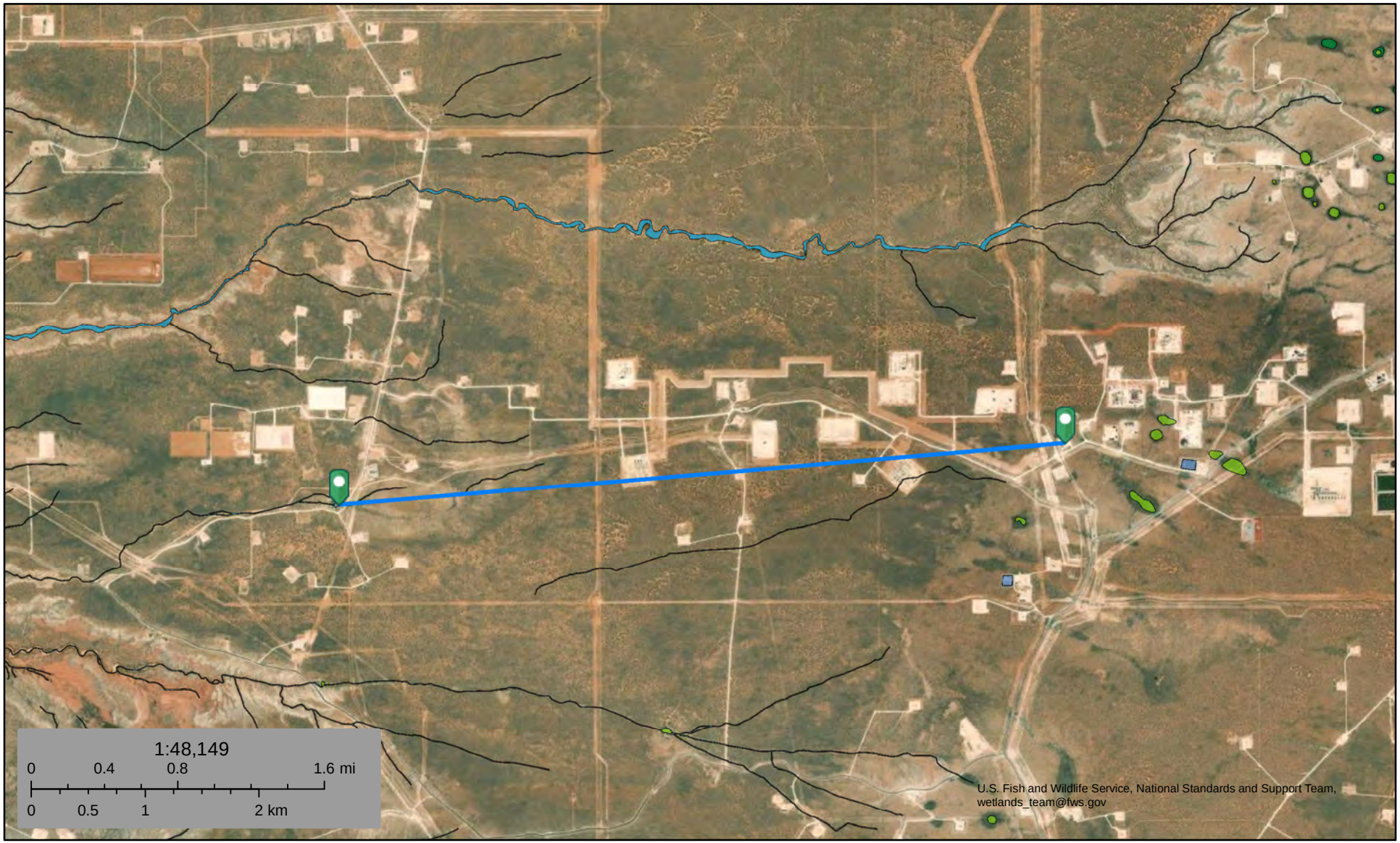
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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

U.S. Fish and Wildlife Service

National Wetlands Inventory

PLU 17794



January 16, 2024

Wetlands

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

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

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

4. Closest Resident

45,998

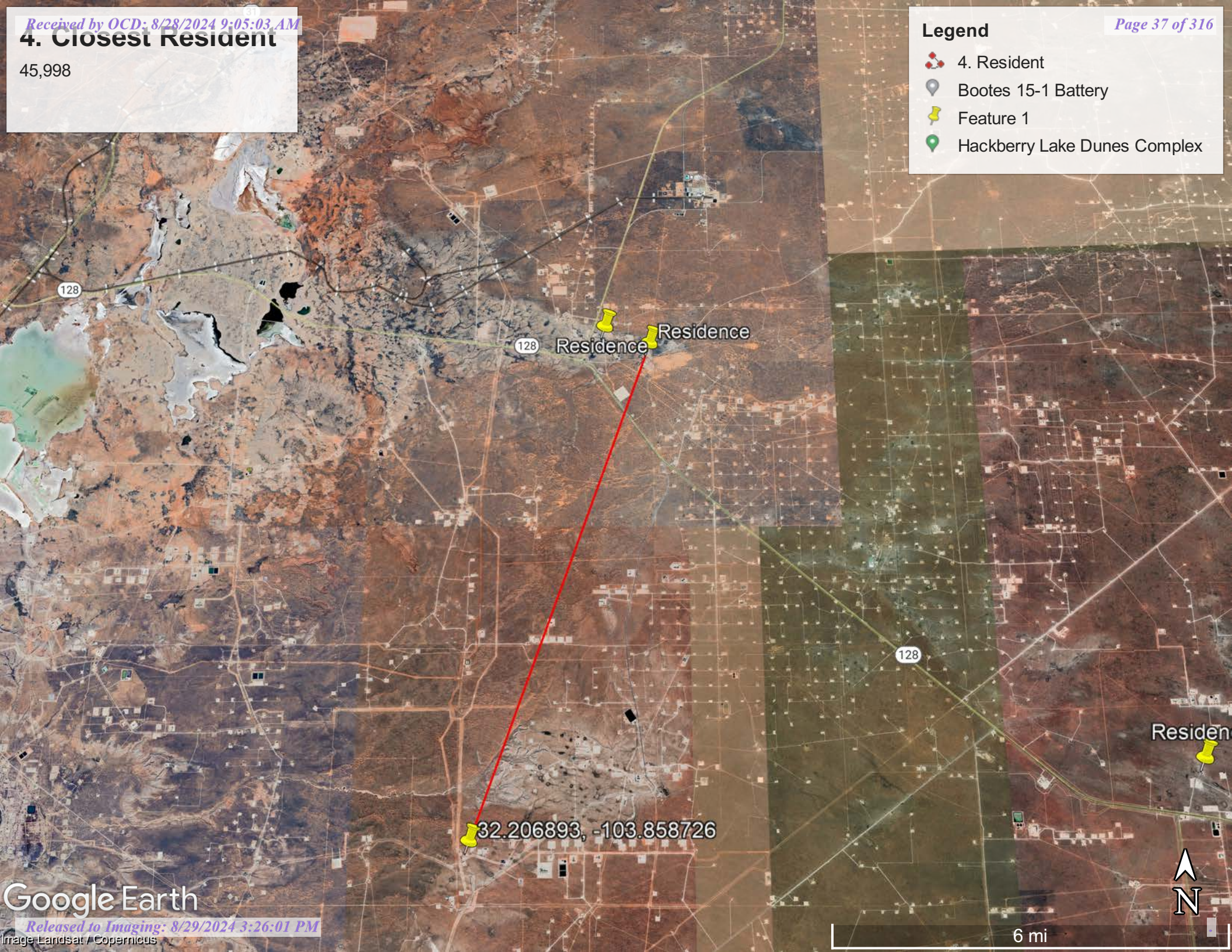


Image Landsat / Copernicus

Active & Inactive Points of Diversion

(with Ownership Information)

			(acre ft per annum)					(R=POD has been replaced and no longer serves this file, C=the file is closed)			(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)			(meters)
WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance
C 04575	CUB	MON	0.000	XTO ENERGY INC	ED	C 04575 POD1	NA				NW	NW	NE	23	24S	30E	608411.9	3564355.7		947.9
C 02780	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02780					NE	SW	NE	23	24S	30E	608535.0	3563857.0 *		978.5
C 02781	CUB	MON	0.000	U.S. DEPT. OF ENERGY - WIPP	ED	C 02781					SE	SW	NE	23	24S	30E	608535.0	3563657.0 *		1,015.2
C 02782	CUB	MON	0.000	U.S. BUREAU OF LAND MANAGEMENT	ED	C 02782					SE	SW	NE	23	24S	30E	608535.0	3563657.0 *		1,015.2
C 02110	CUB	STK	3.000	CLARENCE W. MCDONALD	ED	C 02110						SE	SW	23	24S	30E	608036.0	3562950.0 *		1,098.5
C 04761	CUB	MON	0.000	XTO ENERGY INC.	ED	C 04761 POD1	NA				NE	NW	NE	27	24S	30E	606924.0	3562659.3		1,429.9

Record Count: 6

Filters Applied:

UTM Filters (in meters):
Easting: 607560
Northing: 3563940
Radius: 002000

Sorted By: Distance

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

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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 02780	NE	SW	NE	23	24S	30E	608535.0	3563857.0 *	

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

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

Water Right Summary

get image list

WR File Number:	C 02780	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	MON MONITORING WELL			
Primary Status:	DCL Declaration			
Total Acres:	0.000	**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	U.S. DEPT. OF ENERGY - WIPP			
Contact:	D.C. LYNN			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
	195809	DCL	2000-11-06	DCL	PRC	C 02780	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 02780			NE	SW	NE	23	24S	30E	608535.0	3563857.0 *		

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

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	0.000		MON		GW	

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 Nbr	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map
	C 02110		SE	SW	23	24S	30E	608036.0	3562950.0 *	

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

Driller License:		**Driller Company:**			
Driller Name:	UNKNOWN				
Drill Start Date:		**Drill Finish Date:**	1967-12-31	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	15
Casing Size:	7.00	**Depth Well:**	600	**Depth Water:**	400

Water Right Summary

get image list

WR File Number:	C 02110	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	STK 72-12-1 LIVESTOCK WATERING			
Primary Status:	DCL Declaration			
Total Acres:	0.000	**Subfile:**		**Header:**
Total Diversion:	3.000	**Cause/Case:**		
Owner:	CLARENCE W. MCDONALD			
Contact:				

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
	199332	DCL	1984-03-01	DCL	PRC	C 02110	T	0.000	3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 02110				SE	SW	23	24S	30E	608036.0	3562950.0 *		

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

Place of Use

Q256	Q64	Q16	Q4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0.000	3.000		STK		DCL	NO PLACE OF USE GIVEN.

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0.000	3.000		STK		GW	

U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU342 PEMJ1 2323

January 16, 2024

Wetlands

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

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

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

PLU342 54384

1/16/2024, 3:47:49 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Registered Mines

- Aggregate, Stone etc.
- Potash
- Salt

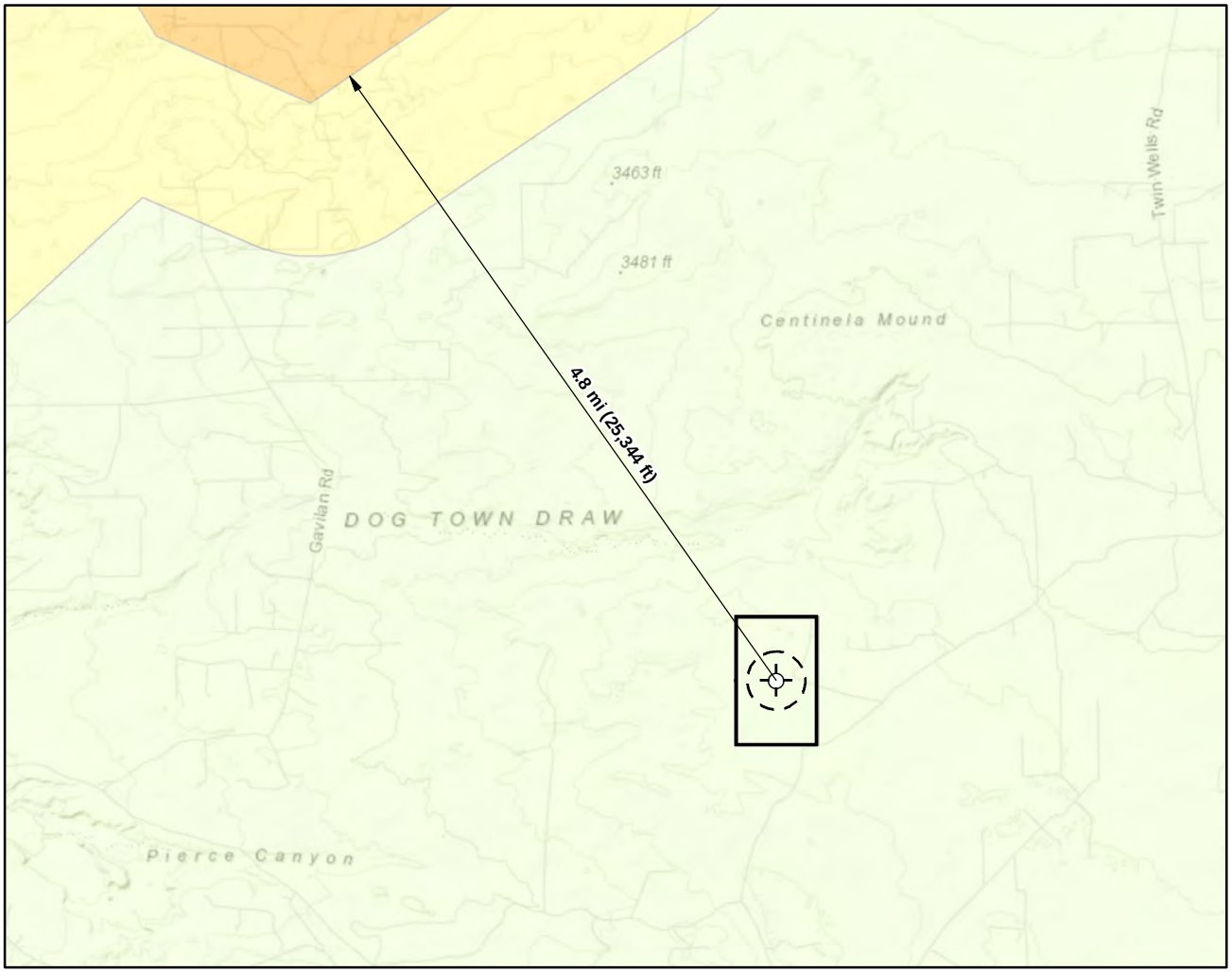
Land Ownership

- BLM
- DOE
- P
- S
- PLSS Townships

U.S. BLM, Esri, NASA, NGA, USGS, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, BLM

EMNRD MMD GIS Coordinator

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



Karst Potential

- Critical
- High
- Medium
- Low

- Site Location
- Site Buffer (1000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft

VERTEX

Map Center:
Lat/Long
32.225441, -103.876631

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

N

Karst Potential Map
Poker Lake Unit 342 Battery

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 Roswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

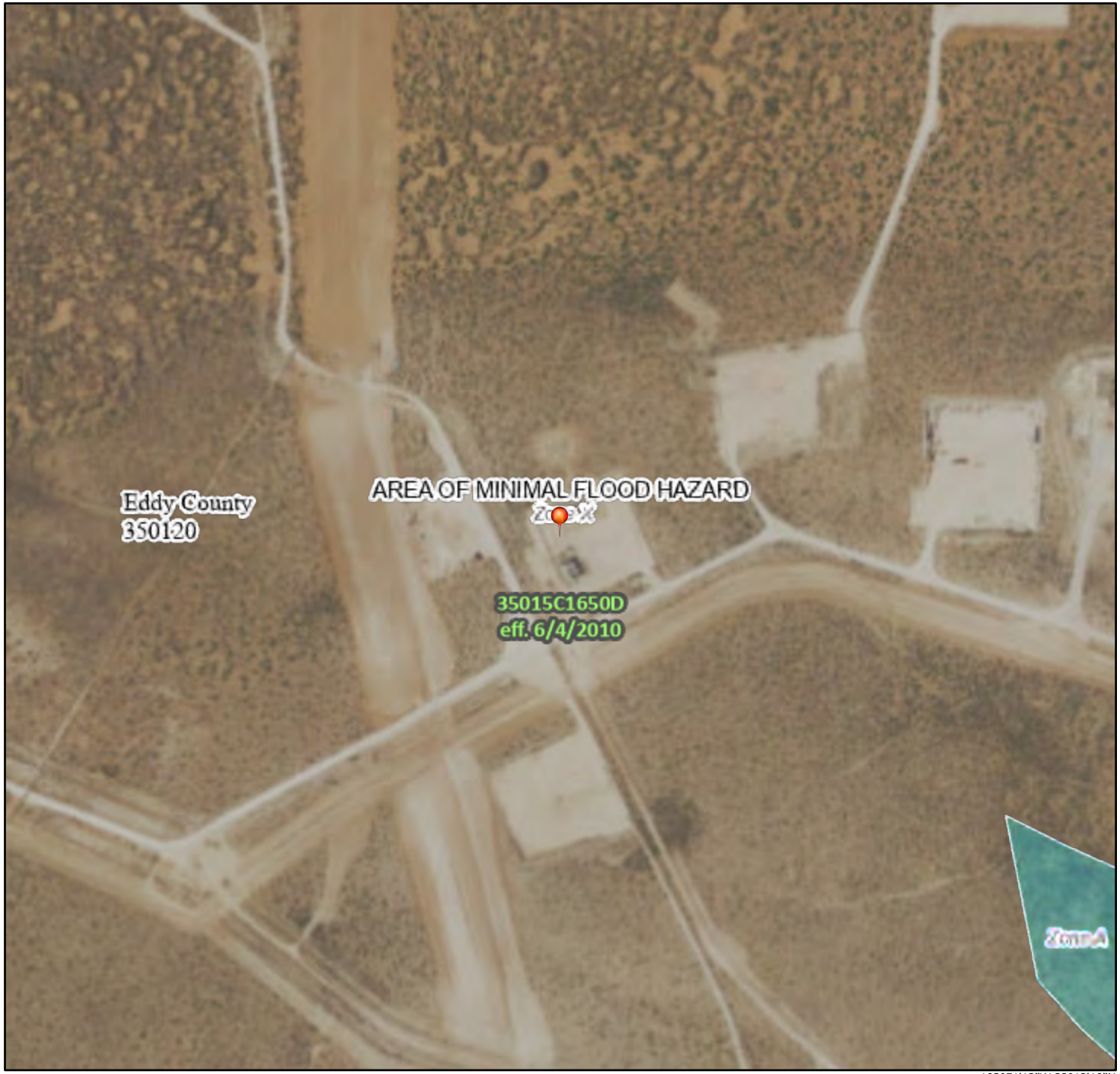
VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-06066 - PLU 342\Figure X Karst Potential (23E-06066)ID18120.mxd

National Flood Hazard Layer FIRMette

FEMA

103°51'50"W 32°12'40"N



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

1:6,000

103°51'13"W 32°12'10"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- 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.

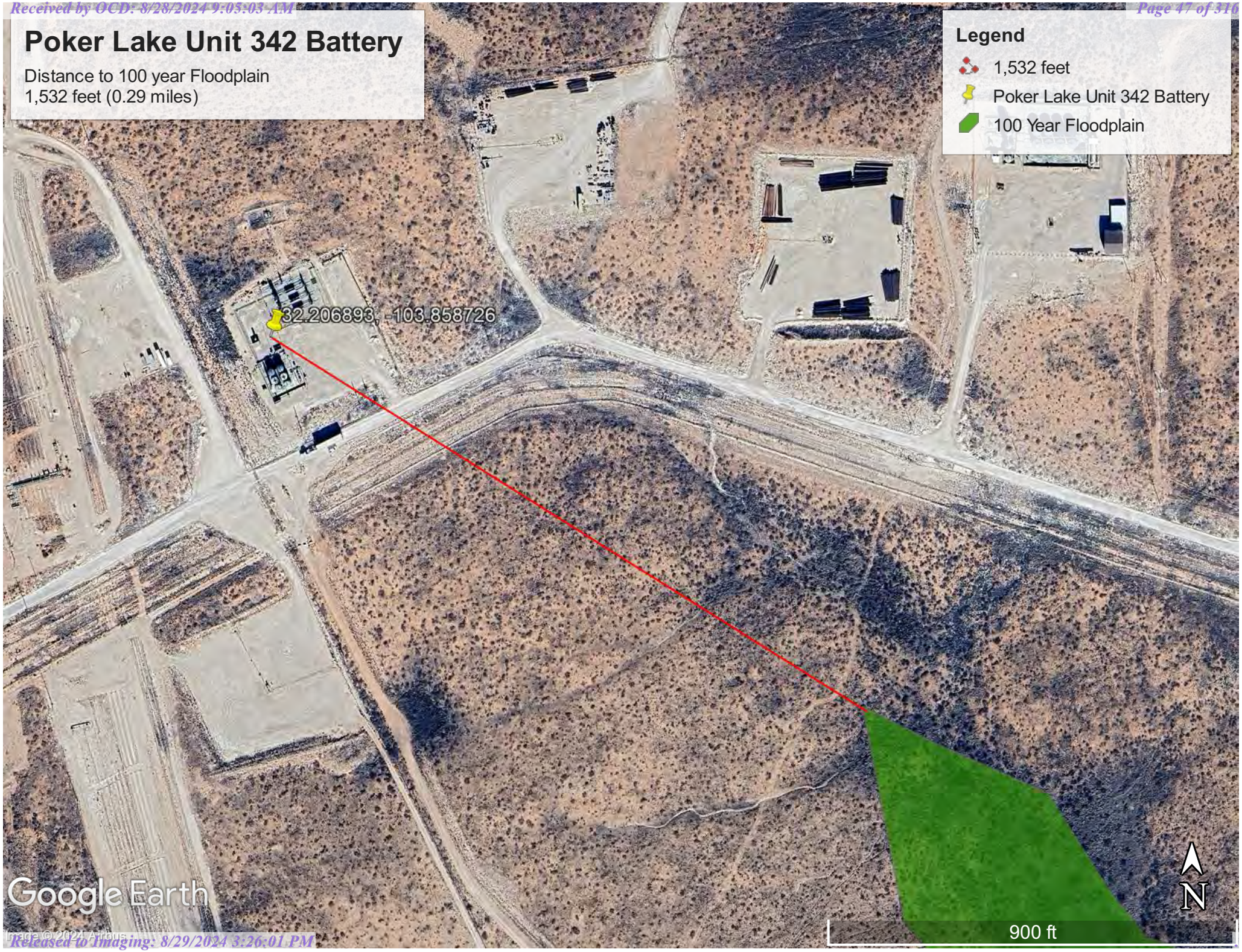
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/16/2024 at 5:50 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Poker Lake Unit 342 Battery

Distance to 100 year Floodplain
1,532 feet (0.29 miles)



United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Eddy Area, New Mexico

January 16, 2024

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 19, Sep 7, 2023

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

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

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SM	Simona-Bippus complex, 0 to 5 percent slopes	3.0	100.0%
Totals for Area of Interest		**3.0**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Eddy Area, New Mexico

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

Map Unit Setting

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

Map Unit Composition

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

Description of Simona

Setting

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

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam
H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

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

Description of Bippus

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

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

Minor Components

Simona

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

Bippus

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

USDA Natural Resources Conservation Service

Ecological site R070BD002NM
Shallow Sandy

Accessed: 01/16/2024

General information

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

Figure 1. Mapped extent

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

Associated sites

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

Similar sites

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

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

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

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

Table 2. Representative physiographic features

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

Climatic features

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

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

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

Table 3. Representative climatic features

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

Influencing water features

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

Soil features

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

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

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

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

Characteristic soils are:
Simona
Jerag

Table 4. Representative soil features

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

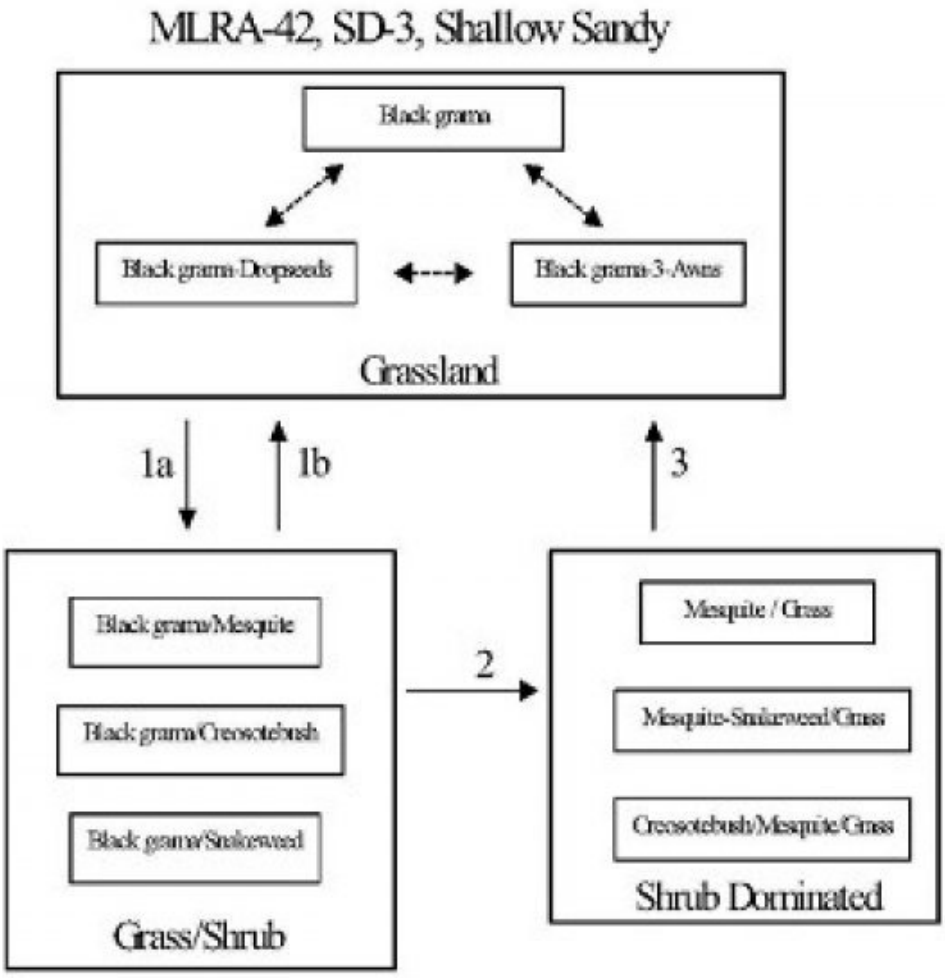
Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface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

Ecological dynamics

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

State and transition model

Plant Communities and Transitional Pathways (diagram)



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

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

3. Brush control, range seeding, prescribed grazing.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

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

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

Table 5. Annual production by plant type

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

Table 6. Ground cover

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

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

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

State 2
Grass/Shrub

Community 2.1
Grass/Shrub

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

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

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

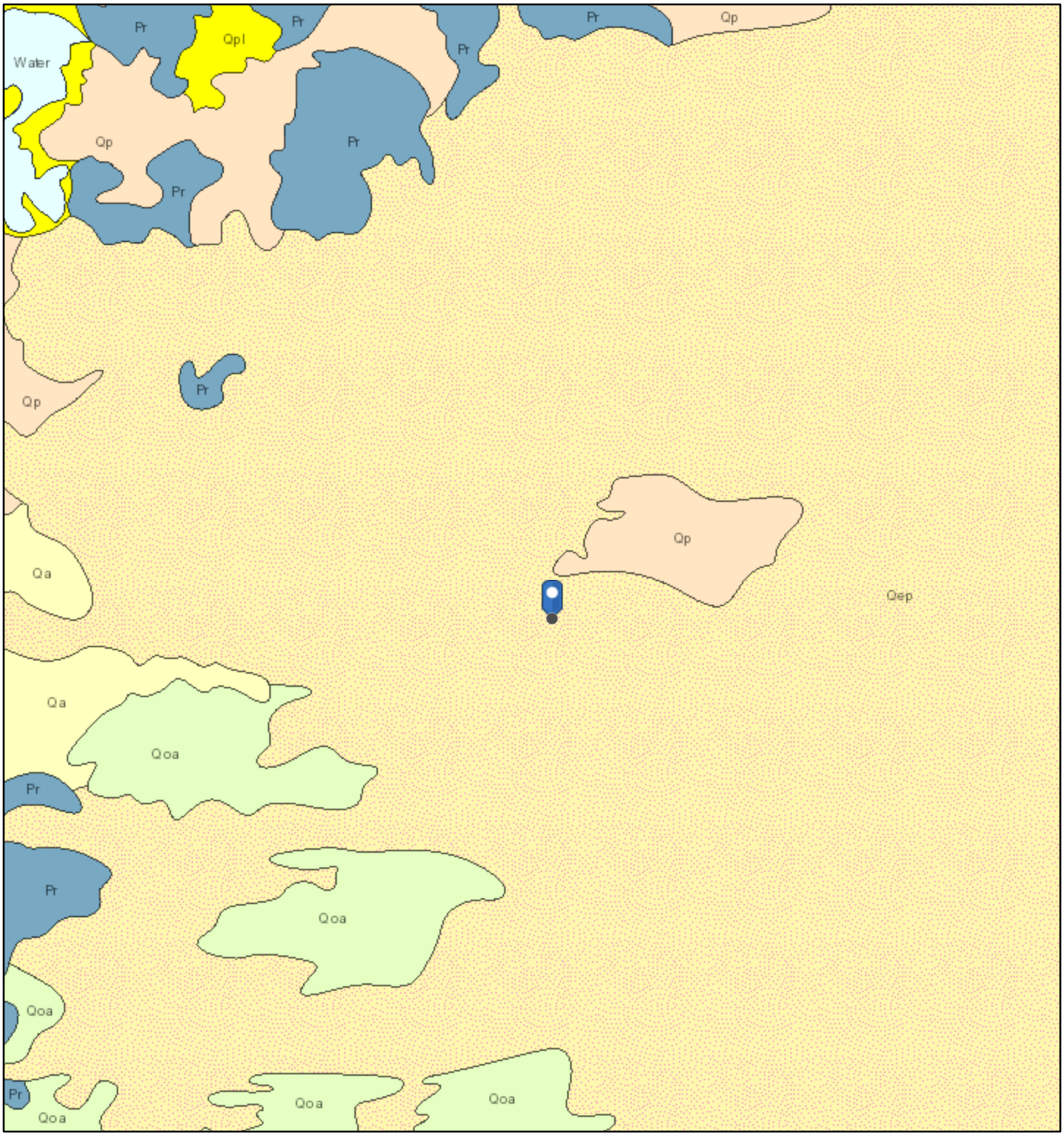
Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex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

Additional community tables

Table 7. Community 1.1 plant community composition

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

PLU 342 - Geology



3/30/2024, 4:17:08 PM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Units

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

Esri, NASA, NGA, USGS, NMBGMR, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National

APPENDIX C – Daily Field Reports and Liner Inspection Photographs

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	2/5/2024
Site Location Name:	PLU 342	Report Run Date:	2/6/2024 2:37 PM
Client Contact Name:	Garrett Green	API #:	
Client Contact Phone #:	575-200-0729		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/5/2024 10:50 AM
Departed Site	2/5/2024 3:45 PM

Field Notes

15:46 -Completed safety paperwork and BH pin finder check upon arrival, as well as texted Garrett Green before start working

15:43 Obtained BH24-01 and 02 at 0 and 0.5’ while BH24-03 at 0’ and 1.

All samples were field-screened for Cl. Only BH01 and 3 were field-screened for Cl.

BH02 has Cl above 4000 ppm while remaining BH are under 300 ppm. TPH are under 27 ppm.

15:40 BH24-01 and 03 were jarred

BH24-02 needs be stepped out.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

BH24-01 at 0.5’. Collected at 0 and .5. Refused at .5’

Viewing Direction: Southeast

BH24-02 at 0.5’. Collected at 0 and .5. Refused at .5’

Viewing Direction: Southeast

BH24-01 at 1’. Collected at 0 and 1 . Refused at 1’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Deusavan Costa Filho

Signature: 

Daily Site Visit Report

Client	XTO Energy Inc. (US)	Inspection Date	5/7/2024
Site Location Name	PLU 342	API #	
Client Contact Name	Amy Ruth	Project Owner	
Client Contact Phone #	432-661-0571	Project Manager	
Project Reference #			
Unique Project ID			

Summary of Times

Arrived at Site	5/7/2024 8:32 AM
Departed Site	5/7/2024 11:35 AM

Field Notes

9:20 Arrived on site, filled out paperwork and went over the details of today's work with the Standard crew

9:21 Identified the 2 borehole locations needed for sampling. Began digging on BH24-02

10:38 Collected samples at 2' & 4'

10:38 Dug BH24-10 to 2'

10:39 All 3 samples screened within criteria on chlorides and TPH. Will be jarred up and sent to lab

10:56 Filled the excavation back up

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

BH24-10 @ 2’

Viewing Direction: Southeast

BH24-02 @ 4’

Viewing Direction: Southwest

BH24-02 @ 2’

Viewing Direction: South

BH24-10 @ 4

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: Northeast
	
BH24-10 filled in	BH24-02 filled in

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Angela Mohle

Signature: 

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	7/9/2024
Site Location Name:	PLU 342	Report Run Date:	7/10/2024 1:54 AM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	7/9/2024 6:55 AM
Departed Site	7/9/2024 5:48 PM

Field Notes

9:57 Conducted safety meeting with Standard Safety and completed XTO and Vertex JSAs focusing on mobile equipment, excavation, and line of fire. Hold points were identified as “additional personnel in work area” and “unexpected material in excavation”. Spoke to XTO representative Wes and determined that a buried electrical line running across the east side of the excavation area to 0.5 feet bgs will need to be spotted with a hydrovac. Per Wes the distance between the excavation and any hydrocarbon-containing equipment was confirmed to be greater than 10 feet and not a potential spark hazard.

10:02 Swept excavation areas with magnetic locator prior to ground disturbance. Magnetic interference present near the electrical boxes and steel posts/steps/etc. Hydrovac tentatively scheduled for tomorrow. Digging with hand tools planned 4 feet out from all equipment.

10:03 Work crew started at northwest corner of excavation to 0.5 feet bgs.

17:29 Hydrovac arrived and started spotting the electrical line. They exposed the north section and will return tomorrow to expose the south section.

17:31 Work crew completed the northwest portion of the excavation to 0.5 feet bgs and parts of the southwest portion.

17:33 Base excavation confirmation samples BS24-01 through BS24-05 were collected from the northwest portion of the excavation at 0.5 feet bgs. Samples were 5-point composites from approximately 200 square foot areas.

17:42 Field screening results for base excavation confirmation samples BES24-01 through BES24-05 were below NMOCD strictest criteria for chloride.

Daily Site Visit Report

Next Steps & Recommendations
1

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest

East of tank battery facing southwest.

Viewing Direction: Southwest

Southeast of treating equipment facing southwest. Marked planned excavation areas.

Viewing Direction: East

Southwest of treating equipment facing east. Marked planned excavation areas.

Viewing Direction: Northeast

Northwest of tank battery facing northeast. Marked planned excavation areas.

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: Southwest
	
North of electrical boxes facing northeast. Hydrovac spotted multiple lines within excavation area close to electrical boxes.	North of electrical boxes facing southwest. All but one line dead-ended northeast of electrical box.
Viewing Direction: Southwest	**Viewing Direction**: South
	
Southeast of treating equipment facing south-southwest. Hydrovac spotted electrical line across part of excavation area.	Northwest edge of excavation facing south. Excavation to 0.5 feet bgs partially completed at west end.

Daily Site Visit Report

Viewing Direction: Southeast

Northwest edge of excavation facing southeast. Excavation to 0.5 feet bgs partially completed at west end.

Viewing Direction: Northeast

Southwest edge of planned excavation facing northeast. Excavation to 0.5 feet bgs in progress at southwest corner..

Viewing Direction: Northwest

Inside excavation facing northwest. Collected BS24-01 through BS24-05 in northwest corner of excavation.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

Signature:

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	7/11/2024
Site Location Name:	PLU 342	Report Run Date:	7/12/2024 12:22 AM
Client Contact Name:	Amy Ruth	API #:	
Client Contact Phone #:	432-661-0571		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	7/11/2024 5:39 AM
Departed Site	7/11/2024 3:02 PM

Field Notes

6:58 Completed Vertex and XTO JSAs with Standard Safety work crew focusing on line of fire, excavation, and mobile equipment. Work planned to be stopped and reevaluated if other parties need access to work area or if anything unexpected is encountered during excavation. Contacted XTO contact, Wes, and received approval to continue work.

6:59 Mapped rectangular area on west side of excavation to be increased to 1 feet bgs depth. Swept all potential work areas with magnetic locator prior to ground disturbance.

14:16 Work crew excavated approximately 585 square feet to 1 feet bgs.

14:20 Collected confirmation excavation 5-point composite samples from 200 square feet areas or less (excavation wall area is limited).

14:20 Collected confirmation wall excavation samples WS24-03 and WS24-04 from sidewalls of east side of excavation to 0.5 feet bgs.

14:22 Collected remaining confirmation base excavation samples BS24-14 through BS24-17 from east side of excavation to 0.5 feet bgs.

14:23 Collected confirmation bas and wall excavation samples BS24-18 through BS24-20, WS24-05, and WS24-06 from base and sidewalls excavation to 1 feet bgs.

14:24 Field screening results for all collected confirmation samples were below NMOCD strictest criteria for chloride and TPH.

14:57 All samples packaged for submission to laboratory.

Next Steps & Recommendations

Daily Site Visit Report

1

Daily Site Visit Report

Site Photos

Viewing Direction: Southwest

Northeast of tank battery facing southwest.

Viewing Direction: Northwest

East end of excavation facing west over completed excavation to 0.5 feet bgs.

Viewing Direction: Southwest

East end of excavation facing southwest over completed excavation to 0.5 feet bgs.

Viewing Direction: Northeast

At north corner of tank battery containment facing northeast over completed excavation to 0.5 feet bgs.

Daily Site Visit Report

Viewing Direction: Northwest

At north corner of tank battery containment facing northeast over completed excavations to 0.5 and 1 feet bgs.

Viewing Direction: East

Southeast of treating equipment facing east over completed excavation to 0.5 feet bgs.

Viewing Direction: South

Southeast of treating equipment facing south over completed excavation to 0.5 feet bgs.

Viewing Direction: Southwest

Southeast of treating equipment facing southwest over completed excavations to 0.5 and 1 feet bgs.

Daily Site Visit Report

Viewing Direction: West	**Viewing Direction**: East
	
Southeast of treating equipment facing west over completed excavations to 0.5 and 1 feet bgs.	Northwest end of excavation facing east over completed excavations to 0.5 and 1 feet bgs.
Viewing Direction: Southeast	**Viewing Direction**: North
	
Northwest end of excavation facing southeast over completed excavations to 0.5 and 1 feet bgs.	West edge of excavation facing north over completed excavations to 0.5 and 1 feet bgs.

Daily Site Visit Report

Viewing Direction: Northeast	**Viewing Direction**: East
	
West edge of excavation facing northeast over completed excavations to 0.5 and 1 feet bgs.	West edge of excavation facing east-northeast over completed excavations to 0.5 and 1 feet bgs.
Viewing Direction: East	**Viewing Direction**: Southeast
	
West edge of excavation facing east over completed excavations to 0.5 and 1 feet bgs.	West edge of excavation facing southeast over completed excavations to 0.5 and 1 feet bgs.

Daily Site Visit Report

Viewing Direction: East

Southwest edge of excavation facing east-northeast over completed excavations to 0.5 and 1 feet bgs.

Viewing Direction: Northeast

Southwest edge of excavation facing northeast over completed excavations to 0.5 and 1 feet bgs.

Viewing Direction: North

Southwest edge of excavation facing north over completed excavations to 0.5 and 1 feet bgs.

Viewing Direction: North

West of electrical boxes facing north. Completed excavation to 1 feet bgs.

Daily Site Visit Report

Viewing Direction: West

East edge of excavation facing west-southwest. Collected WS24-03 and WS24-04 from sidewalls of east leg of excavation.

Viewing Direction: Northwest

North of tank battery facing northwest. Collected BS24-14 through BS24-17. from base of east leg of excavation.

Viewing Direction: Southeast

Northwest of tank battery facing southwest. Collected WS24-05, WS24-06, and BS24-18 through BS24-20 from excavation to 1 feet bgs.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Lakin Pullman

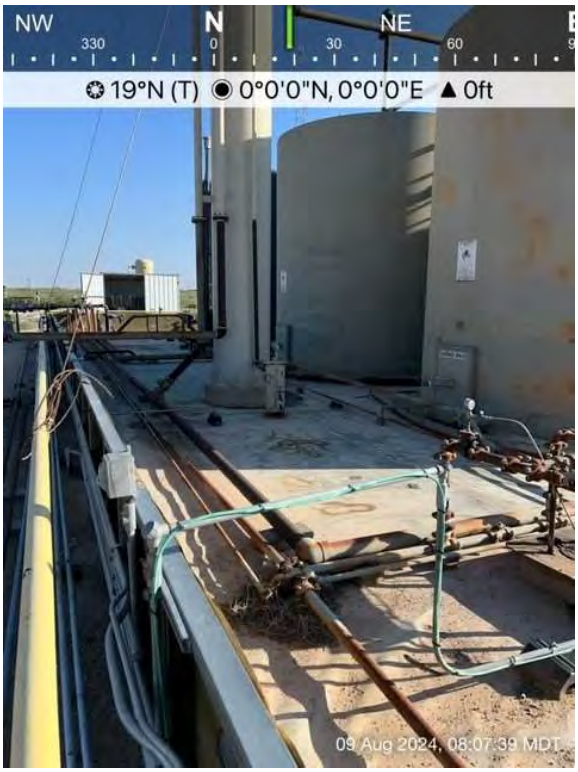
Signature:


S
SW
W
180
210
240
270
300
232°SW (T) 0°0'0"N, 0°0'0"E ▲ 0ft
09 Aug 2024, 08:05:56 MDT


S
SW
W
NW
180
210
240
270
300
247°SW (T) 0°0'0"N, 0°0'0"E ▲ 0ft
09 Aug 2024, 08:06:12 MDT


SW
W
NW
210
240
270
300
252°W (T) 0°0'0"N, 0°0'0"E ▲ 0ft
09 Aug 2024, 08:06:28 MDT


SW
W
NW
210
240
270
300
259°W (T) 0°0'0"N, 0°0'0"E ▲ 0ft
09 Aug 2024, 08:07:11 MDT


NW
N
NE
330
0
30
60
19°N (T) 0°0'0"N, 0°0'0"E ▲0ft
09 Aug 2024, 08:07:39 MDT

APPENDIX D – Notifications

XTO - Extension Request - Poker Lake Unit 342 - Incident Number nAPP2334849928

Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

Fri 3/1/2024 10:19 AM

To:amy.ruth@exxonmobil.com <amy.ruth@exxonmobil.com>
Cc:alan.romero1@exxonmobil.com <alan.romero1@exxonmobil.com>;Sally Carttar <SCarttar@vertex.ca>;Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>;Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>;Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

RE: Incident #**NAPP2334849928**

Amy,

Your request for a 90-day extension to **May 30th, 2024,** 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: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Thursday, February 29, 2024 2:59 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] XTO - Extension Request - Poker Lake Unit 342 - Incident Number nAPP2334849928

From: Ruth, Amy <amy.ruth@exxonmobil.com>
Sent: Thursday, February 29, 2024 2:44 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Cc: Romero, Alan <alan.romero1@exxonmobil.com>; Sally Carttar <SCarttar@vertex.ca>
Subject: [EXTERNAL] XTO - Extension Request - Poker Lake Unit 342 - Incident Number nAPP2334849928

Good afternoon,

XTO is requesting an extension for the current deadline of March 6, 2024, to complete remedial activities and submitting a report required in 19.15.29.12.B.(1) NMAC at the PLU 342 nAPP2334849928). In order to complete all remedial activities and submit a report, XTO requests an extension until June 4, 2024.

Please contact me with any questions or concerns.

Respectfully,

Amy C. Ruth
Environmental Advisor
UOG Unconventional Permian/Delaware
amy.ruth@exxonmobil.com

XTO ENERGY, INC. – An ExxonMobil Subsidiary
3104 E. Greene Street | Carlsbad, NM 88220 | M: 432.661.0571

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 312410
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Initial C-141 Approved**

Location of Release Source	
Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Liner Inspection Event Information *Please answer all the questions in this group.*	
What is the liner inspection surface area in square feet	5,600
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	02/12/2024
Time liner inspection will commence	09:00 AM
Please provide any information necessary for observers to liner inspection	Garrett Green 5756371752
Please provide any information necessary for navigation to liner inspection site	PLU 342 F-29-25S-31E 32.21N 103.86W

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 312410
	Action Type: [NOTIFY] Notification Of Liner Inspection (C-141L)

CONDITIONS

Created By	Condition	Condition Date
ggreen	Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.	2/7/2024

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

Action 360994

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360994
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source	
Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	3,400
What is the estimated number of samples that will be gathered	18
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/09/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Lakin Pullman (701) 495-1722
Please provide any information necessary for navigation to sampling site	From NM-128, turn south onto Twin Wells Rd and drive for 8.9 miles. Turn right and continue 0.5 miles to coordinates.

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360994
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
cbrown1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	7/3/2024

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

Action 360995

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360995
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source	
Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	3,400
What is the estimated number of samples that will be gathered	18
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/10/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Lakin Pullman (701) 495-1722
Please provide any information necessary for navigation to sampling site	From NM-128, turn south onto Twin Wells Rd and drive for 8.9 miles. Turn right and continue 0.5 miles to coordinates.

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360995
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
cbrown1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	7/3/2024

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

Action 360998

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360998
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source	
Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	3,400
What is the estimated number of samples that will be gathered	18
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/11/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Lakin Pullman (701) 495-1722
Please provide any information necessary for navigation to sampling site	From NM-128, turn south onto Twin Wells Rd and drive for 8.9 miles. Turn right and continue 0.5 miles to coordinates.

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 360998
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
cbrown1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	7/3/2024

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

Action 361000

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 361000
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source	
Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Sampling Event General Information *Please answer all the questions in this group.*	
What is the sampling surface area in square feet	3,400
What is the estimated number of samples that will be gathered	18
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	07/12/2024
Time sampling will commence	08:00 AM
Please provide any information necessary for observers to contact samplers	Lakin Pullman (701) 495-1722
Please provide any information necessary for navigation to sampling site	From NM-128, turn south onto Twin Wells Rd and drive for 8.9 miles. Turn right and continue 0.5 miles to coordinates.

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 361000
	Action Type: [NOTIFY] Notification Of Sampling (C-141N)

CONDITIONS

Created By	Condition	Condition Date
cbrown1	Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.	7/3/2024

OCD Permitting

[NOTIFY] Notification Of Liner Inspection (C-141L) Application

Submission Information

Submission ID:	371274	**Districts:**	Artesia
Operator:	[5380] XTO ENERGY, INC	**Counties:**	Eddy
Description:	XTO ENERGY, INC [5380] , Poker Lake Unit 342 Battery , nAPP2334849928		
Status:	APPROVED		
Status Date:	08/07/2024		
References (1):	nAPP2334849928		

Forms

This application type does not have attachments.

Questions

Prerequisites

Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Plan Approved**

Location of Release Source

Site Name	**Poker Lake Unit 342 Battery**
Date Release Discovered	**12/07/2023**
Surface Owner	**Federal**

Liner Inspection Event Information

Please answer all the questions in this group.

What is the liner inspection surface area in square feet	9,880
Have all the impacted materials been removed from the liner	Yes
Liner inspection date pursuant to Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC	08/09/2024
Time liner inspection will commence	08:00 AM
Warning: Notification can not be less than two business days prior to conducting liner inspection.	
Please provide any information necessary for observers to liner inspection	From NM-128, turn south onto Twin Wells Rd and drive for 8.9 miles. Turn right and continue 0.5 miles to coor
Please provide any information necessary for navigation to liner inspection site	32.20665,-103.85879

Comments

No comments found for this submission.

Conditions

Summary: *cbrown1 (8/7/2024),* Failure to notify the OCD of liner inspections including any changes in date/time per the requirements of 19.15.29.11.A(5)(a)(ii) NMAC, may result in the inspection not being accepted.

Reasons

No reasons found for this submission.

Go Back

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/6/2024 11:39:20 AM Revision 2

JOB DESCRIPTION

PLU 342
23E-06066

JOB NUMBER

890-6119-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

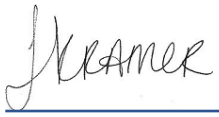
Eurofins Carlsbad

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
3/6/2024 11:39:20 AM
Revision 2

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

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 890-6119-1
SDG: 23E-06066

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Qualifiers

GC VOA

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

Glossary

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

Case Narrative

Client: Vertex
Project: PLU 342

Job ID: 890-6119-1

Job ID: 890-6119-1 Eurofins Carlsbad

Job Narrative
890-6119-1

REVISION

The report being provided is a revision of the original report sent on 2/19/2024. The report (revision 2) is being revised due to Per client email, requesting sample depths be added to the report.

Report revision history
Revision 1 - 2/21/2024 - Reason - Per client email, requesting project name change.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/7/2024 8:53 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -1.2°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH24-02 (890-6119-1), BH24-02 (890-6119-2), BH24-01 (890-6119-3), BH24-01 (890-6119-4), BH24-03 (890-6119-5) and BH24-03 (890-6119-6).

One or more containers for the following sample was received empty: BH24-03 (890-6119-5).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73192 and analytical batch 880-73320 was outside the control limits.

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 880-72729 and analytical batch 880-73314 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH24-02 (890-6119-1). 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
Method 300_ORGFM_28D - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-72650 and analytical batch 880-72725 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.

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 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-02
Date Collected: 02/05/24 12:20
Date Received: 02/07/24 08:53
Sample Depth: 0'

Lab Sample ID: 890-6119-1
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		02/14/24 16:48	02/16/24 15:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 15:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 15:57	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/14/24 16:48	02/16/24 15:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 15:57	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/14/24 16:48	02/16/24 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*02/14/24 16:48*	*02/16/24 15:57*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*02/14/24 16:48*	*02/16/24 15:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/16/24 15:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			02/16/24 20:05	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	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 20:05	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 20:05	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*02/09/24 11:20*	*02/16/24 20:05*	*1*
o-Terphenyl	*108*		*70 - 130*	*02/09/24 11:20*	*02/16/24 20:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5550**		49.8		mg/Kg			02/09/24 19:00	10

Client Sample ID: BH24-02
Date Collected: 02/05/24 12:30
Date Received: 02/07/24 08:53
Sample Depth: 0.5'

Lab Sample ID: 890-6119-2
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		02/14/24 16:48	02/16/24 16:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:48	02/16/24 16:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:48	02/16/24 16:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/24 16:48	02/16/24 16:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:48	02/16/24 16:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/24 16:48	02/16/24 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:18*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-02
Date Collected: 02/05/24 12:30
Date Received: 02/07/24 08:53
Sample Depth: 0.5'

Lab Sample ID: 890-6119-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/16/24 16:18	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			02/16/24 21:09	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		02/09/24 11:20	02/16/24 21:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/09/24 11:20	02/16/24 21:09	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/09/24 11:20	02/16/24 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:09*	*1*
o-Terphenyl	*109*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2030**		25.2	mg/Kg			02/09/24 19:06	5

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:00
Date Received: 02/07/24 08:53
Sample Depth: 0'

Lab Sample ID: 890-6119-3
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		02/14/24 16:48	02/16/24 16:38	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/14/24 16:48	02/16/24 16:38	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/14/24 16:48	02/16/24 16:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/14/24 16:48	02/16/24 16:38	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/14/24 16:48	02/16/24 16:38	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/14/24 16:48	02/16/24 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:38*	*1*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:38*	*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			02/16/24 16:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/16/24 21:30	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:00
Date Received: 02/07/24 08:53
Sample Depth: 0'

Lab Sample ID: 890-6119-3
Matrix: Solid

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		02/09/24 11:20	02/16/24 21:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/09/24 11:20	02/16/24 21:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/24 11:20	02/16/24 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:30*	*1*
o-Terphenyl	*105*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**334**		5.02		mg/Kg			02/09/24 19:12	1

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:10
Date Received: 02/07/24 08:53
Sample Depth: 0.5'

Lab Sample ID: 890-6119-4
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		02/14/24 16:48	02/16/24 16:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 16:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 16:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 16:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 16:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:59*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*02/14/24 16:48*	*02/16/24 16:59*	*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			02/16/24 16:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			02/16/24 21:51	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	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 21:51	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 21:51	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		02/09/24 11:20	02/16/24 21:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:51*	*1*
o-Terphenyl	*105*		*70 - 130*	*02/09/24 11:20*	*02/16/24 21:51*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:10
Date Received: 02/07/24 08:53
Sample Depth: 0.5'

Lab Sample ID: 890-6119-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	112		5.05		mg/Kg			02/09/24 19:19	1

Client Sample ID: BH24-03
Date Collected: 02/05/24 12:50
Date Received: 02/07/24 08:53
Sample Depth: 1'

Lab Sample ID: 890-6119-6
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		02/14/24 16:48	02/16/24 17:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 17:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 17:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 17:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 17:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*02/14/24 16:48*	*02/16/24 17:20*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*02/14/24 16:48*	*02/16/24 17:20*	*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			02/16/24 17:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			02/16/24 22:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		02/09/24 11:20	02/16/24 22:13	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		02/09/24 11:20	02/16/24 22:13	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		02/09/24 11:20	02/16/24 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*02/09/24 11:20*	*02/16/24 22:13*	*1*
o-Terphenyl	*88*		*70 - 130*	*02/09/24 11:20*	*02/16/24 22:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.4		5.04		mg/Kg			02/09/24 19:25	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

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)
880-39033-A-2-C MS	Matrix Spike	116	122
880-39033-A-2-D MSD	Matrix Spike Duplicate	113	121
890-6119-1	BH24-02	78	78
890-6119-2	BH24-02	81	89
890-6119-3	BH24-01	80	70
890-6119-4	BH24-01	77	71
890-6119-6	BH24-03	74	93
LCS 880-73192/1-A	Lab Control Sample	112	120
LCSD 880-73192/2-A	Lab Control Sample Dup	112	120
MB 880-73192/5-A	Method Blank	66 S1-	98

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)
890-6119-1	BH24-02	131 S1+	108
890-6119-1 MS	BH24-02	128	95
890-6119-1 MSD	BH24-02	119	89
890-6119-2	BH24-02	127	109
890-6119-3	BH24-01	120	105
890-6119-4	BH24-01	124	105
890-6119-6	BH24-03	108	88
LCS 880-72729/2-A	Lab Control Sample	105	117
LCSD 880-72729/3-A	Lab Control Sample Dup	106	107
MB 880-72729/1-A	Method Blank	271 S1+	242 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73192/5-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73192

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 11:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*02/14/24 16:48*	*02/16/24 11:06*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*02/14/24 16:48*	*02/16/24 11:06*	*1*

Lab Sample ID: LCS 880-73192/1-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73192

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09329		mg/Kg		93	70 - 130		
Toluene			0.100	0.08754		mg/Kg		88	70 - 130		
Ethylbenzene			0.100	0.09520		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.2018		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.09753		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: LCSD 880-73192/2-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73192

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09399		mg/Kg		94	70 - 130	1	35
Toluene			0.100	0.08640		mg/Kg		86	70 - 130	1	35
Ethylbenzene			0.100	0.09818		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2054		mg/Kg		103	70 - 130	2	35
o-Xylene			0.100	0.09884		mg/Kg		99	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: 880-39033-A-2-C MS
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.100	0.09558		mg/Kg		95	70 - 130		
Toluene	<0.00199	U	0.100	0.09032		mg/Kg		90	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

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

Lab Sample ID: 880-39033-A-2-C MS
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.1022		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2133		mg/Kg		106	70 - 130
o-Xylene	<0.00199	U	0.100	0.1035		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*

Lab Sample ID: 880-39033-A-2-D MSD
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73192

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.1046		mg/Kg		104	70 - 130	9	35
Toluene	<0.00199	U	0.101	0.09485		mg/Kg		94	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.101	0.1090		mg/Kg		108	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.2261		mg/Kg		112	70 - 130	6	35
o-Xylene	<0.00199	U	0.101	0.1101		mg/Kg		109	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*

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

Lab Sample ID: MB 880-72729/1-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72729

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		02/09/24 11:20	02/16/24 19:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/09/24 11:20	02/16/24 19:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/24 11:20	02/16/24 19:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*271*	*S1+*	*70 - 130*	*02/09/24 11:20*	*02/16/24 19:02*	*1*
o-Terphenyl	*242*	*S1+*	*70 - 130*	*02/09/24 11:20*	*02/16/24 19:02*	*1*

Lab Sample ID: LCS 880-72729/2-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72729

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1024		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)			1000	930.8		mg/Kg		93	70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

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

Lab Sample ID: LCS 880-72729/2-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72729

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	117		70 - 130

Lab Sample ID: LCSD 880-72729/3-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72729

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1018		mg/Kg		102	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	956.9		mg/Kg		96	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-6119-1 MS
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: BH24-02
Prep Type: Total/NA
Prep Batch: 72729

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	1010	1139		mg/Kg		109	70 - 130
Diesel Range Organics (Over C10-C28)	<50.2	U	1010	1333		mg/Kg		129	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 890-6119-1 MSD
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: BH24-02
Prep Type: Total/NA
Prep Batch: 72729

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	<50.2	U	1010	1006		mg/Kg		95	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<50.2	U	1010	1241		mg/Kg		120	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	89		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72650/1-A
Matrix: Solid
Analysis Batch: 72725

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			02/09/24 16:28	1

Lab Sample ID: LCS 880-72650/2-A
Matrix: Solid
Analysis Batch: 72725

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.4		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-72650/3-A
Matrix: Solid
Analysis Batch: 72725

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	264.2		mg/Kg		106	90 - 110	4	20

Lab Sample ID: 890-6117-A-11-B MS
Matrix: Solid
Analysis Batch: 72725

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	768	F1	1250	2129		mg/Kg		109	90 - 110		

Lab Sample ID: 890-6117-A-11-C MSD
Matrix: Solid
Analysis Batch: 72725

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	768	F1	1250	2186	F1	mg/Kg		113	90 - 110	3	20

Lab Sample ID: 890-6118-A-6-B MS
Matrix: Solid
Analysis Batch: 72725

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	152		252	383.5		mg/Kg		92	90 - 110		

Lab Sample ID: 890-6118-A-6-C MSD
Matrix: Solid
Analysis Batch: 72725

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	152		252	409.9		mg/Kg		103	90 - 110	7	20

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

GC VOA

Prep Batch: 73192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	5035	
890-6119-2	BH24-02	Total/NA	Solid	5035	
890-6119-3	BH24-01	Total/NA	Solid	5035	
890-6119-4	BH24-01	Total/NA	Solid	5035	
890-6119-6	BH24-03	Total/NA	Solid	5035	
MB 880-73192/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73192/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73192/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-39033-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-39033-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 73320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	8021B	73192
890-6119-2	BH24-02	Total/NA	Solid	8021B	73192
890-6119-3	BH24-01	Total/NA	Solid	8021B	73192
890-6119-4	BH24-01	Total/NA	Solid	8021B	73192
890-6119-6	BH24-03	Total/NA	Solid	8021B	73192
MB 880-73192/5-A	Method Blank	Total/NA	Solid	8021B	73192
LCS 880-73192/1-A	Lab Control Sample	Total/NA	Solid	8021B	73192
LCSD 880-73192/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73192
880-39033-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	73192
880-39033-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73192

Analysis Batch: 73586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	Total BTEX	
890-6119-2	BH24-02	Total/NA	Solid	Total BTEX	
890-6119-3	BH24-01	Total/NA	Solid	Total BTEX	
890-6119-4	BH24-01	Total/NA	Solid	Total BTEX	
890-6119-6	BH24-03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	8015NM Prep	
890-6119-2	BH24-02	Total/NA	Solid	8015NM Prep	
890-6119-3	BH24-01	Total/NA	Solid	8015NM Prep	
890-6119-4	BH24-01	Total/NA	Solid	8015NM Prep	
890-6119-6	BH24-03	Total/NA	Solid	8015NM Prep	
MB 880-72729/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72729/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6119-1 MS	BH24-02	Total/NA	Solid	8015NM Prep	
890-6119-1 MSD	BH24-02	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	8015B NM	72729
890-6119-2	BH24-02	Total/NA	Solid	8015B NM	72729

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

GC Semi VOA (Continued)

Analysis Batch: 73314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-3	BH24-01	Total/NA	Solid	8015B NM	72729
890-6119-4	BH24-01	Total/NA	Solid	8015B NM	72729
890-6119-6	BH24-03	Total/NA	Solid	8015B NM	72729
MB 880-72729/1-A	Method Blank	Total/NA	Solid	8015B NM	72729
LCS 880-72729/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72729
LCSD 880-72729/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72729
890-6119-1 MS	BH24-02	Total/NA	Solid	8015B NM	72729
890-6119-1 MSD	BH24-02	Total/NA	Solid	8015B NM	72729

Analysis Batch: 73531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Total/NA	Solid	8015 NM	
890-6119-2	BH24-02	Total/NA	Solid	8015 NM	
890-6119-3	BH24-01	Total/NA	Solid	8015 NM	
890-6119-4	BH24-01	Total/NA	Solid	8015 NM	
890-6119-6	BH24-03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Soluble	Solid	DI Leach	
890-6119-2	BH24-02	Soluble	Solid	DI Leach	
890-6119-3	BH24-01	Soluble	Solid	DI Leach	
890-6119-4	BH24-01	Soluble	Solid	DI Leach	
890-6119-6	BH24-03	Soluble	Solid	DI Leach	
MB 880-72650/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72650/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72650/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6117-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6117-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-6118-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6118-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 72725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6119-1	BH24-02	Soluble	Solid	300.0	72650
890-6119-2	BH24-02	Soluble	Solid	300.0	72650
890-6119-3	BH24-01	Soluble	Solid	300.0	72650
890-6119-4	BH24-01	Soluble	Solid	300.0	72650
890-6119-6	BH24-03	Soluble	Solid	300.0	72650
MB 880-72650/1-A	Method Blank	Soluble	Solid	300.0	72650
LCS 880-72650/2-A	Lab Control Sample	Soluble	Solid	300.0	72650
LCSD 880-72650/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72650
890-6117-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	72650
890-6117-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	72650
890-6118-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	72650
890-6118-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	72650

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-02
Date Collected: 02/05/24 12:20
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-1
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			4.99 g	5 mL	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 15:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73586	02/16/24 15:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			73531	02/16/24 20:05	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	72729	02/09/24 11:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 20:05	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		10			72725	02/09/24 19:00	CH	EET MID

Client Sample ID: BH24-02
Date Collected: 02/05/24 12:30
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-2
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			5.02 g	5 mL	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 16:18	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73586	02/16/24 16:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			73531	02/16/24 21:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	72729	02/09/24 11:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 21:09	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		5			72725	02/09/24 19:06	CH	EET MID

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:00
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-3
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			5.03 g	5 mL	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 16:38	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73586	02/16/24 16:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			73531	02/16/24 21:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	72729	02/09/24 11:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 21:30	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 19:12	CH	EET MID

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:10
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-4
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			5.00 g	5 mL	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 16:59	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73586	02/16/24 16:59	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

Client Sample ID: BH24-01
Date Collected: 02/05/24 12:10
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-4
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			73531	02/16/24 21:51	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	72729	02/09/24 11:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 21:51	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 19:19	CH	EET MID

Client Sample ID: BH24-03
Date Collected: 02/05/24 12:50
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6119-6
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	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 17:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73586	02/16/24 17:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			73531	02/16/24 22:13	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	72729	02/09/24 11:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 22:13	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 19:25	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 342

Job ID: 890-6119-1
SDG: 23E-06066

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6119-1
SDG: 23E-06066

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 342

Job ID: 890-6119-1
SDG: 23E-06066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6119-1	BH24-02	Solid	02/05/24 12:20	02/07/24 08:53	0'
890-6119-2	BH24-02	Solid	02/05/24 12:30	02/07/24 08:53	0.5'
890-6119-3	BH24-01	Solid	02/05/24 12:00	02/07/24 08:53	0'
890-6119-4	BH24-01	Solid	02/05/24 12:10	02/07/24 08:53	0.5'
890-6119-6	BH24-03	Solid	02/05/24 12:50	02/07/24 08:53	1'

NAPP2334849928

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: ____

6119

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex / XTO	Company Name:	XTO
Address:		Address:	
City, State ZIP:	on file	City, State ZIP:	on file
Phone:		Email:	

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:	SRU 342
Project Number:	23E.06066
Project Location:	SRU 342
Sampler's Name:	Alumsarian Corte
PO #:	

Turn Around: ☒ Routine ☐ Rush
Due Date:
TAT starts the day received by the lab, if received by 4:30pm

SAMPLE RECEIPT

Temp Blank:	(Yes) No	Wet Ice:	Yes No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	-1.4
Total Containers:		Corrected Temperature:	-1.2

ANALYSIS REQUEST — Parameters: BTEX (8021); TPH (8015D)

Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	BTEX (8021)	TPH (8015D)	Sample Comments
BH24_02	0'	Soil	2-5-24	12:20	0		1	↓	↓	
BH24_02	0.5'	Soil	2-5-24	12:30	0.5		2	↓	↓	
BH24_01	0'	↓	↓	12:00	0	↓		↓	↓	
BH24_01	0.5'	↓	↓	12:10	0.5	↓		↓	↓	
BH24_03	0'	↓	↓	12:40	0'	↓		↓	↓	
BH23-03	1'	↓	↓	12:50	1'	↓	6	↓	↓	

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

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 [signature]	[signature]	2/7 853	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-6119-1
SDG Number: 23E-06066

Login Number: 6119
List Number: 1
Creator: Lopez, Abraham

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: 890-6119-1
SDG Number: 23E-06066

Login Number: 6119
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/08/24 11:21 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 2/19/2024 4:44:32 PM

JOB DESCRIPTION

PLU 342
23E 06066

JOB NUMBER

890-6118-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

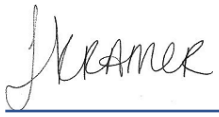
Eurofins Carlsbad

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
2/19/2024 4:44:32 PM

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

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 890-6118-1
SDG: 23E 06066

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low 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: PLU 342

Job ID: 890-6118-1

Job ID: 890-6118-1 Eurofins Carlsbad

Job Narrative
890-6118-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/7/2024 8:53 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -1.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH24-04 (890-6118-1), BH24-04 (890-6118-2), BH24-05 (890-6118-3), BH24-05 (890-6118-4), BH24-06 (890-6118-5), BH24-06 (890-6118-6), BH24-07 (890-6118-7) and BH24-07 (890-6118-8).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-73190 and analytical batch 880-73398 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.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-73398 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-73398/64).

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73189 and 880-73192 and analytical batch 880-73320 was outside the control limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-73189 and analytical batch 880-73320 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 8021B: The continuing calibration verification (CCV) associated with batch 880-73320 recovered below the lower control limit for Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-73320/64).

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 880-72728 and analytical batch 880-73314 was outside the upper control limits.

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

HPLC/IC
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 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-04

Date Collected: 02/06/24 09:30
Date Received: 02/07/24 08:53
Sample Depth: 0

Lab Sample ID: 890-6118-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/14/24 16:44	02/17/24 13:21	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/14/24 16:44	02/17/24 13:21	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/14/24 16:44	02/17/24 13:21	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		02/14/24 16:44	02/17/24 13:21	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/14/24 16:44	02/17/24 13:21	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		02/14/24 16:44	02/17/24 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*02/14/24 16:44*	*02/17/24 13:21*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*02/14/24 16:44*	*02/17/24 13:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			02/17/24 13:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/16/24 10:18	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		02/09/24 11:16	02/16/24 10:18	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/09/24 11:16	02/16/24 10:18	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/09/24 11:16	02/16/24 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*02/09/24 11:16*	*02/16/24 10:18*	*1*
o-Terphenyl	*102*		*70 - 130*	*02/09/24 11:16*	*02/16/24 10:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1250**		24.8		mg/Kg			02/09/24 17:43	5

Client Sample ID: BH24-04

Date Collected: 02/06/24 09:40
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-2
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		02/14/24 16:44	02/17/24 13:41	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/14/24 16:44	02/17/24 13:41	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/14/24 16:44	02/17/24 13:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/14/24 16:44	02/17/24 13:41	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/14/24 16:44	02/17/24 13:41	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/14/24 16:44	02/17/24 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*02/14/24 16:44*	*02/17/24 13:41*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-04

Date Collected: 02/06/24 09:40
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*02/14/24 16:44*	*02/17/24 13:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/17/24 13:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/16/24 11:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/09/24 11:16	02/16/24 11:25	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/09/24 11:16	02/16/24 11:25	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/09/24 11:16	02/16/24 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*02/09/24 11:16*	*02/16/24 11:25*	*1*
o-Terphenyl	*90*		*70 - 130*	*02/09/24 11:16*	*02/16/24 11:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**161**		4.99	mg/Kg			02/09/24 17:50	1

Client Sample ID: BH24-05

Date Collected: 02/06/24 09:50
Date Received: 02/07/24 08:53
Sample Depth: 0

Lab Sample ID: 890-6118-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:44	02/17/24 14:02	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:44	02/17/24 14:02	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:44	02/17/24 14:02	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/14/24 16:44	02/17/24 14:02	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:44	02/17/24 14:02	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/14/24 16:44	02/17/24 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:02*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/17/24 14:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			02/16/24 11:47	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-05
Date Collected: 02/06/24 09:50
Date Received: 02/07/24 08:53
Sample Depth: 0

Lab Sample ID: 890-6118-3
Matrix: Solid

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	<50.2	U	50.2		mg/Kg		02/09/24 11:16	02/16/24 11:47	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		02/09/24 11:16	02/16/24 11:47	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		02/09/24 11:16	02/16/24 11:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*02/09/24 11:16*	*02/16/24 11:47*	*1*
o-Terphenyl	*90*		*70 - 130*	*02/09/24 11:16*	*02/16/24 11:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71.7**		4.98		mg/Kg			02/09/24 17:56	1

Client Sample ID: BH24-05
Date Collected: 02/06/24 10:00
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-4
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		02/14/24 16:44	02/17/24 14:23	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:44	02/17/24 14:23	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:44	02/17/24 14:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/24 16:44	02/17/24 14:23	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:44	02/17/24 14:23	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/24 16:44	02/17/24 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:23*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/17/24 14:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			02/16/24 12:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		02/09/24 11:16	02/16/24 12:09	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		02/09/24 11:16	02/16/24 12:09	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		02/09/24 11:16	02/16/24 12:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:09*	*1*
o-Terphenyl	*96*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:09*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-05

Date Collected: 02/06/24 10:00
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.3		5.03		mg/Kg			02/09/24 18:02	1

Client Sample ID: BH24-06

Date Collected: 02/06/24 10:10
Date Received: 02/07/24 08:53
Sample Depth: 0

Lab Sample ID: 890-6118-5
Matrix: Solid

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		02/14/24 16:44	02/17/24 14:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:44	02/17/24 14:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:44	02/17/24 14:43	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/14/24 16:44	02/17/24 14:43	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:44	02/17/24 14:43	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/14/24 16:44	02/17/24 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:43*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/14/24 16:44*	*02/17/24 14:43*	*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			02/17/24 14:43	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			02/16/24 12:31	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	<50.5	U	50.5		mg/Kg		02/09/24 11:16	02/16/24 12:31	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		02/09/24 11:16	02/16/24 12:31	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		02/09/24 11:16	02/16/24 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:31*	*1*
o-Terphenyl	*101*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		4.98		mg/Kg			02/09/24 18:09	1

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-06

Lab Sample ID: 890-6118-6
Matrix: Solid
Date Collected: 02/06/24 10:20
Date Received: 02/07/24 08:53
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		02/14/24 16:41	02/17/24 03:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:41	02/17/24 03:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:41	02/17/24 03:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/14/24 16:41	02/17/24 03:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/14/24 16:41	02/17/24 03:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/14/24 16:41	02/17/24 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*02/14/24 16:41*	*02/17/24 03:57*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*02/14/24 16:41*	*02/17/24 03:57*	*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			02/17/24 03:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			02/16/24 12:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		02/09/24 11:16	02/16/24 12:53	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		02/09/24 11:16	02/16/24 12:53	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		02/09/24 11:16	02/16/24 12:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:53*	*1*
o-Terphenyl	*97*		*70 - 130*	*02/09/24 11:16*	*02/16/24 12:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**152**		5.03		mg/Kg			02/09/24 18:15	1

Client Sample ID: BH24-07

Lab Sample ID: 890-6118-7
Matrix: Solid
Date Collected: 02/06/24 10:30
Date Received: 02/07/24 08:53
Sample Depth: 0

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		02/14/24 16:41	02/17/24 04:18	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:41	02/17/24 04:18	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:41	02/17/24 04:18	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/14/24 16:41	02/17/24 04:18	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/14/24 16:41	02/17/24 04:18	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/14/24 16:41	02/17/24 04:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*02/14/24 16:41*	*02/17/24 04:18*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-07

Date Collected: 02/06/24 10:30
Date Received: 02/07/24 08:53
Sample Depth: 0

Lab Sample ID: 890-6118-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*02/14/24 16:41*	*02/17/24 04:18*	*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			02/17/24 04:18	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			02/16/24 13:15	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		02/09/24 11:16	02/16/24 13:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/09/24 11:16	02/16/24 13:15	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/09/24 11:16	02/16/24 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*02/09/24 11:16*	*02/16/24 13:15*	*1*
o-Terphenyl	*95*		*70 - 130*	*02/09/24 11:16*	*02/16/24 13:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.6**		4.97	mg/Kg			02/09/24 18:34	1

Client Sample ID: BH24-07

Date Collected: 02/06/24 10:40
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:48	02/16/24 14:33	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:48	02/16/24 14:33	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:48	02/16/24 14:33	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/14/24 16:48	02/16/24 14:33	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/14/24 16:48	02/16/24 14:33	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/14/24 16:48	02/16/24 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*02/14/24 16:48*	*02/16/24 14:33*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*02/14/24 16:48*	*02/16/24 14:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/16/24 14:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/16/24 13:36	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-07

Date Collected: 02/06/24 10:40
Date Received: 02/07/24 08:53
Sample Depth: 0.5

Lab Sample ID: 890-6118-8

Matrix: Solid

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		02/09/24 11:16	02/16/24 13:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/09/24 11:16	02/16/24 13:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/24 11:16	02/16/24 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*02/09/24 11:16*	*02/16/24 13:36*	*1*
o-Terphenyl	*95*		*70 - 130*	*02/09/24 11:16*	*02/16/24 13:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**37.5**		5.05		mg/Kg			02/09/24 18:40	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
880-38969-A-1-B MS	Matrix Spike	106	114										
880-38969-A-1-C MSD	Matrix Spike Duplicate	101	97										
880-39033-A-2-C MS	Matrix Spike	116	122										
880-39033-A-2-D MSD	Matrix Spike Duplicate	113	121										
890-6117-A-1-E MS	Matrix Spike	100	103										
890-6117-A-1-F MSD	Matrix Spike Duplicate	101	103										
890-6118-1	BH24-04	104	107										
890-6118-2	BH24-04	102	104										
890-6118-3	BH24-05	104	105										
890-6118-4	BH24-05	106	100										
890-6118-5	BH24-06	102	102										
890-6118-6	BH24-06	81	85										
890-6118-7	BH24-07	86	79										
890-6118-8	BH24-07	83	73										
LCS 880-73189/1-A	Lab Control Sample	122	129										
LCS 880-73190/1-A	Lab Control Sample	106	101										
LCS 880-73192/1-A	Lab Control Sample	112	120										
LCSD 880-73189/2-A	Lab Control Sample Dup	117	112										
LCSD 880-73190/2-A	Lab Control Sample Dup	116	99										
LCSD 880-73192/2-A	Lab Control Sample Dup	112	120										
MB 880-73188/5-A	Method Blank	75	98										
MB 880-73189/5-A	Method Blank	69 S1-	79										
MB 880-73190/5-A	Method Blank	76	101										
MB 880-73192/5-A	Method Blank	66 S1-	98										

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)										
890-6118-1	BH24-04	118	102										
890-6118-1 MS	BH24-04	115	86										
890-6118-1 MSD	BH24-04	111	84										
890-6118-2	BH24-04	108	90										
890-6118-3	BH24-05	109	90										
890-6118-4	BH24-05	112	96										
890-6118-5	BH24-06	122	101										
890-6118-6	BH24-06	114	97										
890-6118-7	BH24-07	111	95										
890-6118-8	BH24-07	116	95										
LCS 880-72728/2-A	Lab Control Sample	112	115										
LCSD 880-72728/3-A	Lab Control Sample Dup	108	104										
MB 880-72728/1-A	Method Blank	268 S1+	234 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73188/5-A
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73188

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:39	02/16/24 20:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:39	02/16/24 20:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:39	02/16/24 20:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:39	02/16/24 20:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:39	02/16/24 20:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:39	02/16/24 20:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*02/14/24 16:39*	*02/16/24 20:08*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*02/14/24 16:39*	*02/16/24 20:08*	*1*

Lab Sample ID: MB 880-73189/5-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73189

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:41	02/16/24 21:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:41	02/16/24 21:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:41	02/16/24 21:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:41	02/16/24 21:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:41	02/16/24 21:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:41	02/16/24 21:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*02/14/24 16:41*	*02/16/24 21:44*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*02/14/24 16:41*	*02/16/24 21:44*	*1*

Lab Sample ID: LCS 880-73189/1-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73189

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09443		mg/Kg		94	70 - 130		
Toluene			0.100	0.08948		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.1061		mg/Kg		106	70 - 130		
m-Xylene & p-Xylene			0.200	0.2152		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1049		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*129*		*70 - 130*

Lab Sample ID: LCSD 880-73189/2-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08970		mg/Kg		90	70 - 130	5	35

Eurofins Carlsbad

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: LCSD 880-73189/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73320 — **Prep Batch: 73189**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08017		mg/Kg		80	70 - 130	11	35
Ethylbenzene			0.100	0.1014		mg/Kg		101	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2106		mg/Kg		105	70 - 130	2	35
o-Xylene			0.100	0.1022		mg/Kg		102	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-38969-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73320 — **Prep Batch: 73189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1 F2	0.100	0.06560	F1	mg/Kg		65	70 - 130
Toluene	<0.00199	U F1	0.100	0.06254	F1	mg/Kg		62	70 - 130
Ethylbenzene	<0.00199	U F1	0.100	0.06140	F1	mg/Kg		61	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1271	F1	mg/Kg		63	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.06503	F1	mg/Kg		65	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 880-38969-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73320 — **Prep Batch: 73189**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.101	0.04331	F1 F2	mg/Kg		43	70 - 130	41	35
Toluene	<0.00199	U F1	0.101	0.04462	F1	mg/Kg		44	70 - 130	33	35
Ethylbenzene	<0.00199	U F1	0.101	0.04449	F1	mg/Kg		44	70 - 130	32	35
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.09033	F1	mg/Kg		45	70 - 130	34	35
o-Xylene	<0.00199	U F1	0.101	0.04935	F1	mg/Kg		49	70 - 130	27	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 880-73190/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73398 — **Prep Batch: 73190**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:44	02/17/24 06:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:44	02/17/24 06:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:44	02/17/24 06:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:44	02/17/24 06:47	1

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: MB 880-73190/5-A
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73190

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:44	02/17/24 06:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:44	02/17/24 06:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/14/24 16:44*	*02/17/24 06:47*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/14/24 16:44*	*02/17/24 06:47*	*1*

Lab Sample ID: LCS 880-73190/1-A
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73190

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1127		mg/Kg		113	70 - 130		
Toluene			0.100	0.09114		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.09180		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1875		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09675		mg/Kg		97	70 - 130		

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

Lab Sample ID: LCSD 880-73190/2-A
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73190

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1031		mg/Kg		103	70 - 130	9	35
Toluene			0.100	0.09251		mg/Kg		93	70 - 130	1	35
Ethylbenzene			0.100	0.09963		mg/Kg		100	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2102		mg/Kg		105	70 - 130	11	35
o-Xylene			0.100	0.1085		mg/Kg		109	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-6117-A-1-E MS
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73190

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.100	0.08816		mg/Kg		88	70 - 130		
Toluene	<0.00199	U F1	0.100	0.06795	F1	mg/Kg		67	70 - 130		
Ethylbenzene	<0.00199	U F1	0.100	0.06588	F1	mg/Kg		66	70 - 130		
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1288	F1	mg/Kg		64	70 - 130		
o-Xylene	<0.00199	U F1	0.100	0.06497	F1	mg/Kg		64	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: 890-6117-A-1-E MS
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73190

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-6117-A-1-F MSD
Matrix: Solid
Analysis Batch: 73398

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73190

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.08911		mg/Kg		89	70 - 130	1	35
Toluene	<0.00199	U F1	0.101	0.07001	F1	mg/Kg		69	70 - 130	3	35
Ethylbenzene	<0.00199	U F1	0.101	0.06779	F1	mg/Kg		67	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1334	F1	mg/Kg		66	70 - 130	3	35
o-Xylene	<0.00199	U F1	0.101	0.06752	F1	mg/Kg		67	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-73192/5-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73192

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/14/24 16:48	02/16/24 11:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/14/24 16:48	02/16/24 11:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	02/14/24 16:48	02/16/24 11:06	1
1,4-Difluorobenzene (Surr)	98		70 - 130	02/14/24 16:48	02/16/24 11:06	1

Lab Sample ID: LCS 880-73192/1-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73192

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09329		mg/Kg		93	70 - 130		
Toluene			0.100	0.08754		mg/Kg		88	70 - 130		
Ethylbenzene			0.100	0.09520		mg/Kg		95	70 - 130		
m-Xylene & p-Xylene			0.200	0.2018		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.09753		mg/Kg		98	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: LCS 880-73192/1-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73192

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

Lab Sample ID: LCSD 880-73192/2-A
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73192

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09399		mg/Kg		94	70 - 130	1	35
Toluene			0.100	0.08640		mg/Kg		86	70 - 130	1	35
Ethylbenzene			0.100	0.09818		mg/Kg		98	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2054		mg/Kg		103	70 - 130	2	35
o-Xylene			0.100	0.09884		mg/Kg		99	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	120		70 - 130

Lab Sample ID: 880-39033-A-2-C MS
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.100	0.09558		mg/Kg		95	70 - 130		
Toluene	<0.00199	U	0.100	0.09032		mg/Kg		90	70 - 130		
Ethylbenzene	<0.00199	U	0.100	0.1022		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2133		mg/Kg		106	70 - 130		
o-Xylene	<0.00199	U	0.100	0.1035		mg/Kg		103	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	116		70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 880-39033-A-2-D MSD
Matrix: Solid
Analysis Batch: 73320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73192

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.1046		mg/Kg		104	70 - 130	9	35
Toluene	<0.00199	U	0.101	0.09485		mg/Kg		94	70 - 130	5	35
Ethylbenzene	<0.00199	U	0.101	0.1090		mg/Kg		108	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.2261		mg/Kg		112	70 - 130	6	35
o-Xylene	<0.00199	U	0.101	0.1101		mg/Kg		109	70 - 130	6	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: MB 880-72728/1-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72728

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		02/09/24 11:16	02/16/24 07:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/09/24 11:16	02/16/24 07:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/24 11:16	02/16/24 07:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*268*	*S1+*	*70 - 130*	*02/09/24 11:16*	*02/16/24 07:45*	*1*
o-Terphenyl	*234*	*S1+*	*70 - 130*	*02/09/24 11:16*	*02/16/24 07:45*	*1*

Lab Sample ID: LCS 880-72728/2-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1071		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	933.5		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-72728/3-A
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72728

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1086		mg/Kg		109	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	934.5		mg/Kg		93	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-6118-1 MS
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: BH24-04
Prep Type: Total/NA
Prep Batch: 72728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	991	989.8		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	991	1241		mg/Kg		123	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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

Lab Sample ID: 890-6118-1 MS
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: BH24-04
Prep Type: Total/NA
Prep Batch: 72728

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: 890-6118-1 MSD
Matrix: Solid
Analysis Batch: 73314

Client Sample ID: BH24-04
Prep Type: Total/NA
Prep Batch: 72728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	991	961.4		mg/Kg		94	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	991	1209		mg/Kg		120	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72650/1-A
Matrix: Solid
Analysis Batch: 72725

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			02/09/24 16:28	1

Lab Sample ID: LCS 880-72650/2-A
Matrix: Solid
Analysis Batch: 72725

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.4		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-72650/3-A
Matrix: Solid
Analysis Batch: 72725

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	264.2		mg/Kg		106	90 - 110	4	20

Lab Sample ID: 890-6118-6 MS
Matrix: Solid
Analysis Batch: 72725

Client Sample ID: BH24-06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	152		252	383.5		mg/Kg		92	90 - 110		

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-6118-6 MSD
Matrix: Solid
Analysis Batch: 72725

Client Sample ID: BH24-06
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	152		252	409.9		mg/Kg		103	90 - 110	7	20

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

GC VOA

Prep Batch: 73188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73188/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 73189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-6	BH24-06	Total/NA	Solid	5035	
890-6118-7	BH24-07	Total/NA	Solid	5035	
MB 880-73189/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73189/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73189/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-38969-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-38969-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 73190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	5035	
890-6118-2	BH24-04	Total/NA	Solid	5035	
890-6118-3	BH24-05	Total/NA	Solid	5035	
890-6118-4	BH24-05	Total/NA	Solid	5035	
890-6118-5	BH24-06	Total/NA	Solid	5035	
MB 880-73190/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73190/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73190/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6117-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-6117-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 73192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-8	BH24-07	Total/NA	Solid	5035	
MB 880-73192/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73192/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73192/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-39033-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-39033-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 73320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-6	BH24-06	Total/NA	Solid	8021B	73189
890-6118-7	BH24-07	Total/NA	Solid	8021B	73189
890-6118-8	BH24-07	Total/NA	Solid	8021B	73192
MB 880-73189/5-A	Method Blank	Total/NA	Solid	8021B	73189
MB 880-73192/5-A	Method Blank	Total/NA	Solid	8021B	73192
LCS 880-73189/1-A	Lab Control Sample	Total/NA	Solid	8021B	73189
LCS 880-73192/1-A	Lab Control Sample	Total/NA	Solid	8021B	73192
LCSD 880-73189/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73189
LCSD 880-73192/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73192
880-38969-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	73189
880-38969-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73189
880-39033-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	73192
880-39033-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73192

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

GC VOA

Analysis Batch: 73398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	8021B	73190
890-6118-2	BH24-04	Total/NA	Solid	8021B	73190
890-6118-3	BH24-05	Total/NA	Solid	8021B	73190
890-6118-4	BH24-05	Total/NA	Solid	8021B	73190
890-6118-5	BH24-06	Total/NA	Solid	8021B	73190
MB 880-73188/5-A	Method Blank	Total/NA	Solid	8021B	73188
MB 880-73190/5-A	Method Blank	Total/NA	Solid	8021B	73190
LCS 880-73190/1-A	Lab Control Sample	Total/NA	Solid	8021B	73190
LCSD 880-73190/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73190
890-6117-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	73190
890-6117-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73190

Analysis Batch: 73576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	Total BTEX	
890-6118-2	BH24-04	Total/NA	Solid	Total BTEX	
890-6118-3	BH24-05	Total/NA	Solid	Total BTEX	
890-6118-4	BH24-05	Total/NA	Solid	Total BTEX	
890-6118-5	BH24-06	Total/NA	Solid	Total BTEX	
890-6118-6	BH24-06	Total/NA	Solid	Total BTEX	
890-6118-7	BH24-07	Total/NA	Solid	Total BTEX	
890-6118-8	BH24-07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	8015NM Prep	
890-6118-2	BH24-04	Total/NA	Solid	8015NM Prep	
890-6118-3	BH24-05	Total/NA	Solid	8015NM Prep	
890-6118-4	BH24-05	Total/NA	Solid	8015NM Prep	
890-6118-5	BH24-06	Total/NA	Solid	8015NM Prep	
890-6118-6	BH24-06	Total/NA	Solid	8015NM Prep	
890-6118-7	BH24-07	Total/NA	Solid	8015NM Prep	
890-6118-8	BH24-07	Total/NA	Solid	8015NM Prep	
MB 880-72728/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72728/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72728/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6118-1 MS	BH24-04	Total/NA	Solid	8015NM Prep	
890-6118-1 MSD	BH24-04	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	8015B NM	72728
890-6118-2	BH24-04	Total/NA	Solid	8015B NM	72728
890-6118-3	BH24-05	Total/NA	Solid	8015B NM	72728
890-6118-4	BH24-05	Total/NA	Solid	8015B NM	72728
890-6118-5	BH24-06	Total/NA	Solid	8015B NM	72728
890-6118-6	BH24-06	Total/NA	Solid	8015B NM	72728
890-6118-7	BH24-07	Total/NA	Solid	8015B NM	72728
890-6118-8	BH24-07	Total/NA	Solid	8015B NM	72728

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

GC Semi VOA (Continued)

Analysis Batch: 73314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-72728/1-A	Method Blank	Total/NA	Solid	8015B NM	72728
LCS 880-72728/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72728
LCSD 880-72728/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72728
890-6118-1 MS	BH24-04	Total/NA	Solid	8015B NM	72728
890-6118-1 MSD	BH24-04	Total/NA	Solid	8015B NM	72728

Analysis Batch: 73527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Total/NA	Solid	8015 NM	
890-6118-2	BH24-04	Total/NA	Solid	8015 NM	
890-6118-3	BH24-05	Total/NA	Solid	8015 NM	
890-6118-4	BH24-05	Total/NA	Solid	8015 NM	
890-6118-5	BH24-06	Total/NA	Solid	8015 NM	
890-6118-6	BH24-06	Total/NA	Solid	8015 NM	
890-6118-7	BH24-07	Total/NA	Solid	8015 NM	
890-6118-8	BH24-07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Soluble	Solid	DI Leach	
890-6118-2	BH24-04	Soluble	Solid	DI Leach	
890-6118-3	BH24-05	Soluble	Solid	DI Leach	
890-6118-4	BH24-05	Soluble	Solid	DI Leach	
890-6118-5	BH24-06	Soluble	Solid	DI Leach	
890-6118-6	BH24-06	Soluble	Solid	DI Leach	
890-6118-7	BH24-07	Soluble	Solid	DI Leach	
890-6118-8	BH24-07	Soluble	Solid	DI Leach	
MB 880-72650/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72650/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72650/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6118-6 MS	BH24-06	Soluble	Solid	DI Leach	
890-6118-6 MSD	BH24-06	Soluble	Solid	DI Leach	

Analysis Batch: 72725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6118-1	BH24-04	Soluble	Solid	300.0	72650
890-6118-2	BH24-04	Soluble	Solid	300.0	72650
890-6118-3	BH24-05	Soluble	Solid	300.0	72650
890-6118-4	BH24-05	Soluble	Solid	300.0	72650
890-6118-5	BH24-06	Soluble	Solid	300.0	72650
890-6118-6	BH24-06	Soluble	Solid	300.0	72650
890-6118-7	BH24-07	Soluble	Solid	300.0	72650
890-6118-8	BH24-07	Soluble	Solid	300.0	72650
MB 880-72650/1-A	Method Blank	Soluble	Solid	300.0	72650
LCS 880-72650/2-A	Lab Control Sample	Soluble	Solid	300.0	72650
LCSD 880-72650/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72650
890-6118-6 MS	BH24-06	Soluble	Solid	300.0	72650
890-6118-6 MSD	BH24-06	Soluble	Solid	300.0	72650

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-04
Date Collected: 02/06/24 09:30
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-1
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			4.95 g	5 mL	73190	02/14/24 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73398	02/17/24 13:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 10:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 10:18	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		5			72725	02/09/24 17:43	CH	EET MID

Client Sample ID: BH24-04
Date Collected: 02/06/24 09:40
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73190	02/14/24 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73398	02/17/24 13:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 13:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 11:25	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 11:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 17:50	CH	EET MID

Client Sample ID: BH24-05
Date Collected: 02/06/24 09:50
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73190	02/14/24 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73398	02/17/24 14:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 14:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 11:47	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 17:56	CH	EET MID

Client Sample ID: BH24-05
Date Collected: 02/06/24 10:00
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-4
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			5.03 g	5 mL	73190	02/14/24 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73398	02/17/24 14:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 14:23	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-05
Date Collected: 02/06/24 10:00
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-4
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			73527	02/16/24 12:09	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 12:09	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 18:02	CH	EET MID

Client Sample ID: BH24-06
Date Collected: 02/06/24 10:10
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-5
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			5.05 g	5 mL	73190	02/14/24 16:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73398	02/17/24 14:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 14:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 12:31	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 12:31	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 18:09	CH	EET MID

Client Sample ID: BH24-06
Date Collected: 02/06/24 10:20
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-6
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			5.03 g	5 mL	73189	02/14/24 16:41	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/17/24 03:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 03:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 12:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 12:53	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 18:15	CH	EET MID

Client Sample ID: BH24-07
Date Collected: 02/06/24 10:30
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-7
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			5.05 g	5 mL	73189	02/14/24 16:41	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/17/24 04:18	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/17/24 04:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 13:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 13:15	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

Client Sample ID: BH24-07
Date Collected: 02/06/24 10:30
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 18:34	CH	EET MID

Client Sample ID: BH24-07
Date Collected: 02/06/24 10:40
Date Received: 02/07/24 08:53

Lab Sample ID: 890-6118-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73192	02/14/24 16:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73320	02/16/24 14:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			73576	02/16/24 14:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			73527	02/16/24 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	72728	02/09/24 11:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73314	02/16/24 13:36	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	72650	02/08/24 11:58	SA	EET MID
Soluble	Analysis	300.0		1			72725	02/09/24 18:40	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 342

Job ID: 890-6118-1
SDG: 23E 06066

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6118-1
SDG: 23E 06066

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 342

Job ID: 890-6118-1
SDG: 23E 06066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6118-1	BH24-04	Solid	02/06/24 09:30	02/07/24 08:53	0
890-6118-2	BH24-04	Solid	02/06/24 09:40	02/07/24 08:53	0.5
890-6118-3	BH24-05	Solid	02/06/24 09:50	02/07/24 08:53	0
890-6118-4	BH24-05	Solid	02/06/24 10:00	02/07/24 08:53	0.5
890-6118-5	BH24-06	Solid	02/06/24 10:10	02/07/24 08:53	0
890-6118-6	BH24-06	Solid	02/06/24 10:20	02/07/24 08:53	0.5
890-6118-7	BH24-07	Solid	02/06/24 10:30	02/07/24 08:53	0
890-6118-8	BH24-07	Solid	02/06/24 10:40	02/07/24 08:53	0.5

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-6118-1
SDG Number: 23E 06066

Login Number: 6118
List Number: 1
Creator: Lopez, Abraham

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: 890-6118-1
SDG Number: 23E 06066

Login Number: 6118
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/08/24 11:21 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 2/20/2024 1:08:15 PM

JOB DESCRIPTION

PLU 342
023 - E - 06066

JOB NUMBER

890-6150-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

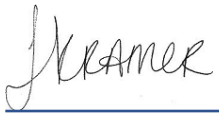
Eurofins Carlsbad

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
2/20/2024 1:08:15 PM

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

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 890-6150-1
SDG: 023 - E - 06066

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

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: PLU 342

Job ID: 890-6150-1

Job ID: 890-6150-1 Eurofins Carlsbad

Job Narrative
890-6150-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/9/2024 8:54 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 3.0°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH 24 - 08 0' (890-6150-1), BH 24 - 08 0.5' (890-6150-2), BH 24 - 09 0' (890-6150-3) and BH 24 - 09 0.5' (890-6150-4).

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 880-72934 and analytical batch 880-73312 was outside the upper control limits.

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

HPLC/IC
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 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 08 0'

Lab Sample ID: 890-6150-1
Matrix: Solid
Date Collected: 02/07/24 13:10
Date Received: 02/09/24 08:54
Sample Depth: 0'

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		02/15/24 12:35	02/19/24 13:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 13:24	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 13:24	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		02/15/24 12:35	02/19/24 13:24	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 13:24	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		02/15/24 12:35	02/19/24 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*02/15/24 12:35*	*02/19/24 13:24*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*02/15/24 12:35*	*02/19/24 13:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			02/19/24 13:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			02/16/24 13:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		02/12/24 14:51	02/16/24 13:36	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		02/12/24 14:51	02/16/24 13:36	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		02/12/24 14:51	02/16/24 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*02/12/24 14:51*	*02/16/24 13:36*	*1*
o-Terphenyl	*106*		*70 - 130*	*02/12/24 14:51*	*02/16/24 13:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**66.0**		5.01		mg/Kg			02/12/24 19:07	1

Client Sample ID: BH 24 - 08 0.5'

Lab Sample ID: 890-6150-2
Matrix: Solid
Date Collected: 02/07/24 13:20
Date Received: 02/09/24 08:54
Sample Depth: 0.5'

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		02/15/24 12:35	02/19/24 13:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 13:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 13:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/15/24 12:35	02/19/24 13:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 13:45	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/15/24 12:35	02/19/24 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*02/15/24 12:35*	*02/19/24 13:45*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 08 0.5'

Lab Sample ID: 890-6150-2
Matrix: Solid
Date Collected: 02/07/24 13:20
Date Received: 02/09/24 08:54
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/15/24 12:35*	*02/19/24 13:45*	*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			02/19/24 13:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/16/24 13:58	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	<50.5	U	50.5	mg/Kg		02/12/24 14:51	02/16/24 13:58	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/12/24 14:51	02/16/24 13:58	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/12/24 14:51	02/16/24 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*02/12/24 14:51*	*02/16/24 13:58*	*1*
o-Terphenyl	*100*		*70 - 130*	*02/12/24 14:51*	*02/16/24 13:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**70.7**		5.03	mg/Kg			02/12/24 19:21	1

Client Sample ID: BH 24 - 09 0'

Lab Sample ID: 890-6150-3
Matrix: Solid
Date Collected: 02/07/24 13:30
Date Received: 02/09/24 08:54
Sample Depth: 0'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/15/24 12:35	02/19/24 14:05	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/15/24 12:35	02/19/24 14:05	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/15/24 12:35	02/19/24 14:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/15/24 12:35	02/19/24 14:05	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/15/24 12:35	02/19/24 14:05	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/15/24 12:35	02/19/24 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*02/15/24 12:35*	*02/19/24 14:05*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*02/15/24 12:35*	*02/19/24 14:05*	*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			02/19/24 14:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			02/16/24 14:21	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 09 0'

Lab Sample ID: 890-6150-3
Matrix: Solid
Date Collected: 02/07/24 13:30
Date Received: 02/09/24 08:54
Sample Depth: 0'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/12/24 14:51	02/16/24 14:21	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/12/24 14:51	02/16/24 14:21	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/12/24 14:51	02/16/24 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*02/12/24 14:51*	*02/16/24 14:21*	*1*
o-Terphenyl	*107*		*70 - 130*	*02/12/24 14:51*	*02/16/24 14:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		4.99		mg/Kg			02/12/24 19:25	1

Client Sample ID: BH 24 - 09 0.5'

Lab Sample ID: 890-6150-4
Matrix: Solid
Date Collected: 02/07/24 13:40
Date Received: 02/09/24 08:54
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		02/15/24 12:35	02/19/24 14:26	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 14:26	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 14:26	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/15/24 12:35	02/19/24 14:26	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/15/24 12:35	02/19/24 14:26	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/15/24 12:35	02/19/24 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*02/15/24 12:35*	*02/19/24 14:26*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*02/15/24 12:35*	*02/19/24 14:26*	*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			02/19/24 14:26	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/16/24 15:05	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		02/12/24 14:51	02/16/24 15:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/12/24 14:51	02/16/24 15:05	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/12/24 14:51	02/16/24 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*02/12/24 14:51*	*02/16/24 15:05*	*1*
o-Terphenyl	*114*		*70 - 130*	*02/12/24 14:51*	*02/16/24 15:05*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 09 0.5'
Date Collected: 02/07/24 13:40
Date Received: 02/09/24 08:54
Sample Depth: 0.5'

Lab Sample ID: 890-6150-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.5		4.99		mg/Kg			02/12/24 19:30	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

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)
880-39150-A-1-C MS	Matrix Spike	107	104
880-39150-A-1-D MSD	Matrix Spike Duplicate	109	100
890-6150-1	BH 24 - 08 0'	102	104
890-6150-2	BH 24 - 08 0.5'	96	101
890-6150-3	BH 24 - 09 0'	100	105
890-6150-4	BH 24 - 09 0.5'	95	103
LCS 880-73256/1-A	Lab Control Sample	102	96
LCSD 880-73256/2-A	Lab Control Sample Dup	102	101
MB 880-73256/5-A	Method Blank	76	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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-6149-A-1-C MS	Matrix Spike	80	79
890-6149-A-1-D MSD	Matrix Spike Duplicate	79	77
890-6150-1	BH 24 - 08 0'	99	106
890-6150-2	BH 24 - 08 0.5'	94	100
890-6150-3	BH 24 - 09 0'	105	107
890-6150-4	BH 24 - 09 0.5'	108	114
LCS 880-72934/2-A	Lab Control Sample	94	99
LCSD 880-72934/3-A	Lab Control Sample Dup	94	99
MB 880-72934/1-A	Method Blank	235 S1+	266 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73256/5-A
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73256

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 11:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 11:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 11:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/15/24 12:35	02/19/24 11:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:35	02/19/24 11:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/15/24 12:35	02/19/24 11:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/15/24 12:35*	*02/19/24 11:18*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/15/24 12:35*	*02/19/24 11:18*	*1*

Lab Sample ID: LCS 880-73256/1-A
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73256

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1088		mg/Kg		109	70 - 130		
Toluene			0.100	0.08862		mg/Kg		89	70 - 130		
Ethylbenzene			0.100	0.09229		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1871		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09409		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-73256/2-A
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73256

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1244		mg/Kg		124	70 - 130	13	35
Toluene			0.100	0.09492		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.09559		mg/Kg		96	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1906		mg/Kg		95	70 - 130	2	35
o-Xylene			0.100	0.09616		mg/Kg		96	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 880-39150-A-1-C MS
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73256

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.100	0.09297		mg/Kg		93	70 - 130		
Toluene	<0.00199	U	0.100	0.07823		mg/Kg		78	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

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

Lab Sample ID: 880-39150-A-1-C MS
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73256

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.100	0.07720		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1558		mg/Kg		78	70 - 130
o-Xylene	<0.00199	U	0.100	0.07821		mg/Kg		78	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-39150-A-1-D MSD
Matrix: Solid
Analysis Batch: 73431

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73256

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.1063		mg/Kg		106	70 - 130	13	35
Toluene	<0.00199	U	0.101	0.08653		mg/Kg		86	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.101	0.08534		mg/Kg		85	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1708		mg/Kg		85	70 - 130	9	35
o-Xylene	<0.00199	U	0.101	0.08596		mg/Kg		85	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

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

Lab Sample ID: MB 880-72934/1-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72934

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		02/12/24 14:51	02/16/24 07:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/12/24 14:51	02/16/24 07:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/12/24 14:51	02/16/24 07:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*235*	*S1+*	*70 - 130*	*02/12/24 14:51*	*02/16/24 07:45*	*1*
o-Terphenyl	*266*	*S1+*	*70 - 130*	*02/12/24 14:51*	*02/16/24 07:45*	*1*

Lab Sample ID: LCS 880-72934/2-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72934

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	977.0		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)			1000	883.1		mg/Kg		88	70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

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

Lab Sample ID: LCS 880-72934/2-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72934

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: LCSD 880-72934/3-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72934

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	996.1		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	866.9		mg/Kg		87	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-6149-A-1-C MS
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72934

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	1148		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	52.9		1010	768.5		mg/Kg		71	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	79		70 - 130

Lab Sample ID: 890-6149-A-1-D MSD
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 72934

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	<49.6	U	1010	1248		mg/Kg		119	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	52.9		1010	769.2		mg/Kg		71	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	77		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72897/1-A
Matrix: Solid
Analysis Batch: 72942

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			02/12/24 18:53	1

Lab Sample ID: LCS 880-72897/2-A
Matrix: Solid
Analysis Batch: 72942

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	234.4		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-72897/3-A
Matrix: Solid
Analysis Batch: 72942

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	236.1		mg/Kg		94	90 - 110	1	20

Lab Sample ID: 890-6150-1 MS
Matrix: Solid
Analysis Batch: 72942

Client Sample ID: BH 24 - 08 0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	66.0		251	319.3		mg/Kg		101	90 - 110		

Lab Sample ID: 890-6150-1 MSD
Matrix: Solid
Analysis Batch: 72942

Client Sample ID: BH 24 - 08 0'
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	66.0		251	320.1		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

GC VOA

Prep Batch: 73256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	5035	
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	5035	
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	5035	
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	5035	
MB 880-73256/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73256/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73256/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-39150-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-39150-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 73431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	8021B	73256
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	8021B	73256
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	8021B	73256
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	8021B	73256
MB 880-73256/5-A	Method Blank	Total/NA	Solid	8021B	73256
LCS 880-73256/1-A	Lab Control Sample	Total/NA	Solid	8021B	73256
LCSD 880-73256/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73256
880-39150-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	73256
880-39150-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73256

Analysis Batch: 73615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	Total BTEX	
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	Total BTEX	
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	Total BTEX	
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	8015NM Prep	
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	8015NM Prep	
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	8015NM Prep	
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	8015NM Prep	
MB 880-72934/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72934/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72934/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6149-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-6149-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	8015B NM	72934
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	8015B NM	72934
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	8015B NM	72934
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	8015B NM	72934
MB 880-72934/1-A	Method Blank	Total/NA	Solid	8015B NM	72934
LCS 880-72934/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72934

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

GC Semi VOA (Continued)

Analysis Batch: 73312 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-72934/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72934
890-6149-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	72934
890-6149-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	72934

Analysis Batch: 73554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Total/NA	Solid	8015 NM	
890-6150-2	BH 24 - 08 0.5'	Total/NA	Solid	8015 NM	
890-6150-3	BH 24 - 09 0'	Total/NA	Solid	8015 NM	
890-6150-4	BH 24 - 09 0.5'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Soluble	Solid	DI Leach	
890-6150-2	BH 24 - 08 0.5'	Soluble	Solid	DI Leach	
890-6150-3	BH 24 - 09 0'	Soluble	Solid	DI Leach	
890-6150-4	BH 24 - 09 0.5'	Soluble	Solid	DI Leach	
MB 880-72897/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72897/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72897/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6150-1 MS	BH 24 - 08 0'	Soluble	Solid	DI Leach	
890-6150-1 MSD	BH 24 - 08 0'	Soluble	Solid	DI Leach	

Analysis Batch: 72942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6150-1	BH 24 - 08 0'	Soluble	Solid	300.0	72897
890-6150-2	BH 24 - 08 0.5'	Soluble	Solid	300.0	72897
890-6150-3	BH 24 - 09 0'	Soluble	Solid	300.0	72897
890-6150-4	BH 24 - 09 0.5'	Soluble	Solid	300.0	72897
MB 880-72897/1-A	Method Blank	Soluble	Solid	300.0	72897
LCS 880-72897/2-A	Lab Control Sample	Soluble	Solid	300.0	72897
LCSD 880-72897/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72897
890-6150-1 MS	BH 24 - 08 0'	Soluble	Solid	300.0	72897
890-6150-1 MSD	BH 24 - 08 0'	Soluble	Solid	300.0	72897

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 08 0'

Lab Sample ID: 890-6150-1
Matrix: Solid
Date Collected: 02/07/24 13:10
Date Received: 02/09/24 08:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	73256	02/15/24 12:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73431	02/19/24 13:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73615	02/19/24 13:24	MNR	EET MID
Total/NA	Analysis	8015 NM		1			73554	02/16/24 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 13:36	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	72897	02/12/24 12:49	SA	EET MID
Soluble	Analysis	300.0		1			72942	02/12/24 19:07	CH	EET MID

Client Sample ID: BH 24 - 08 0.5'

Lab Sample ID: 890-6150-2
Matrix: Solid
Date Collected: 02/07/24 13:20
Date Received: 02/09/24 08:54

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	73256	02/15/24 12:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73431	02/19/24 13:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73615	02/19/24 13:45	MNR	EET MID
Total/NA	Analysis	8015 NM		1			73554	02/16/24 13:58	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 13:58	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72897	02/12/24 12:49	SA	EET MID
Soluble	Analysis	300.0		1			72942	02/12/24 19:21	CH	EET MID

Client Sample ID: BH 24 - 09 0'

Lab Sample ID: 890-6150-3
Matrix: Solid
Date Collected: 02/07/24 13:30
Date Received: 02/09/24 08:54

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	73256	02/15/24 12:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73431	02/19/24 14:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73615	02/19/24 14:05	MNR	EET MID
Total/NA	Analysis	8015 NM		1			73554	02/16/24 14:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 14:21	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	72897	02/12/24 12:49	SA	EET MID
Soluble	Analysis	300.0		1			72942	02/12/24 19:25	CH	EET MID

Client Sample ID: BH 24 - 09 0.5'

Lab Sample ID: 890-6150-4
Matrix: Solid
Date Collected: 02/07/24 13:40
Date Received: 02/09/24 08:54

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	73256	02/15/24 12:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73431	02/19/24 14:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73615	02/19/24 14:26	MNR	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Client Sample ID: BH 24 - 09 0.5'
Date Collected: 02/07/24 13:40
Date Received: 02/09/24 08:54

Lab Sample ID: 890-6150-4
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			73554	02/16/24 15:05	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 15:05	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	72897	02/12/24 12:49	SA	EET MID
Soluble	Analysis	300.0		1			72942	02/12/24 19:30	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 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

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 342

Job ID: 890-6150-1
SDG: 023 - E - 06066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6150-1	BH 24 - 08 0'	Solid	02/07/24 13:10	02/09/24 08:54	0'
890-6150-2	BH 24 - 08 0.5'	Solid	02/07/24 13:20	02/09/24 08:54	0.5'
890-6150-3	BH 24 - 09 0'	Solid	02/07/24 13:30	02/09/24 08:54	0'
890-6150-4	BH 24 - 09 0.5'	Solid	02/07/24 13:40	02/09/24 08:54	0.5'

Napp 2334849922

Chain of Custody

eurofins | Environment Testing Xenco

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: 108159 1004

www.xenco.com Page 1 of 1

Project Manager:	Sally Carrthar XTO / Vertex	Bill to: (if different)	Garrett Green XTO
Company Name:		Company Name:	
Address:	Scarrthar@vertex.ca	Address:	on file
City, State ZIP:		City, State ZIP:	
Phone:	575 361 3561	Email:	Scarrthar@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:	PLV 342	Turn Around	
Project Number:	023E-06066	☒ Routine ☐ Rush	
Project Location:	PLV 342	Due Date:	
Sampler's Name:	Alexavan Costa	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:	TW may 7
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2
Total Containers:	6	Corrected Temperature:	3.0

ANALYSIS REQUEST

890-6150 Chain of Custody

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 (8021)	TPH (8015D)	Chloride (300.0)	Sample Comments
BH24-08	0'	Soil	02-7-23	13:10	0	G	4	X	X	X	
BH24-08	0.5'			13:20	0.5						
BH24-09	0'			13:30	0						
BH24-09	0.5			13:40	0.5						

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		8:54 2/9	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-6150-1
SDG Number: 023 - E - 06066

Login Number: 6150
List Number: 1
Creator: Bruns, Shannon

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	
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: 890-6150-1
SDG Number: 023 - E - 06066

Login Number: 6150
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/12/24 08:17 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 2/20/2024 12:03:50 PM

JOB DESCRIPTION

PLU 342
23 - 06066

JOB NUMBER

890-6149-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

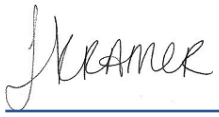
Eurofins Carlsbad

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
2/20/2024 12:03:50 PM

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

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 890-6149-1
SDG: 23 - 06066

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project: PLU 342

Job ID: 890-6149-1

Job ID: 890-6149-1 Eurofins Carlsbad

Job Narrative
890-6149-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/9/2024 8:54 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 3.0°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH 24 - 10 0' (890-6149-1), BH 24 - 10 1' (890-6149-2), BH 24 - 12 0' (890-6149-3), BH 24 - 12 0.5' (890-6149-4), BH 24 - 13 0' (890-6149-5) and BH 24 - 13 0.5' (890-6149-6).

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 880-72934 and analytical batch 880-73312 was outside the upper control limits.

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

HPLC/IC
Method 300_ORGFM_28D - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-72850 and analytical batch 880-72906 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.

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 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 10 0'

Lab Sample ID: 890-6149-1
Matrix: Solid
Date Collected: 02/08/24 10:00
Date Received: 02/09/24 08:54
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 02:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 02:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 02:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/15/24 15:04	02/20/24 02:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 02:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/15/24 15:04	02/20/24 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:06*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:06*	*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			02/20/24 02:06	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**52.9**		49.6		mg/Kg			02/16/24 10:18	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	<49.6	U	49.6		mg/Kg		02/12/24 14:51	02/16/24 10:18	1
Diesel Range Organics (Over C10-C28)	**52.9**		49.6		mg/Kg		02/12/24 14:51	02/16/24 10:18	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		02/12/24 14:51	02/16/24 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/12/24 14:51*	*02/16/24 10:18*	*1*
o-Terphenyl	*107*		*70 - 130*	*02/12/24 14:51*	*02/16/24 10:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4680**		49.8		mg/Kg			02/12/24 15:33	10

Client Sample ID: BH 24 - 10 1'

Lab Sample ID: 890-6149-2
Matrix: Solid
Date Collected: 02/08/24 10:10
Date Received: 02/09/24 08:54
Sample Depth: 1

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		02/15/24 15:04	02/20/24 02:27	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 02:27	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 02:27	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/15/24 15:04	02/20/24 02:27	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 02:27	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/15/24 15:04	02/20/24 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:27*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 10 1'

Lab Sample ID: 890-6149-2
Matrix: Solid
Date Collected: 02/08/24 10:10
Date Received: 02/09/24 08:54
Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:27*	*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			02/20/24 02:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/16/24 11:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/12/24 14:51	02/16/24 11:25	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/12/24 14:51	02/16/24 11:25	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/12/24 14:51	02/16/24 11:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*105*		*70 - 130*	*02/12/24 14:51*	*02/16/24 11:25*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/12/24 14:51*	*02/16/24 11:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**643**		5.02	mg/Kg			02/12/24 15:38	1

Client Sample ID: BH 24 - 12 0'

Lab Sample ID: 890-6149-3
Matrix: Solid
Date Collected: 02/08/24 10:40
Date Received: 02/09/24 08:54
Sample Depth: 0

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		02/15/24 15:04	02/20/24 02:47	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/15/24 15:04	02/20/24 02:47	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/15/24 15:04	02/20/24 02:47	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/15/24 15:04	02/20/24 02:47	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/15/24 15:04	02/20/24 02:47	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/15/24 15:04	02/20/24 02:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:47*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*02/15/24 15:04*	*02/20/24 02:47*	*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			02/20/24 02:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			02/16/24 11:47	1

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 12 0'

Lab Sample ID: 890-6149-3
Matrix: Solid
Date Collected: 02/08/24 10:40
Date Received: 02/09/24 08:54
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 11:47	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 11:47	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 11:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*02/12/24 14:51*	*02/16/24 11:47*	*1*
o-Terphenyl	*120*		*70 - 130*	*02/12/24 14:51*	*02/16/24 11:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**63.6**		5.04		mg/Kg			02/12/24 15:43	1

Client Sample ID: BH 24 - 12 0.5'

Lab Sample ID: 890-6149-4
Matrix: Solid
Date Collected: 02/08/24 10:50
Date Received: 02/09/24 08:54
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/15/24 15:04	02/20/24 03:08	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/15/24 15:04	02/20/24 03:08	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/15/24 15:04	02/20/24 03:08	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		02/15/24 15:04	02/20/24 03:08	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/15/24 15:04	02/20/24 03:08	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		02/15/24 15:04	02/20/24 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*02/15/24 15:04*	*02/20/24 03:08*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*02/15/24 15:04*	*02/20/24 03:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/20/24 03:08	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			02/16/24 12:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 12:09	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 12:09	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		02/12/24 14:51	02/16/24 12:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:09*	*1*
o-Terphenyl	*107*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:09*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 12 0.5'

Lab Sample ID: 890-6149-4
Matrix: Solid
Date Collected: 02/08/24 10:50
Date Received: 02/09/24 08:54
Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.6		5.01		mg/Kg			02/12/24 15:47	1

Client Sample ID: BH 24 - 13 0'

Lab Sample ID: 890-6149-5
Matrix: Solid
Date Collected: 02/08/24 11:00
Date Received: 02/09/24 08:54
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 04:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 04:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 04:58	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/15/24 15:04	02/20/24 04:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/20/24 04:58	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/15/24 15:04	02/20/24 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*02/15/24 15:04*	*02/20/24 04:58*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/15/24 15:04*	*02/20/24 04:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/20/24 04:58	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			02/16/24 12:31	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	<49.6	U	49.6		mg/Kg		02/12/24 14:51	02/16/24 12:31	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		02/12/24 14:51	02/16/24 12:31	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		02/12/24 14:51	02/16/24 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:31*	*1*
o-Terphenyl	*125*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66.0		5.01		mg/Kg			02/12/24 15:52	1

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 13 0.5'

Date Collected: 02/08/24 11:10
Date Received: 02/09/24 08:54
Sample Depth: 0.5

Lab Sample ID: 890-6149-6

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		02/15/24 15:04	02/20/24 05:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 05:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 05:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/15/24 15:04	02/20/24 05:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/15/24 15:04	02/20/24 05:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/15/24 15:04	02/20/24 05:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*02/15/24 15:04*	*02/20/24 05:18*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*02/15/24 15:04*	*02/20/24 05:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/20/24 05:18	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			02/16/24 12:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		02/12/24 14:51	02/16/24 12:53	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		02/12/24 14:51	02/16/24 12:53	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		02/12/24 14:51	02/16/24 12:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:53*	*1*
o-Terphenyl	*125*		*70 - 130*	*02/12/24 14:51*	*02/16/24 12:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.2**		5.03		mg/Kg			02/12/24 15:56	1

Surrogate Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

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)
890-6143-A-1-E MS	Matrix Spike	116	99
890-6143-A-1-F MSD	Matrix Spike Duplicate	116	97
890-6149-1	BH 24 - 10 0'	127	105
890-6149-2	BH 24 - 10 1'	126	106
890-6149-3	BH 24 - 12 0'	118	103
890-6149-4	BH 24 - 12 0.5'	117	103
890-6149-5	BH 24 - 13 0'	99	100
890-6149-6	BH 24 - 13 0.5'	108	110
LCS 880-73277/1-A	Lab Control Sample	105	102
LCSD 880-73277/2-A	Lab Control Sample Dup	103	97
MB 880-73254/5-A	Method Blank	128	119
MB 880-73277/5-A	Method Blank	130	118

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)
890-6149-1	BH 24 - 10 0'	97	107
890-6149-1 MS	BH 24 - 10 0'	80	79
890-6149-1 MSD	BH 24 - 10 0'	79	77
890-6149-2	BH 24 - 10 1'	105	110
890-6149-3	BH 24 - 12 0'	114	120
890-6149-4	BH 24 - 12 0.5'	100	107
890-6149-5	BH 24 - 13 0'	117	125
890-6149-6	BH 24 - 13 0.5'	118	125
LCS 880-72934/2-A	Lab Control Sample	94	99
LCSD 880-72934/3-A	Lab Control Sample Dup	94	99
MB 880-72934/1-A	Method Blank	235 S1+	266 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73254/5-A
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73254

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:30	02/19/24 11:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:30	02/19/24 11:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:30	02/19/24 11:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/15/24 12:30	02/19/24 11:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 12:30	02/19/24 11:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/15/24 12:30	02/19/24 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*02/15/24 12:30*	*02/19/24 11:56*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*02/15/24 12:30*	*02/19/24 11:56*	*1*

Lab Sample ID: MB 880-73277/5-A
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73277

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/19/24 23:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/19/24 23:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/19/24 23:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/15/24 15:04	02/19/24 23:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/15/24 15:04	02/19/24 23:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/15/24 15:04	02/19/24 23:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*02/15/24 15:04*	*02/19/24 23:35*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*02/15/24 15:04*	*02/19/24 23:35*	*1*

Lab Sample ID: LCS 880-73277/1-A
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73277

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1135		mg/Kg		113	70 - 130		
Toluene			0.100	0.1013		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.1133		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2121		mg/Kg		106	70 - 130		
o-Xylene			0.100	0.1034		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-73277/2-A
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1122		mg/Kg		112	70 - 130	1	35

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

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

Lab Sample ID: LCSD 880-73277/2-A
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1014		mg/Kg		101	70 - 130	0	35
Ethylbenzene			0.100	0.1118		mg/Kg		112	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2009		mg/Kg		100	70 - 130	5	35
o-Xylene			0.100	0.09643		mg/Kg		96	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-6143-A-1-E MS
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73277

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.100	0.1042		mg/Kg		104	70 - 130
Toluene	<0.00199	U	0.100	0.09708		mg/Kg		96	70 - 130
Ethylbenzene	<0.00199	U	0.100	0.1075		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2091		mg/Kg		104	70 - 130
o-Xylene	<0.00199	U	0.100	0.1096		mg/Kg		109	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-6143-A-1-F MSD
Matrix: Solid
Analysis Batch: 73429

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73277

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.101	0.1057		mg/Kg		105	70 - 130	1	35
Toluene	<0.00199	U	0.101	0.1028		mg/Kg		102	70 - 130	6	35
Ethylbenzene	<0.00199	U	0.101	0.1106		mg/Kg		110	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.2262		mg/Kg		112	70 - 130	8	35
o-Xylene	<0.00199	U	0.101	0.1090		mg/Kg		108	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

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

Lab Sample ID: MB 880-72934/1-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72934

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		02/12/24 14:51	02/16/24 07:45	1

Eurofins Carlsbad

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

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

Lab Sample ID: MB 880-72934/1-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72934

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		02/12/24 14:51	02/16/24 07:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/12/24 14:51	02/16/24 07:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*235*	*S1+*	*70 - 130*	*02/12/24 14:51*	*02/16/24 07:45*	*1*
o-Terphenyl	*266*	*S1+*	*70 - 130*	*02/12/24 14:51*	*02/16/24 07:45*	*1*

Lab Sample ID: LCS 880-72934/2-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72934

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	977.0		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	883.1		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-72934/3-A
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72934

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	996.1		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	866.9		mg/Kg		87	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: 890-6149-1 MS
Matrix: Solid
Analysis Batch: 73312

Client Sample ID: BH 24 - 10 0'
Prep Type: Total/NA
Prep Batch: 72934

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	1148		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	52.9		1010	768.5		mg/Kg		71	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

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

Lab Sample ID: 890-6149-1 MSD — **Client Sample ID: BH 24 - 10 0'**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 73312 — **Prep Batch: 72934**

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	<49.6	U	1010	1248		mg/Kg		119	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	52.9		1010	769.2		mg/Kg		71	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*79*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72850/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72906

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/12/24 13:37	1

Lab Sample ID: LCS 880-72850/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72906

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.0		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-72850/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72906

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	234.9		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 890-6143-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	86.6		251	335.6		mg/Kg		99	90 - 110		

Lab Sample ID: 890-6143-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 72906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	86.6		251	337.8		mg/Kg		100	90 - 110	1	20

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-6145-A-5-B MS
Matrix: Solid
Analysis Batch: 72906

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	674	F1	2520	2869	F1	mg/Kg		87	90 - 110		

Lab Sample ID: 890-6145-A-5-C MSD
Matrix: Solid
Analysis Batch: 72906

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	674	F1	2520	2875	F1	mg/Kg		88	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

GC VOA

Prep Batch: 73254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73254/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 73277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	5035	
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	5035	
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	5035	
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	5035	
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	5035	
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	5035	
MB 880-73277/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73277/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73277/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6143-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-6143-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 73429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	8021B	73277
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	8021B	73277
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	8021B	73277
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	8021B	73277
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	8021B	73277
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	8021B	73277
MB 880-73254/5-A	Method Blank	Total/NA	Solid	8021B	73254
MB 880-73277/5-A	Method Blank	Total/NA	Solid	8021B	73277
LCS 880-73277/1-A	Lab Control Sample	Total/NA	Solid	8021B	73277
LCSD 880-73277/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73277
890-6143-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	73277
890-6143-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73277

Analysis Batch: 73678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	Total BTEX	
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	Total BTEX	
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	Total BTEX	
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	Total BTEX	
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	Total BTEX	
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	8015NM Prep	
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	8015NM Prep	
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	8015NM Prep	
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	8015NM Prep	
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	8015NM Prep	
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	8015NM Prep	
MB 880-72934/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

GC Semi VOA (Continued)

Prep Batch: 72934 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-72934/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72934/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6149-1 MS	BH 24 - 10 0'	Total/NA	Solid	8015NM Prep	
890-6149-1 MSD	BH 24 - 10 0'	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	8015B NM	72934
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	8015B NM	72934
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	8015B NM	72934
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	8015B NM	72934
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	8015B NM	72934
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	8015B NM	72934
MB 880-72934/1-A	Method Blank	Total/NA	Solid	8015B NM	72934
LCS 880-72934/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72934
LCSD 880-72934/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72934
890-6149-1 MS	BH 24 - 10 0'	Total/NA	Solid	8015B NM	72934
890-6149-1 MSD	BH 24 - 10 0'	Total/NA	Solid	8015B NM	72934

Analysis Batch: 73553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Total/NA	Solid	8015 NM	
890-6149-2	BH 24 - 10 1'	Total/NA	Solid	8015 NM	
890-6149-3	BH 24 - 12 0'	Total/NA	Solid	8015 NM	
890-6149-4	BH 24 - 12 0.5'	Total/NA	Solid	8015 NM	
890-6149-5	BH 24 - 13 0'	Total/NA	Solid	8015 NM	
890-6149-6	BH 24 - 13 0.5'	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Soluble	Solid	DI Leach	
890-6149-2	BH 24 - 10 1'	Soluble	Solid	DI Leach	
890-6149-3	BH 24 - 12 0'	Soluble	Solid	DI Leach	
890-6149-4	BH 24 - 12 0.5'	Soluble	Solid	DI Leach	
890-6149-5	BH 24 - 13 0'	Soluble	Solid	DI Leach	
890-6149-6	BH 24 - 13 0.5'	Soluble	Solid	DI Leach	
MB 880-72850/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72850/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72850/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6143-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6143-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-6145-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6145-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 72906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-1	BH 24 - 10 0'	Soluble	Solid	300.0	72850
890-6149-2	BH 24 - 10 1'	Soluble	Solid	300.0	72850
890-6149-3	BH 24 - 12 0'	Soluble	Solid	300.0	72850

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

HPLC/IC (Continued)

Analysis Batch: 72906 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6149-4	BH 24 - 12 0.5'	Soluble	Solid	300.0	72850
890-6149-5	BH 24 - 13 0'	Soluble	Solid	300.0	72850
890-6149-6	BH 24 - 13 0.5'	Soluble	Solid	300.0	72850
MB 880-72850/1-A	Method Blank	Soluble	Solid	300.0	72850
LCS 880-72850/2-A	Lab Control Sample	Soluble	Solid	300.0	72850
LCSD 880-72850/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72850
890-6143-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	72850
890-6143-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	72850
890-6145-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	72850
890-6145-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	72850

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 10 0'
Lab Sample ID: 890-6149-1
Date Collected: 02/08/24 10:00
Matrix: Solid
Date Received: 02/09/24 08:54

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	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 02:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 02:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			73553	02/16/24 10:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 10:18	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		10			72906	02/12/24 15:33	CH	EET MID

Client Sample ID: BH 24 - 10 1'
Lab Sample ID: 890-6149-2
Date Collected: 02/08/24 10:10
Matrix: Solid
Date Received: 02/09/24 08:54

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	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 02:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 02:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			73553	02/16/24 11:25	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 11:25	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		1			72906	02/12/24 15:38	CH	EET MID

Client Sample ID: BH 24 - 12 0'
Lab Sample ID: 890-6149-3
Date Collected: 02/08/24 10:40
Matrix: Solid
Date Received: 02/09/24 08:54

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	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 02:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 02:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			73553	02/16/24 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 11:47	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		1			72906	02/12/24 15:43	CH	EET MID

Client Sample ID: BH 24 - 12 0.5'
Lab Sample ID: 890-6149-4
Date Collected: 02/08/24 10:50
Matrix: Solid
Date Received: 02/09/24 08:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 03:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 03:08	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

Client Sample ID: BH 24 - 12 0.5'

Lab Sample ID: 890-6149-4
Matrix: Solid
Date Collected: 02/08/24 10:50
Date Received: 02/09/24 08:54

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			73553	02/16/24 12:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 12:09	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		1			72906	02/12/24 15:47	CH	EET MID

Client Sample ID: BH 24 - 13 0'

Lab Sample ID: 890-6149-5
Matrix: Solid
Date Collected: 02/08/24 11:00
Date Received: 02/09/24 08:54

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	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 04:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 04:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			73553	02/16/24 12:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 12:31	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		1			72906	02/12/24 15:52	CH	EET MID

Client Sample ID: BH 24 - 13 0.5'

Lab Sample ID: 890-6149-6
Matrix: Solid
Date Collected: 02/08/24 11:10
Date Received: 02/09/24 08:54

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	73277	02/15/24 15:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73429	02/20/24 05:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73678	02/20/24 05:18	SM	EET MID
Total/NA	Analysis	8015 NM		1			73553	02/16/24 12:53	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	72934	02/12/24 14:51	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73312	02/16/24 12:53	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72850	02/12/24 10:30	SA	EET MID
Soluble	Analysis	300.0		1			72906	02/12/24 15:56	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 342

Job ID: 890-6149-1
SDG: 23 - 06066

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 890-6149-1
SDG: 23 - 06066

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 342

Job ID: 890-6149-1
SDG: 23 - 06066

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6149-1	BH 24 - 10 0'	Solid	02/08/24 10:00	02/09/24 08:54	0
890-6149-2	BH 24 - 10 1'	Solid	02/08/24 10:10	02/09/24 08:54	1
890-6149-3	BH 24 - 12 0'	Solid	02/08/24 10:40	02/09/24 08:54	0
890-6149-4	BH 24 - 12 0.5'	Solid	02/08/24 10:50	02/09/24 08:54	0.5
890-6149-5	BH 24 - 13 0'	Solid	02/08/24 11:00	02/09/24 08:54	0
890-6149-6	BH 24 - 13 0.5'	Solid	02/08/24 11:10	02/09/24 08:54	0.5

nAPP 2334849928

Chain of Custody

eurofins | Environment Testing Xenco

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: 108159001

www.xenco.com Page 1 of 1

Project Manager:	Sally Lanthan	Bill to: (if different)	Garrett Green
Company Name:	Ensolum / XTO	Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	575 361 3561	Email:	

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 342	Turn Around	
Project Number:	23-06066	☑ Routine ☐ Rush	
Project Location:	PLU 342	Due Date:	
Sampler's Name:	Heusavon Costa	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	108159001		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWN0013
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	7.2
Total Containers:		Corrected Temperature:	7.0

ANALYSIS REQUEST

890-6149 Chain of Custody

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 (8021)	TPH (8015)	Cl	Sample Comments
BH24-10	0'	Soil	2-8-23	10:00	0						
BH24-10	1'			10:10	1						
BH24-12	0'			10:40	0						
BH24-12	0.5'			10:50	0.5						
BH24-13	0'			11:00	0						
BH24-13	0.5'	↓	↓	11:10	0.5		↓	↓	↓	↓	

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		8:54 2/2	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-6149-1
SDG Number: 23 - 06066

Login Number: 6149
List Number: 1
Creator: Bruns, Shannon

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: 890-6149-1
SDG Number: 23 - 06066

Login Number: 6149
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/12/24 08:17 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: Ms. Sally Carter
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 3/26/2024 9:39:58 PM

JOB DESCRIPTION

XTO PLU 342

JOB NUMBER

885-1475-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
3/26/2024 9:39:58 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: XTO PLU 342

Laboratory Job ID: 885-1475-1

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: XTO PLU 342

Job ID: 885-1475-1

Job ID: 885-1475-1 Eurofins Albuquerque

Job Narrative
885-1475-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 3/20/2024 8:00 AM. 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 0.3°C.

GC VOA
Method 8021B: The method blank for preparation batch 880-76266 and analytical batch 880-76263 contained Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples 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 880-76189 and analytical batch 880-76256 was outside the upper control limits.

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

HPLC/IC
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: XTO PLU 342

Job ID: 885-1475-1

Client Sample ID: BH24-03 0'
Date Collected: 03/15/24 10:30
Date Received: 03/20/24 08:00

Lab Sample ID: 885-1475-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg		03/21/24 16:32	03/23/24 03:23	1
Toluene	ND		0.0020		mg/Kg		03/21/24 16:32	03/23/24 03:23	1
Ethylbenzene	ND		0.0020		mg/Kg		03/21/24 16:32	03/23/24 03:23	1
Xylenes, Total	ND		0.0040		mg/Kg		03/21/24 16:32	03/23/24 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*03/21/24 16:32*	*03/23/24 03:23*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*03/21/24 16:32*	*03/23/24 03:23*	*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	ND		50		mg/Kg		03/21/24 10:51	03/22/24 17:08	1
Diesel Range Organics (Over C10-C28)	ND		50		mg/Kg		03/21/24 10:51	03/22/24 17:08	1
Oll Range Organics (Over C28-C36)	ND		50		mg/Kg		03/21/24 10:51	03/22/24 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*03/21/24 10:51*	*03/22/24 17:08*	*1*
o-Terphenyl	*83*		*70 - 130*	*03/21/24 10:51*	*03/22/24 17:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73**		5.0		mg/Kg			03/21/24 16:17	1

QC Sample Results

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-76244/5-A
Matrix: Solid
Analysis Batch: 76263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 76244

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg		03/21/24 16:32	03/22/24 22:14	1
Toluene	ND		0.0020		mg/Kg		03/21/24 16:32	03/22/24 22:14	1
Ethylbenzene	ND		0.0020		mg/Kg		03/21/24 16:32	03/22/24 22:14	1
Xylenes, Total	ND		0.0040		mg/Kg		03/21/24 16:32	03/22/24 22:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*03/21/24 16:32*	*03/22/24 22:14*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*03/21/24 16:32*	*03/22/24 22:14*	*1*

Lab Sample ID: LCS 880-76244/1-A
Matrix: Solid
Analysis Batch: 76263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 76244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.0910		mg/Kg		91	70 - 130		
Toluene			0.100	0.0936		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.105		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.207		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.102		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: LCSD 880-76244/2-A
Matrix: Solid
Analysis Batch: 76263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 76244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.0943		mg/Kg		94	70 - 130	4	35
Toluene			0.100	0.0945		mg/Kg		95	70 - 130	1	35
Ethylbenzene			0.100	0.106		mg/Kg		106	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.214		mg/Kg		107	70 - 130	3	35
o-Xylene			0.100	0.106		mg/Kg		106	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: MB 880-76266/5-A
Matrix: Solid
Analysis Batch: 76263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 76266

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg		03/22/24 09:04	03/22/24 11:39	1
Toluene	ND		0.0020		mg/Kg		03/22/24 09:04	03/22/24 11:39	1
Ethylbenzene	ND		0.0020		mg/Kg		03/22/24 09:04	03/22/24 11:39	1
Xylenes, Total	ND		0.0040		mg/Kg		03/22/24 09:04	03/22/24 11:39	1

QC Sample Results

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*03/22/24 09:04*	*03/22/24 11:39*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/22/24 09:04*	*03/22/24 11:39*	*1*

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

Lab Sample ID: MB 880-76189/1-A
Matrix: Solid
Analysis Batch: 76256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 76189

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		50		mg/Kg		03/21/24 10:51	03/22/24 07:39	1
Diesel Range Organics (Over C10-C28)	ND		50		mg/Kg		03/21/24 10:51	03/22/24 07:39	1
Oil Range Organics (Over C28-C36)	ND		50		mg/Kg		03/21/24 10:51	03/22/24 07:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*175*	*S1+*	*70 - 130*	*03/21/24 10:51*	*03/22/24 07:39*	*1*
o-Terphenyl	*188*	*S1+*	*70 - 130*	*03/21/24 10:51*	*03/22/24 07:39*	*1*

Lab Sample ID: LCS 880-76189/2-A
Matrix: Solid
Analysis Batch: 76256

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 76189

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1080		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1010		mg/Kg		101	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: LCSD 880-76189/3-A
Matrix: Solid
Analysis Batch: 76256

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 76189

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1160		mg/Kg		116	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	1020		mg/Kg		102	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*124*		*70 - 130*

QC Sample Results

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-76153/1-A
Matrix: Solid
Analysis Batch: 76212

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		5.0		mg/Kg			03/21/24 13:52	1

Lab Sample ID: LCS 880-76153/2-A
Matrix: Solid
Analysis Batch: 76212

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	239		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-76153/3-A
Matrix: Solid
Analysis Batch: 76212

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	238		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

GC VOA

Prep Batch: 76244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Total/NA	Solid	5035	
MB 880-76244/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-76244/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-76244/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 76263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Total/NA	Solid	8021B	76244
MB 880-76244/5-A	Method Blank	Total/NA	Solid	8021B	76244
MB 880-76266/5-A	Method Blank	Total/NA	Solid	8021B	76266
LCS 880-76244/1-A	Lab Control Sample	Total/NA	Solid	8021B	76244
LCSD 880-76244/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	76244

Prep Batch: 76266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-76266/5-A	Method Blank	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 76189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Total/NA	Solid	8015NM Prep	
MB 880-76189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-76189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-76189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 76256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Total/NA	Solid	8015B NM	76189
MB 880-76189/1-A	Method Blank	Total/NA	Solid	8015B NM	76189
LCS 880-76189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	76189
LCSD 880-76189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	76189

HPLC/IC

Leach Batch: 76153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Soluble	Solid	DI Leach	
MB 880-76153/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-76153/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-76153/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 76212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-1475-1	BH24-03 0'	Soluble	Solid	300.0	76153
MB 880-76153/1-A	Method Blank	Soluble	Solid	300.0	76153
LCS 880-76153/2-A	Lab Control Sample	Soluble	Solid	300.0	76153
LCSD 880-76153/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	76153

Lab Chronicle

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Client Sample ID: BH24-03 0'
Date Collected: 03/15/24 10:30
Date Received: 03/20/24 08:00

Lab Sample ID: 885-1475-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			76244	MNR	EET MID	03/21/24 16:32
Total/NA	Analysis	8021B		1	76263	MNR	EET MID	03/23/24 03:23
Total/NA	Prep	8015NM Prep			76189	TKC	EET MID	03/21/24 10:51
Total/NA	Analysis	8015B NM		1	76256	SM	EET MID	03/22/24 17:08
Soluble	Leach	DI Leach			76153	SA	EET MID	03/21/24 08:27
Soluble	Analysis	300.0		1	76212	SMC	EET MID	03/21/24 16:17

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

Accreditation/Certification Summary

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

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

Method Summary

Client: Vertex
Project/Site: XTO PLU 342

Job ID: 885-1475-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

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

eurofins Environment Testing Xenco

CC: SCattar@vertex.ca for Final Report

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

885-1475 COC

REMARKS: Direct Bill to XTO Energy, Inc., Cost Center #: 1081591001, Incident #: nAPP2334849928 CC.Sally Cattar (scattar@vertex.ca) for Final Report.

www.xenco.com Page 1 of 1

Project Manager	Sally Cattar (SCattar@vertex.ca)	Bill to (if different)	XTO Energy, Inc.
Company Name	Vertex Resource Services	Company Name	XTO Energy, Inc.
Address	3101 Boyd Drive	Address	3104 E. Greene St
City, State ZIP	Carlsbad NM, 88220	City, State ZIP	Carlsbad NM, 88220
Phone	575.725.5001	Email	CC: scattar@vertex.ca for Final Report
Project Name	XTO PLU 342	Turn Around	
Project Number	23E-06066	Routine / Rush	
Project Location		Due Date	5 DAY
Sampler's Name	Deusavan Costa	TAT starts the day received by the lab, if received by 4:30pm	
PO #			

Work Order Comments

Program: UST/PST PRP Brownfields RR Superfund

State of Project:

Reporting: Level II Level III PST/UST TRR Level

Deliverables: EDD ADaPT Other

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; $Na_2S_2O_3$: NaSO3; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth (ft)	Grab/ Comp	# of Cont	BTEX (8021)	TPH:8015D(GRO / DRO / MRO)	Chloride	Sample Comments
BH24-03 0	Soil	03.15.24	10:30	0	Grab		X	X	X	

Parameters

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		3/19/24, 9:30	2		3/20/24 0800
3			4		
5			6		

6.3-0=0.3

Yogi

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-1475-1

Login Number: 1475 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Proctor, Nancy

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").	True	

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-1475-1

Login Number: 1475
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/21/24 10:45 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: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 5/24/2024 11:09:02 AM

JOB DESCRIPTION

PLU 342

JOB NUMBER

885-4188-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
5/24/2024 11:09:02 AM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 885-4188-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-4188-1
Project/Site: PLU 342

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: PLU 342

Job ID: 885-4188-1

Job ID: 885-4188-1 Eurofins Albuquerque

Job Narrative
885-4188-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/9/2024 7:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C.

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

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

Diesel Range Organics
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 342

Job ID: 885-4188-1

Client Sample ID: BH24-02 2'

Date Collected: 05/07/24 09:45
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-1

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/09/24 15:25	05/10/24 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/09/24 15:25*	*05/10/24 22:32*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/09/24 15:25	05/10/24 22:32	1
Ethylbenzene	ND		0.050		mg/Kg		05/09/24 15:25	05/10/24 22:32	1
Toluene	ND		0.050		mg/Kg		05/09/24 15:25	05/10/24 22:32	1
Xylenes, Total	ND		0.099		mg/Kg		05/09/24 15:25	05/10/24 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*05/09/24 15:25*	*05/10/24 22:32*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.5		mg/Kg		05/10/24 08:59	05/10/24 11:41	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/10/24 08:59	05/10/24 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*05/10/24 08:59*	*05/10/24 11:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 08:04	05/10/24 17:22	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Client Sample ID: BH24-02 4'

Date Collected: 05/07/24 09:50
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-2

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.8		mg/Kg		05/09/24 15:25	05/10/24 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*05/09/24 15:25*	*05/10/24 23:42*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/09/24 15:25	05/10/24 23:42	1
Ethylbenzene	ND		0.048		mg/Kg		05/09/24 15:25	05/10/24 23:42	1
Toluene	ND		0.048		mg/Kg		05/09/24 15:25	05/10/24 23:42	1
Xylenes, Total	ND		0.096		mg/Kg		05/09/24 15:25	05/10/24 23:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*05/09/24 15:25*	*05/10/24 23:42*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		05/10/24 08:59	05/10/24 11:52	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/10/24 08:59	05/10/24 11:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*	*05/10/24 08:59*	*05/10/24 11:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 08:04	05/10/24 17:38	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Client Sample ID: BH24-10 2'

Date Collected: 05/07/24 10:00
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-3

Matrix: Solid

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.7		mg/Kg		05/09/24 15:25	05/11/24 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*05/09/24 15:25*	*05/11/24 00:52*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/09/24 15:25	05/11/24 00:52	1
Ethylbenzene	ND		0.047		mg/Kg		05/09/24 15:25	05/11/24 00:52	1
Toluene	ND		0.047		mg/Kg		05/09/24 15:25	05/11/24 00:52	1
Xylenes, Total	ND		0.094		mg/Kg		05/09/24 15:25	05/11/24 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*05/09/24 15:25*	*05/11/24 00:52*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		05/10/24 08:59	05/10/24 12:02	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		05/10/24 08:59	05/10/24 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*	*05/10/24 08:59*	*05/10/24 12:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		05/10/24 08:04	05/10/24 18:23	20

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-4694/1-A
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4694

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		5.0		mg/Kg		05/09/24 15:25	05/10/24 11:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*05/09/24 15:25*	*05/10/24 11:35*	*1*

Lab Sample ID: LCS 885-4694/2-A
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]			25.0	23.2		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*198*	*S1+*	*35 - 166*

Lab Sample ID: 885-4188-1 MS
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: BH24-02 2'
Prep Type: Total/NA
Prep Batch: 4694

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics [C6 - C10]	ND		24.6	25.8		mg/Kg		105	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*217*	*S1+*	*35 - 166*

Lab Sample ID: 885-4188-1 MSD
Matrix: Solid
Analysis Batch: 4841

Client Sample ID: BH24-02 2'
Prep Type: Total/NA
Prep Batch: 4694

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics [C6 - C10]	ND		24.6	25.3		mg/Kg		103	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*212*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-4694/1-A
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4694

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/09/24 15:25	05/10/24 11:35	1
Ethylbenzene	ND		0.050		mg/Kg		05/09/24 15:25	05/10/24 11:35	1
Toluene	ND		0.050		mg/Kg		05/09/24 15:25	05/10/24 11:35	1

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

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

Lab Sample ID: MB 885-4694/1-A
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4694

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		05/09/24 15:25	05/10/24 11:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*	*05/09/24 15:25*	*05/10/24 11:35*	*1*

Lab Sample ID: LCS 885-4694/3-A
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.958		mg/Kg		96	70 - 130		
Ethylbenzene			1.00	0.923		mg/Kg		92	70 - 130		
m,p-Xylene			2.00	1.89		mg/Kg		95	70 - 130		
o-Xylene			1.00	0.925		mg/Kg		92	70 - 130		
Toluene			1.00	0.912		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*48 - 145*

Lab Sample ID: 885-4188-2 MS
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: BH24-02 4'
Prep Type: Total/NA
Prep Batch: 4694

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.956	0.921		mg/Kg		96	70 - 130		
Ethylbenzene	ND		0.956	0.902		mg/Kg		94	70 - 130		
m,p-Xylene	ND		1.91	1.83		mg/Kg		95	70 - 130		
o-Xylene	ND		0.956	0.904		mg/Kg		95	70 - 130		
Toluene	ND		0.956	0.891		mg/Kg		93	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*

Lab Sample ID: 885-4188-2 MSD
Matrix: Solid
Analysis Batch: 4843

Client Sample ID: BH24-02 4'
Prep Type: Total/NA
Prep Batch: 4694

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.968	0.970		mg/Kg		100	70 - 130	5	20
Ethylbenzene	ND		0.968	0.959		mg/Kg		99	70 - 130	6	20
m,p-Xylene	ND		1.94	1.93		mg/Kg		99	70 - 130	5	20
o-Xylene	ND		0.968	0.955		mg/Kg		99	70 - 130	6	20
Toluene	ND		0.968	0.928		mg/Kg		96	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-4729/1-A
Matrix: Solid
Analysis Batch: 4816

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4729

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/10/24 08:59	05/10/24 11:09	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/10/24 08:59	05/10/24 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*05/10/24 08:59*	*05/10/24 11:09*	*1*

Lab Sample ID: LCS 885-4729/2-A
Matrix: Solid
Analysis Batch: 4816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4729

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	45.6		mg/Kg		91	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-4723/1-A
Matrix: Solid
Analysis Batch: 4796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 4723

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		05/10/24 08:04	05/10/24 10:32	1

Lab Sample ID: LCS 885-4723/2-A
Matrix: Solid
Analysis Batch: 4796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 4723

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.2		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

GC VOA

Prep Batch: 4694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	5030C	
885-4188-2	BH24-02 4'	Total/NA	Solid	5030C	
885-4188-3	BH24-10 2'	Total/NA	Solid	5030C	
MB 885-4694/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-4694/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-4694/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-4188-1 MS	BH24-02 2'	Total/NA	Solid	5030C	
885-4188-1 MSD	BH24-02 2'	Total/NA	Solid	5030C	
885-4188-2 MS	BH24-02 4'	Total/NA	Solid	5030C	
885-4188-2 MSD	BH24-02 4'	Total/NA	Solid	5030C	

Analysis Batch: 4841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	8015D	4694
885-4188-2	BH24-02 4'	Total/NA	Solid	8015D	4694
885-4188-3	BH24-10 2'	Total/NA	Solid	8015D	4694
MB 885-4694/1-A	Method Blank	Total/NA	Solid	8015D	4694
LCS 885-4694/2-A	Lab Control Sample	Total/NA	Solid	8015D	4694
885-4188-1 MS	BH24-02 2'	Total/NA	Solid	8015D	4694
885-4188-1 MSD	BH24-02 2'	Total/NA	Solid	8015D	4694

Analysis Batch: 4843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	8021B	4694
885-4188-2	BH24-02 4'	Total/NA	Solid	8021B	4694
885-4188-3	BH24-10 2'	Total/NA	Solid	8021B	4694
MB 885-4694/1-A	Method Blank	Total/NA	Solid	8021B	4694
LCS 885-4694/3-A	Lab Control Sample	Total/NA	Solid	8021B	4694
885-4188-2 MS	BH24-02 4'	Total/NA	Solid	8021B	4694
885-4188-2 MSD	BH24-02 4'	Total/NA	Solid	8021B	4694

GC Semi VOA

Prep Batch: 4729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	SHAKE	
885-4188-2	BH24-02 4'	Total/NA	Solid	SHAKE	
885-4188-3	BH24-10 2'	Total/NA	Solid	SHAKE	
MB 885-4729/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-4729/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 4816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	8015D	4729
885-4188-2	BH24-02 4'	Total/NA	Solid	8015D	4729
885-4188-3	BH24-10 2'	Total/NA	Solid	8015D	4729
MB 885-4729/1-A	Method Blank	Total/NA	Solid	8015D	4729
LCS 885-4729/2-A	Lab Control Sample	Total/NA	Solid	8015D	4729

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

HPLC/IC

Prep Batch: 4723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	300_Prep	
885-4188-2	BH24-02 4'	Total/NA	Solid	300_Prep	
885-4188-3	BH24-10 2'	Total/NA	Solid	300_Prep	
MB 885-4723/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-4723/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 4796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4188-1	BH24-02 2'	Total/NA	Solid	300.0	4723
885-4188-2	BH24-02 4'	Total/NA	Solid	300.0	4723
885-4188-3	BH24-10 2'	Total/NA	Solid	300.0	4723
MB 885-4723/1-A	Method Blank	Total/NA	Solid	300.0	4723
LCS 885-4723/2-A	Lab Control Sample	Total/NA	Solid	300.0	4723

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Client Sample ID: BH24-02 2'
Date Collected: 05/07/24 09:45
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/10/24 22:32
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/10/24 22:32
Total/NA	Prep	SHAKE			4729	JU	EET ALB	05/10/24 08:59
Total/NA	Analysis	8015D		1	4816	JU	EET ALB	05/10/24 11:41
Total/NA	Prep	300_Prep			4723	JT	EET ALB	05/10/24 08:04
Total/NA	Analysis	300.0		20	4796	RC	EET ALB	05/10/24 17:22

Client Sample ID: BH24-02 4'
Date Collected: 05/07/24 09:50
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/10/24 23:42
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/10/24 23:42
Total/NA	Prep	SHAKE			4729	JU	EET ALB	05/10/24 08:59
Total/NA	Analysis	8015D		1	4816	JU	EET ALB	05/10/24 11:52
Total/NA	Prep	300_Prep			4723	JT	EET ALB	05/10/24 08:04
Total/NA	Analysis	300.0		20	4796	RC	EET ALB	05/10/24 17:38

Client Sample ID: BH24-10 2'
Date Collected: 05/07/24 10:00
Date Received: 05/09/24 07:45

Lab Sample ID: 885-4188-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8015D		1	4841	JP	EET ALB	05/11/24 00:52
Total/NA	Prep	5030C			4694	JP	EET ALB	05/09/24 15:25
Total/NA	Analysis	8021B		1	4843	JP	EET ALB	05/11/24 00:52
Total/NA	Prep	SHAKE			4729	JU	EET ALB	05/10/24 08:59
Total/NA	Analysis	8015D		1	4816	JU	EET ALB	05/10/24 12:02
Total/NA	Prep	300_Prep			4723	JT	EET ALB	05/10/24 08:04
Total/NA	Analysis	300.0		20	4796	RC	EET ALB	05/10/24 18:23

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-4188-1

Laboratory: Eurofins Albuquerque

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

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

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
300.0	300_Prep	Solid	Chloride
8015D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: Vertex (XTO)

Mailing Address: on file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 72 hr

Project Name: PLU 342

Project #: 23E-060616

Project Manager: S. Carttar

Sampler: A. Monu

On Ice: ☐ Yes ☐ No

# of Coolers: 1 (Monty)

Cooler Temp(Including CF): 1.6-0=1.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABOR

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 871

Tel. 505-345-3975 Fax 505-345-4107

885-4188 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	CDF, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/7/24	9:45	soil	BH24-02 2'	4oz jar	ice		X	X					X			
1	9:50	1	BH24-02 4'	1	1		1	1					1			
1	10:00	1	BH24-10 2'	1	1		1	1					1			

Date	Time	Relinquished by:	Received by:	Via.	Date	Time
5/8/24	945				5/8/24	945
5/8/24	1900			Courier	5/9/24	7:45

Remarks: please email results to: scarttar@vertex.ca

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories This serves as notice of this possibility Any sub-contracted data will be clearly notated on the analytical report

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-4188-1

Login Number: 4188 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

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.	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").	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 7/19/2024 11:15:30 AM

JOB DESCRIPTION

PLU 342

JOB NUMBER

885-7863-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
7/19/2024 11:15:30 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 885-7863-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-7863-1
Project/Site: PLU 342

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: PLU 342

Job ID: 885-7863-1

Job ID: 885-7863-1 Eurofins Albuquerque

Job Narrative
885-7863-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 7/12/2024 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C.

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

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

Diesel Range Organics
Method 8015D_DRO: Surrogate recovery for the following samples were outside the upper control limit: BS24-04 0.5' (885-7863-4) and BS24-10 0.5' (885-7863-10). This sample did not contain any target analytes; 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: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-01 0.5'

Date Collected: 07/09/24 15:30
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-1

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/12/24 12:16	07/13/24 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*07/12/24 12:16*	*07/13/24 18:16*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/13/24 18:16	1
Ethylbenzene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 18:16	1
Toluene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 18:16	1
Xylenes, Total	ND		0.098		mg/Kg		07/12/24 12:16	07/13/24 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*07/12/24 12:16*	*07/13/24 18:16*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		07/12/24 16:18	07/17/24 11:15	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/12/24 16:18	07/17/24 11:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*07/12/24 16:18*	*07/17/24 11:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		60		mg/Kg		07/15/24 12:48	07/15/24 16:51	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-02 0.5'

Date Collected: 07/09/24 15:35
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-2

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		07/12/24 12:16	07/13/24 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*07/12/24 12:16*	*07/13/24 19:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/13/24 19:26	1
Ethylbenzene	ND		0.047		mg/Kg		07/12/24 12:16	07/13/24 19:26	1
Toluene	ND		0.047		mg/Kg		07/12/24 12:16	07/13/24 19:26	1
Xylenes, Total	ND		0.094		mg/Kg		07/12/24 12:16	07/13/24 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*48 - 145*	*07/12/24 12:16*	*07/13/24 19:26*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.8		mg/Kg		07/12/24 16:18	07/17/24 11:27	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		07/12/24 16:18	07/17/24 11:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*07/12/24 16:18*	*07/17/24 11:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 17:04	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-03 0.5'

Date Collected: 07/09/24 15:40
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-3

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/12/24 12:16	07/13/24 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*07/12/24 12:16*	*07/13/24 20:36*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/13/24 20:36	1
Ethylbenzene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 20:36	1
Toluene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 20:36	1
Xylenes, Total	ND		0.098		mg/Kg		07/12/24 12:16	07/13/24 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*48 - 145*	*07/12/24 12:16*	*07/13/24 20:36*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		07/12/24 16:18	07/17/24 11:40	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/12/24 16:18	07/17/24 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*118*		*62 - 134*	*07/12/24 16:18*	*07/17/24 11:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 17:16	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-04 0.5'

Date Collected: 07/09/24 15:45
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-4

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/12/24 12:16	07/13/24 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*07/12/24 12:16*	*07/13/24 21:00*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/13/24 21:00	1
Ethylbenzene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 21:00	1
Toluene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 21:00	1
Xylenes, Total	ND		0.10		mg/Kg		07/12/24 12:16	07/13/24 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*	*07/12/24 12:16*	*07/13/24 21:00*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.8		mg/Kg		07/12/24 16:18	07/17/24 11:53	1
Motor Oil Range Organics [C28-C40]	ND		44		mg/Kg		07/12/24 16:18	07/17/24 11:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*144*	*S1+*	*62 - 134*	*07/12/24 16:18*	*07/17/24 11:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 17:28	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-05 0.5'

Date Collected: 07/09/24 15:50
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-5

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/12/24 12:16	07/13/24 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*07/12/24 12:16*	*07/13/24 21:23*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/13/24 21:23	1
Ethylbenzene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 21:23	1
Toluene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 21:23	1
Xylenes, Total	ND		0.10		mg/Kg		07/12/24 12:16	07/13/24 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/12/24 12:16*	*07/13/24 21:23*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		07/12/24 16:18	07/17/24 12:05	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/17/24 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*	*07/12/24 16:18*	*07/17/24 12:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 18:05	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-06 0.5'

Date Collected: 07/10/24 09:35
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-6

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/12/24 12:16	07/13/24 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*35 - 166*	*07/12/24 12:16*	*07/13/24 21:47*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/13/24 21:47	1
Ethylbenzene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 21:47	1
Toluene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 21:47	1
Xylenes, Total	ND		0.098		mg/Kg		07/12/24 12:16	07/13/24 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/12/24 12:16*	*07/13/24 21:47*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		07/12/24 16:18	07/17/24 12:18	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/17/24 12:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*120*		*62 - 134*	*07/12/24 16:18*	*07/17/24 12:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76**		60		mg/Kg		07/15/24 12:48	07/15/24 18:18	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-07 0.5'
Date Collected: 07/10/24 09:40
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-7
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/12/24 12:16	07/13/24 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*07/12/24 12:16*	*07/13/24 22:10*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/13/24 22:10	1
Ethylbenzene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 22:10	1
Toluene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 22:10	1
Xylenes, Total	ND		0.098		mg/Kg		07/12/24 12:16	07/13/24 22:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*	*07/12/24 12:16*	*07/13/24 22:10*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		07/12/24 16:18	07/17/24 12:31	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		07/12/24 16:18	07/17/24 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*121*		*62 - 134*	*07/12/24 16:18*	*07/17/24 12:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 18:30	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-08 0.5'

Date Collected: 07/10/24 11:00
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-8

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/12/24 12:16	07/13/24 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*07/12/24 12:16*	*07/13/24 22:33*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/13/24 22:33	1
Ethylbenzene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 22:33	1
Toluene	ND		0.049		mg/Kg		07/12/24 12:16	07/13/24 22:33	1
Xylenes, Total	ND		0.098		mg/Kg		07/12/24 12:16	07/13/24 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*48 - 145*	*07/12/24 12:16*	*07/13/24 22:33*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		07/12/24 16:18	07/17/24 12:43	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/17/24 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*07/12/24 16:18*	*07/17/24 12:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**140**		60		mg/Kg		07/15/24 12:48	07/15/24 18:42	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-09 0.5'

Date Collected: 07/10/24 11:05
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-9

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/12/24 12:16	07/13/24 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*35 - 166*	*07/12/24 12:16*	*07/13/24 23:20*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/13/24 23:20	1
Ethylbenzene	ND		0.048		mg/Kg		07/12/24 12:16	07/13/24 23:20	1
Toluene	ND		0.048		mg/Kg		07/12/24 12:16	07/13/24 23:20	1
Xylenes, Total	ND		0.096		mg/Kg		07/12/24 12:16	07/13/24 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*48 - 145*	*07/12/24 12:16*	*07/13/24 23:20*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		07/12/24 16:18	07/17/24 12:56	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/12/24 16:18	07/17/24 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*99*		*62 - 134*	*07/12/24 16:18*	*07/17/24 12:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 18:55	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-10 0.5'

Date Collected: 07/10/24 14:45
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-10

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.6		mg/Kg		07/12/24 12:16	07/13/24 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*07/12/24 12:16*	*07/13/24 23:44*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/12/24 12:16	07/13/24 23:44	1
Ethylbenzene	ND		0.046		mg/Kg		07/12/24 12:16	07/13/24 23:44	1
Toluene	ND		0.046		mg/Kg		07/12/24 12:16	07/13/24 23:44	1
Xylenes, Total	ND		0.092		mg/Kg		07/12/24 12:16	07/13/24 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*48 - 145*	*07/12/24 12:16*	*07/13/24 23:44*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.1		mg/Kg		07/12/24 16:18	07/17/24 13:09	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		07/12/24 16:18	07/17/24 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*137*	*S1+*	*62 - 134*	*07/12/24 16:18*	*07/17/24 13:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76**		60		mg/Kg		07/15/24 12:48	07/15/24 19:32	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-11 0.5'

Date Collected: 07/10/24 14:50
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-11

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/12/24 12:16	07/14/24 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*35 - 166*	*07/12/24 12:16*	*07/14/24 00:07*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/14/24 00:07	1
Ethylbenzene	ND		0.050		mg/Kg		07/12/24 12:16	07/14/24 00:07	1
Toluene	ND		0.050		mg/Kg		07/12/24 12:16	07/14/24 00:07	1
Xylenes, Total	ND		0.099		mg/Kg		07/12/24 12:16	07/14/24 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/12/24 12:16*	*07/14/24 00:07*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		07/12/24 16:18	07/15/24 23:24	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/15/24 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*88*		*62 - 134*	*07/12/24 16:18*	*07/15/24 23:24*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**92**		60		mg/Kg		07/15/24 12:48	07/15/24 19:44	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-12 0.5'

Date Collected: 07/10/24 14:55
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-12

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/12/24 12:16	07/14/24 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*07/12/24 12:16*	*07/14/24 00:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/14/24 00:30	1
Ethylbenzene	ND		0.048		mg/Kg		07/12/24 12:16	07/14/24 00:30	1
Toluene	ND		0.048		mg/Kg		07/12/24 12:16	07/14/24 00:30	1
Xylenes, Total	ND		0.097		mg/Kg		07/12/24 12:16	07/14/24 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/12/24 12:16*	*07/14/24 00:30*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		07/12/24 16:18	07/15/24 23:35	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/15/24 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*83*		*62 - 134*	*07/12/24 16:18*	*07/15/24 23:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 19:57	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-13 0.5'

Date Collected: 07/10/24 15:00
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-13

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		07/12/24 12:16	07/14/24 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*35 - 166*	*07/12/24 12:16*	*07/14/24 00:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/12/24 12:16	07/14/24 00:54	1
Ethylbenzene	ND		0.047		mg/Kg		07/12/24 12:16	07/14/24 00:54	1
Toluene	ND		0.047		mg/Kg		07/12/24 12:16	07/14/24 00:54	1
Xylenes, Total	ND		0.094		mg/Kg		07/12/24 12:16	07/14/24 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*48 - 145*	*07/12/24 12:16*	*07/14/24 00:54*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		07/12/24 16:18	07/15/24 23:46	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		07/12/24 16:18	07/15/24 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*79*		*62 - 134*	*07/12/24 16:18*	*07/15/24 23:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79**		60		mg/Kg		07/15/24 12:48	07/15/24 20:34	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: WS24-01 0-0.5'
Date Collected: 07/10/24 09:00
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-14
Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/12/24 12:16	07/14/24 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*07/12/24 12:16*	*07/14/24 01:17*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/12/24 12:16	07/14/24 01:17	1
Ethylbenzene	ND		0.048		mg/Kg		07/12/24 12:16	07/14/24 01:17	1
Toluene	ND		0.048		mg/Kg		07/12/24 12:16	07/14/24 01:17	1
Xylenes, Total	ND		0.097		mg/Kg		07/12/24 12:16	07/14/24 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*07/12/24 12:16*	*07/14/24 01:17*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.2		mg/Kg		07/12/24 16:18	07/15/24 23:57	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		07/12/24 16:18	07/15/24 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*86*		*62 - 134*	*07/12/24 16:18*	*07/15/24 23:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/15/24 12:48	07/15/24 20:46	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: WS24-02 0-0.5'

Date Collected: 07/10/24 14:00
Date Received: 07/12/24 09:20

Lab Sample ID: 885-7863-15

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		07/12/24 12:16	07/14/24 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*35 - 166*	*07/12/24 12:16*	*07/14/24 01:41*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/12/24 12:16	07/14/24 01:41	1
Ethylbenzene	ND		0.047		mg/Kg		07/12/24 12:16	07/14/24 01:41	1
Toluene	ND		0.047		mg/Kg		07/12/24 12:16	07/14/24 01:41	1
Xylenes, Total	ND		0.093		mg/Kg		07/12/24 12:16	07/14/24 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/12/24 12:16*	*07/14/24 01:41*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**12**		9.8		mg/Kg		07/12/24 16:18	07/16/24 00:08	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/12/24 16:18	07/16/24 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*101*		*62 - 134*	*07/12/24 16:18*	*07/16/24 00:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		60		mg/Kg		07/15/24 12:48	07/15/24 20:58	20

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-8343/1-A
Matrix: Solid
Analysis Batch: 8408

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8343

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/12/24 12:16	07/13/24 17:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*07/12/24 12:16*	*07/13/24 17:05*	*1*

Lab Sample ID: LCS 885-8343/2-A
Matrix: Solid
Analysis Batch: 8408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	24.0		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*210*	*S1+*	*35 - 166*

Lab Sample ID: 885-7863-1 MS
Matrix: Solid
Analysis Batch: 8408

Client Sample ID: BS24-01 0.5'
Prep Type: Total/NA
Prep Batch: 8343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	ND		24.6	25.4		mg/Kg		103	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*215*	*S1+*	*35 - 166*

Lab Sample ID: 885-7863-1 MSD
Matrix: Solid
Analysis Batch: 8408

Client Sample ID: BS24-01 0.5'
Prep Type: Total/NA
Prep Batch: 8343

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	ND		24.4	23.8		mg/Kg		98	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*212*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-8343/1-A
Matrix: Solid
Analysis Batch: 8409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8343

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/12/24 12:16	07/13/24 17:05	1
Ethylbenzene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 17:05	1
Toluene	ND		0.050		mg/Kg		07/12/24 12:16	07/13/24 17:05	1

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

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

Lab Sample ID: MB 885-8343/1-A
Matrix: Solid
Analysis Batch: 8409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8343

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		07/12/24 12:16	07/13/24 17:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*07/12/24 12:16*	*07/13/24 17:05*	*1*

Lab Sample ID: LCS 885-8343/3-A
Matrix: Solid
Analysis Batch: 8409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.903		mg/Kg		90	70 - 130		
Ethylbenzene			1.00	0.856		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			2.00	1.74		mg/Kg		87	70 - 130		
o-Xylene			1.00	0.841		mg/Kg		84	70 - 130		
Toluene			1.00	0.851		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*48 - 145*

Lab Sample ID: 885-7863-2 MS
Matrix: Solid
Analysis Batch: 8409

Client Sample ID: BS24-02 0.5'
Prep Type: Total/NA
Prep Batch: 8343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.937	0.907		mg/Kg		97	70 - 130		
Ethylbenzene	ND		0.937	0.872		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene	ND		1.87	1.75		mg/Kg		92	70 - 130		
o-Xylene	ND		0.937	0.858		mg/Kg		92	70 - 130		
Toluene	ND		0.937	0.858		mg/Kg		90	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*

Lab Sample ID: 885-7863-2 MSD
Matrix: Solid
Analysis Batch: 8409

Client Sample ID: BS24-02 0.5'
Prep Type: Total/NA
Prep Batch: 8343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.938	0.878		mg/Kg		94	70 - 130	3	20
Ethylbenzene	ND		0.938	0.838		mg/Kg		89	70 - 130	4	20
m-Xylene & p-Xylene	ND		1.88	1.69		mg/Kg		89	70 - 130	4	20
o-Xylene	ND		0.938	0.826		mg/Kg		88	70 - 130	4	20
Toluene	ND		0.938	0.829		mg/Kg		87	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-8362/1-A
Matrix: Solid
Analysis Batch: 8554

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8362

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		07/12/24 16:18	07/17/24 10:25	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/12/24 16:18	07/17/24 10:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*114*		*62 - 134*	*07/12/24 16:18*	*07/17/24 10:25*	*1*

Lab Sample ID: LCS 885-8362/2-A
Matrix: Solid
Analysis Batch: 8410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8362

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	46.0		mg/Kg		92	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*82*		*62 - 134*

Lab Sample ID: 885-7863-15 MS
Matrix: Solid
Analysis Batch: 8410

Client Sample ID: WS24-02 0-0.5'
Prep Type: Total/NA
Prep Batch: 8362

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	12		47.1	48.2		mg/Kg		76	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*

Lab Sample ID: 885-7863-15 MSD
Matrix: Solid
Analysis Batch: 8410

Client Sample ID: WS24-02 0-0.5'
Prep Type: Total/NA
Prep Batch: 8362

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	12		46.6	46.4		mg/Kg		73	44 - 136	4	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*87*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-8431/1-A
Matrix: Solid
Analysis Batch: 8467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8431

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		07/15/24 12:48	07/15/24 15:37	1

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-8431/2-A
Matrix: Solid
Analysis Batch: 8467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8431

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	28.2		mg/Kg		94	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

GC VOA

Prep Batch: 8343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	5030C	
885-7863-2	BS24-02 0.5'	Total/NA	Solid	5030C	
885-7863-3	BS24-03 0.5'	Total/NA	Solid	5030C	
885-7863-4	BS24-04 0.5'	Total/NA	Solid	5030C	
885-7863-5	BS24-05 0.5'	Total/NA	Solid	5030C	
885-7863-6	BS24-06 0.5'	Total/NA	Solid	5030C	
885-7863-7	BS24-07 0.5'	Total/NA	Solid	5030C	
885-7863-8	BS24-08 0.5'	Total/NA	Solid	5030C	
885-7863-9	BS24-09 0.5'	Total/NA	Solid	5030C	
885-7863-10	BS24-10 0.5'	Total/NA	Solid	5030C	
885-7863-11	BS24-11 0.5'	Total/NA	Solid	5030C	
885-7863-12	BS24-12 0.5'	Total/NA	Solid	5030C	
885-7863-13	BS24-13 0.5'	Total/NA	Solid	5030C	
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	5030C	
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	5030C	
MB 885-8343/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-8343/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-8343/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-7863-1 MS	BS24-01 0.5'	Total/NA	Solid	5030C	
885-7863-1 MSD	BS24-01 0.5'	Total/NA	Solid	5030C	
885-7863-2 MS	BS24-02 0.5'	Total/NA	Solid	5030C	
885-7863-2 MSD	BS24-02 0.5'	Total/NA	Solid	5030C	

Analysis Batch: 8408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-2	BS24-02 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-3	BS24-03 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-4	BS24-04 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-5	BS24-05 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-6	BS24-06 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-7	BS24-07 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-8	BS24-08 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-9	BS24-09 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-10	BS24-10 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-11	BS24-11 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-12	BS24-12 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-13	BS24-13 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	8015M/D	8343
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	8015M/D	8343
MB 885-8343/1-A	Method Blank	Total/NA	Solid	8015M/D	8343
LCS 885-8343/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8343
885-7863-1 MS	BS24-01 0.5'	Total/NA	Solid	8015M/D	8343
885-7863-1 MSD	BS24-01 0.5'	Total/NA	Solid	8015M/D	8343

Analysis Batch: 8409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	8021B	8343
885-7863-2	BS24-02 0.5'	Total/NA	Solid	8021B	8343
885-7863-3	BS24-03 0.5'	Total/NA	Solid	8021B	8343
885-7863-4	BS24-04 0.5'	Total/NA	Solid	8021B	8343

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

GC VOA (Continued)

Analysis Batch: 8409 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-5	BS24-05 0.5'	Total/NA	Solid	8021B	8343
885-7863-6	BS24-06 0.5'	Total/NA	Solid	8021B	8343
885-7863-7	BS24-07 0.5'	Total/NA	Solid	8021B	8343
885-7863-8	BS24-08 0.5'	Total/NA	Solid	8021B	8343
885-7863-9	BS24-09 0.5'	Total/NA	Solid	8021B	8343
885-7863-10	BS24-10 0.5'	Total/NA	Solid	8021B	8343
885-7863-11	BS24-11 0.5'	Total/NA	Solid	8021B	8343
885-7863-12	BS24-12 0.5'	Total/NA	Solid	8021B	8343
885-7863-13	BS24-13 0.5'	Total/NA	Solid	8021B	8343
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	8021B	8343
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	8021B	8343
MB 885-8343/1-A	Method Blank	Total/NA	Solid	8021B	8343
LCS 885-8343/3-A	Lab Control Sample	Total/NA	Solid	8021B	8343
885-7863-2 MS	BS24-02 0.5'	Total/NA	Solid	8021B	8343
885-7863-2 MSD	BS24-02 0.5'	Total/NA	Solid	8021B	8343

GC Semi VOA

Prep Batch: 8362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	SHAKE	
885-7863-2	BS24-02 0.5'	Total/NA	Solid	SHAKE	
885-7863-3	BS24-03 0.5'	Total/NA	Solid	SHAKE	
885-7863-4	BS24-04 0.5'	Total/NA	Solid	SHAKE	
885-7863-5	BS24-05 0.5'	Total/NA	Solid	SHAKE	
885-7863-6	BS24-06 0.5'	Total/NA	Solid	SHAKE	
885-7863-7	BS24-07 0.5'	Total/NA	Solid	SHAKE	
885-7863-8	BS24-08 0.5'	Total/NA	Solid	SHAKE	
885-7863-9	BS24-09 0.5'	Total/NA	Solid	SHAKE	
885-7863-10	BS24-10 0.5'	Total/NA	Solid	SHAKE	
885-7863-11	BS24-11 0.5'	Total/NA	Solid	SHAKE	
885-7863-12	BS24-12 0.5'	Total/NA	Solid	SHAKE	
885-7863-13	BS24-13 0.5'	Total/NA	Solid	SHAKE	
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	SHAKE	
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	SHAKE	
MB 885-8362/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-8362/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-7863-15 MS	WS24-02 0-0.5'	Total/NA	Solid	SHAKE	
885-7863-15 MSD	WS24-02 0-0.5'	Total/NA	Solid	SHAKE	

Analysis Batch: 8410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-11	BS24-11 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-12	BS24-12 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-13	BS24-13 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	8015M/D	8362
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	8015M/D	8362
LCS 885-8362/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8362
885-7863-15 MS	WS24-02 0-0.5'	Total/NA	Solid	8015M/D	8362
885-7863-15 MSD	WS24-02 0-0.5'	Total/NA	Solid	8015M/D	8362

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

GC Semi VOA

Analysis Batch: 8554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-2	BS24-02 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-3	BS24-03 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-4	BS24-04 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-5	BS24-05 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-6	BS24-06 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-7	BS24-07 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-8	BS24-08 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-9	BS24-09 0.5'	Total/NA	Solid	8015M/D	8362
885-7863-10	BS24-10 0.5'	Total/NA	Solid	8015M/D	8362
MB 885-8362/1-A	Method Blank	Total/NA	Solid	8015M/D	8362

HPLC/IC

Prep Batch: 8431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	300_Prep	
885-7863-2	BS24-02 0.5'	Total/NA	Solid	300_Prep	
885-7863-3	BS24-03 0.5'	Total/NA	Solid	300_Prep	
885-7863-4	BS24-04 0.5'	Total/NA	Solid	300_Prep	
885-7863-5	BS24-05 0.5'	Total/NA	Solid	300_Prep	
885-7863-6	BS24-06 0.5'	Total/NA	Solid	300_Prep	
885-7863-7	BS24-07 0.5'	Total/NA	Solid	300_Prep	
885-7863-8	BS24-08 0.5'	Total/NA	Solid	300_Prep	
885-7863-9	BS24-09 0.5'	Total/NA	Solid	300_Prep	
885-7863-10	BS24-10 0.5'	Total/NA	Solid	300_Prep	
885-7863-11	BS24-11 0.5'	Total/NA	Solid	300_Prep	
885-7863-12	BS24-12 0.5'	Total/NA	Solid	300_Prep	
885-7863-13	BS24-13 0.5'	Total/NA	Solid	300_Prep	
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	300_Prep	
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	300_Prep	
MB 885-8431/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-8431/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 8467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7863-1	BS24-01 0.5'	Total/NA	Solid	300.0	8431
885-7863-2	BS24-02 0.5'	Total/NA	Solid	300.0	8431
885-7863-3	BS24-03 0.5'	Total/NA	Solid	300.0	8431
885-7863-4	BS24-04 0.5'	Total/NA	Solid	300.0	8431
885-7863-5	BS24-05 0.5'	Total/NA	Solid	300.0	8431
885-7863-6	BS24-06 0.5'	Total/NA	Solid	300.0	8431
885-7863-7	BS24-07 0.5'	Total/NA	Solid	300.0	8431
885-7863-8	BS24-08 0.5'	Total/NA	Solid	300.0	8431
885-7863-9	BS24-09 0.5'	Total/NA	Solid	300.0	8431
885-7863-10	BS24-10 0.5'	Total/NA	Solid	300.0	8431
885-7863-11	BS24-11 0.5'	Total/NA	Solid	300.0	8431
885-7863-12	BS24-12 0.5'	Total/NA	Solid	300.0	8431
885-7863-13	BS24-13 0.5'	Total/NA	Solid	300.0	8431
885-7863-14	WS24-01 0-0.5'	Total/NA	Solid	300.0	8431
885-7863-15	WS24-02 0-0.5'	Total/NA	Solid	300.0	8431

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

HPLC/IC (Continued)

Analysis Batch: 8467 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-8431/1-A	Method Blank	Total/NA	Solid	300.0	8431
LCS 885-8431/2-A	Lab Control Sample	Total/NA	Solid	300.0	8431

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-01 0.5'
Lab Sample ID: 885-7863-1
Date Collected: 07/09/24 15:30
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 18:16
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 18:16
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 11:15
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 16:51

Client Sample ID: BS24-02 0.5'
Lab Sample ID: 885-7863-2
Date Collected: 07/09/24 15:35
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 19:26
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 19:26
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 11:27
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 17:04

Client Sample ID: BS24-03 0.5'
Lab Sample ID: 885-7863-3
Date Collected: 07/09/24 15:40
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 20:36
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 20:36
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 11:40
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 17:16

Client Sample ID: BS24-04 0.5'
Lab Sample ID: 885-7863-4
Date Collected: 07/09/24 15:45
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 21:00

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-04 0.5'

Lab Sample ID: 885-7863-4

Date Collected: 07/09/24 15:45
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 21:00
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 11:53
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 17:28

Client Sample ID: BS24-05 0.5'

Lab Sample ID: 885-7863-5

Date Collected: 07/09/24 15:50
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 21:23
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 21:23
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 12:05
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 18:05

Client Sample ID: BS24-06 0.5'

Lab Sample ID: 885-7863-6

Date Collected: 07/10/24 09:35
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 21:47
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 21:47
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 12:18
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 18:18

Client Sample ID: BS24-07 0.5'

Lab Sample ID: 885-7863-7

Date Collected: 07/10/24 09:40
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 22:10
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 22:10

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-07 0.5'
Lab Sample ID: 885-7863-7
Date Collected: 07/10/24 09:40
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 12:31
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 18:30

Client Sample ID: BS24-08 0.5'
Lab Sample ID: 885-7863-8
Date Collected: 07/10/24 11:00
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 22:33
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 22:33
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 12:43
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 18:42

Client Sample ID: BS24-09 0.5'
Lab Sample ID: 885-7863-9
Date Collected: 07/10/24 11:05
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 23:20
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 23:20
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 12:56
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 18:55

Client Sample ID: BS24-10 0.5'
Lab Sample ID: 885-7863-10
Date Collected: 07/10/24 14:45
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/13/24 23:44
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/13/24 23:44
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8554	PD	EET ALB	07/17/24 13:09

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Client Sample ID: BS24-10 0.5'

Lab Sample ID: 885-7863-10
Matrix: Solid
Date Collected: 07/10/24 14:45
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 19:32

Client Sample ID: BS24-11 0.5'

Lab Sample ID: 885-7863-11
Matrix: Solid
Date Collected: 07/10/24 14:50
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/14/24 00:07
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/14/24 00:07
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/15/24 23:24
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 19:44

Client Sample ID: BS24-12 0.5'

Lab Sample ID: 885-7863-12
Matrix: Solid
Date Collected: 07/10/24 14:55
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/14/24 00:30
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/14/24 00:30
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/15/24 23:35
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 19:57

Client Sample ID: BS24-13 0.5'

Lab Sample ID: 885-7863-13
Matrix: Solid
Date Collected: 07/10/24 15:00
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/14/24 00:54
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/14/24 00:54
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/15/24 23:46
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 20:34

Lab Chronicle

Client: Vertex
Job ID: 885-7863-1
Project/Site: PLU 342

Client Sample ID: WS24-01 0-0.5'
Lab Sample ID: 885-7863-14
Date Collected: 07/10/24 09:00
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/14/24 01:17
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/14/24 01:17
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/15/24 23:57
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 20:46

Client Sample ID: WS24-02 0-0.5'
Lab Sample ID: 885-7863-15
Date Collected: 07/10/24 14:00
Matrix: Solid
Date Received: 07/12/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8015M/D		1	8408	JP	EET ALB	07/14/24 01:41
Total/NA	Prep	5030C			8343	JP	EET ALB	07/12/24 12:16
Total/NA	Analysis	8021B		1	8409	JP	EET ALB	07/14/24 01:41
Total/NA	Prep	SHAKE			8362	KR	EET ALB	07/12/24 16:18
Total/NA	Analysis	8015M/D		1	8410	KR	EET ALB	07/16/24 00:08
Total/NA	Prep	300_Prep			8431	EH	EET ALB	07/15/24 12:48
Total/NA	Analysis	300.0		20	8467	RC	EET ALB	07/15/24 20:58

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7863-1

Laboratory: Eurofins Albuquerque

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

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

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
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: **Vertex (Bill to XTO Energy, Inc)**

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard X **Rush** 5-day rush

Project Name:
PLU 342

Project #:
23E-06066

Project Manager:
Sally Carttar
SCarttar@vertex.ca

Sampler: L. Pullman
On Ice: ☑ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 5.5 ± 0 = 5.5 °C

HALL ENVIRONMENTAL ANALYSIS LABO
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87
Tel. 505-345-3975 Fax 505-345-410

885-7863 COC

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
07.09.24	15:30	Soil	BS24-01 0.5'	1, 4oz jar		1	X	X					X			
07.09.24	15:35	Soil	BS24-02 0.5'	1, 4oz jar		2	X	X					X			
07.09.24	15:40	Soil	BS24-03 0.5'	1, 4oz jar		3	X	X					X			
07.09.24	15:45	Soil	BS24-04 0.5'	1, 4oz jar		4	X	X					X			
07.09.24	15:50	Soil	BS24-05 0.5'	1, 4oz jar		5	X	X					X			
07.10.24	9:35	Soil	BS24-06 0.5'	1, 4oz jar		6	X	X					X			
07.10.24	9:40	Soil	BS24-07 0.5'	1, 4oz jar		7	X	X					X			
07.10.24	11:00	Soil	BS24-08 0.5'	1, 4oz jar		8	X	X					X			
07.10.24	11:05	Soil	BS24-09 0.5'	1, 4oz jar		9	X	X					X			
07.10.24	14:45	Soil	BS24-10 0.5'	1, 4oz jar		10	X	X					X			
07.10.24	14:50	Soil	BS24-11 0.5'	1, 4oz jar		11	X	X					X			
07.10.24	14:55	Soil	BS24-12 0.5'	1, 4oz jar		12	X	X					X			

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7-10-24	07:00				7/11/24	700
7/11/24	1900			Courier	7/12/24	9:20

Remarks:
Direct Bill to XTO Energy, Inc.
NAPP2334849928
Cost Center # 1081591001
CC.Sally Carttar (scarttar@vertex.ca) for Final Report.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: **Vertex (Bill to XTO Energy, Inc)**

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard **X Rush** 5-day rush

Project Name: **PLU 342**

Project #: **23E-06066**

Project Manager: **Sally Carttar**

SCarttar@vertex.ca

Sampler: L. Pullman

On Ice: ☑ Yes ☐ No yogi

# of Coolers: 1

Cooler Temp(including CF): 5.5 ± 0 = 5.5 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
07.10.24	15:00	Soil	BS24-13 0.5'	1, 4oz jar		13	X	X					X			
07.10.24	9:00	Soil	WS24-01 0-0.5'	1, 4oz jar		14	X	X					X			
07.10.24	14:00	Soil	WS24-02 0-0.5'	1, 4oz jar		15	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7-11-24	07:00	Robin Pullman				
7/11/24	1900			courier	7/12/24	9:20

Remarks:
Direct Bill to XTO Energy, Inc.
NAPP2334849928
Cost Center # 1081591001
CC.Sally Carttar (scarttar@vertex.ca) for Final Report.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-7863-1

Login Number: 7863 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Casarrubias, Tracy

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.	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").	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Sally Carttar
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 7/19/2024 10:19:30 AM

JOB DESCRIPTION

PLU 342

JOB NUMBER

885-7928-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
7/19/2024 10:19:30 AM

Authorized for release by
Cheyenne Cason, Project Manager
cheyenne.cason@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: PLU 342

Laboratory Job ID: 885-7928-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-7928-1
Project/Site: PLU 342

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: PLU 342

Job ID: 885-7928-1

Job ID: 885-7928-1 Eurofins Albuquerque

Job Narrative
885-7928-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 7/13/2024 7:10 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 0.2°C.

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

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

Diesel Range Organics
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 342

Job ID: 885-7928-1

Client Sample ID: WS24-03 0.5'

Date Collected: 07/11/24 08:30
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-1

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/15/24 12:01	07/16/24 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*35 - 166*	*07/15/24 12:01*	*07/16/24 15:38*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/15/24 12:01	07/16/24 15:38	1
Ethylbenzene	ND		0.048		mg/Kg		07/15/24 12:01	07/16/24 15:38	1
Toluene	ND		0.048		mg/Kg		07/15/24 12:01	07/16/24 15:38	1
Xylenes, Total	ND		0.096		mg/Kg		07/15/24 12:01	07/16/24 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*07/15/24 12:01*	*07/16/24 15:38*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		07/16/24 11:56	07/17/24 04:01	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/16/24 11:56	07/17/24 04:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*125*		*62 - 134*	*07/16/24 11:56*	*07/17/24 04:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		07/16/24 17:14	07/16/24 20:22	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: WS24-04 0.5'

Date Collected: 07/11/24 08:35
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-2

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/15/24 12:01	07/16/24 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*07/15/24 12:01*	*07/16/24 16:02*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 16:02	1
Ethylbenzene	ND		0.049		mg/Kg		07/15/24 12:01	07/16/24 16:02	1
Toluene	ND		0.049		mg/Kg		07/15/24 12:01	07/16/24 16:02	1
Xylenes, Total	ND		0.098		mg/Kg		07/15/24 12:01	07/16/24 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*07/15/24 12:01*	*07/16/24 16:02*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		07/16/24 11:56	07/17/24 04:13	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/16/24 11:56	07/17/24 04:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*	*07/16/24 11:56*	*07/17/24 04:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		07/16/24 17:14	07/16/24 21:38	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: WS24-05 0.5-1'

Date Collected: 07/11/24 11:30
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-3

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.6		mg/Kg		07/15/24 12:01	07/16/24 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*07/15/24 12:01*	*07/16/24 16:26*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/15/24 12:01	07/16/24 16:26	1
Ethylbenzene	ND		0.046		mg/Kg		07/15/24 12:01	07/16/24 16:26	1
Toluene	ND		0.046		mg/Kg		07/15/24 12:01	07/16/24 16:26	1
Xylenes, Total	ND		0.092		mg/Kg		07/15/24 12:01	07/16/24 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*07/15/24 12:01*	*07/16/24 16:26*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		07/16/24 11:56	07/17/24 04:26	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/16/24 11:56	07/17/24 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*129*		*62 - 134*	*07/16/24 11:56*	*07/17/24 04:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**160**		60		mg/Kg		07/16/24 17:14	07/16/24 21:53	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: WS24-06 0-1'

Date Collected: 07/11/24 11:35
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-4

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/15/24 12:01	07/16/24 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*07/15/24 12:01*	*07/16/24 16:50*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 16:50	1
Ethylbenzene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 16:50	1
Toluene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 16:50	1
Xylenes, Total	ND		0.10		mg/Kg		07/15/24 12:01	07/16/24 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*07/15/24 12:01*	*07/16/24 16:50*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.0		mg/Kg		07/16/24 11:56	07/17/24 04:51	1
Motor Oil Range Organics [C28-C40]	ND		45		mg/Kg		07/16/24 11:56	07/17/24 04:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*133*		*62 - 134*	*07/16/24 11:56*	*07/17/24 04:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/16/24 22:09	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-14 0.5'

Date Collected: 07/11/24 08:45
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-5

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		07/15/24 12:01	07/16/24 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*35 - 166*	*07/15/24 12:01*	*07/16/24 17:14*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/15/24 12:01	07/16/24 17:14	1
Ethylbenzene	ND		0.049		mg/Kg		07/15/24 12:01	07/16/24 17:14	1
Toluene	ND		0.049		mg/Kg		07/15/24 12:01	07/16/24 17:14	1
Xylenes, Total	ND		0.098		mg/Kg		07/15/24 12:01	07/16/24 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*07/15/24 12:01*	*07/16/24 17:14*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9		mg/Kg		07/16/24 11:56	07/17/24 05:03	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		07/16/24 11:56	07/17/24 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*132*		*62 - 134*	*07/16/24 11:56*	*07/17/24 05:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		61		mg/Kg		07/16/24 17:14	07/16/24 22:24	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-15 0.5'

Date Collected: 07/11/24 08:50
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-6

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.6		mg/Kg		07/15/24 12:01	07/17/24 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*35 - 166*	*07/15/24 12:01*	*07/17/24 16:51*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/15/24 12:01	07/16/24 19:37	1
Ethylbenzene	ND		0.046		mg/Kg		07/15/24 12:01	07/16/24 19:37	1
Toluene	ND		0.046		mg/Kg		07/15/24 12:01	07/16/24 19:37	1
Xylenes, Total	ND		0.093		mg/Kg		07/15/24 12:01	07/16/24 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*07/15/24 12:01*	*07/16/24 19:37*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		07/16/24 11:56	07/17/24 05:16	1
Motor Oil Range Organics [C28-C40]	ND		46		mg/Kg		07/16/24 11:56	07/17/24 05:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*129*		*62 - 134*	*07/16/24 11:56*	*07/17/24 05:16*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/16/24 22:39	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-16 0.5'

Date Collected: 07/11/24 08:55
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-7

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		07/15/24 12:01	07/16/24 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*		*35 - 166*	*07/15/24 12:01*	*07/16/24 20:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023		mg/Kg		07/15/24 12:01	07/16/24 20:01	1
Ethylbenzene	ND		0.047		mg/Kg		07/15/24 12:01	07/16/24 20:01	1
Toluene	ND		0.047		mg/Kg		07/15/24 12:01	07/16/24 20:01	1
Xylenes, Total	ND		0.093		mg/Kg		07/15/24 12:01	07/16/24 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/15/24 12:01*	*07/16/24 20:01*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		07/16/24 11:56	07/17/24 05:28	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/16/24 11:56	07/17/24 05:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*133*		*62 - 134*	*07/16/24 11:56*	*07/17/24 05:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/16/24 22:54	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-17 0.5'

Date Collected: 07/11/24 09:00
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-8

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/15/24 12:01	07/16/24 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*35 - 166*	*07/15/24 12:01*	*07/16/24 20:24*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 20:24	1
Ethylbenzene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 20:24	1
Toluene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 20:24	1
Xylenes, Total	ND		0.10		mg/Kg		07/15/24 12:01	07/16/24 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*48 - 145*	*07/15/24 12:01*	*07/16/24 20:24*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		07/16/24 11:56	07/17/24 05:40	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/16/24 11:56	07/17/24 05:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*134*		*62 - 134*	*07/16/24 11:56*	*07/17/24 05:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/16/24 23:09	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-18 1'

Date Collected: 07/11/24 11:00
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-9

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		07/15/24 12:01	07/16/24 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*35 - 166*	*07/15/24 12:01*	*07/16/24 20:48*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		07/15/24 12:01	07/16/24 20:48	1
Ethylbenzene	ND		0.048		mg/Kg		07/15/24 12:01	07/16/24 20:48	1
Toluene	ND		0.048		mg/Kg		07/15/24 12:01	07/16/24 20:48	1
Xylenes, Total	ND		0.097		mg/Kg		07/15/24 12:01	07/16/24 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/15/24 12:01*	*07/16/24 20:48*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		07/16/24 11:56	07/17/24 05:53	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		07/16/24 11:56	07/17/24 05:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*07/16/24 11:56*	*07/17/24 05:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/16/24 23:24	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-19 1'

Date Collected: 07/11/24 11:05
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-10

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/15/24 12:01	07/16/24 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*35 - 166*	*07/15/24 12:01*	*07/16/24 21:12*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 21:12	1
Ethylbenzene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 21:12	1
Toluene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 21:12	1
Xylenes, Total	ND		0.10		mg/Kg		07/15/24 12:01	07/16/24 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*48 - 145*	*07/15/24 12:01*	*07/16/24 21:12*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		07/16/24 11:56	07/17/24 06:05	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/16/24 11:56	07/17/24 06:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*07/16/24 11:56*	*07/17/24 06:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		07/16/24 17:14	07/17/24 00:10	20

Client Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-20 1'

Date Collected: 07/11/24 11:10
Date Received: 07/13/24 07:10

Lab Sample ID: 885-7928-11

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/15/24 12:01	07/16/24 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*35 - 166*	*07/15/24 12:01*	*07/16/24 21:35*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 21:35	1
Ethylbenzene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 21:35	1
Toluene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 21:35	1
Xylenes, Total	ND		0.10		mg/Kg		07/15/24 12:01	07/16/24 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*48 - 145*	*07/15/24 12:01*	*07/16/24 21:35*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		07/16/24 11:56	07/17/24 06:17	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		07/16/24 11:56	07/17/24 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*106*		*62 - 134*	*07/16/24 11:56*	*07/17/24 06:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**100**		60		mg/Kg		07/16/24 17:14	07/17/24 00:25	20

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-8429/1-A
Matrix: Solid
Analysis Batch: 8508

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8429

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		07/15/24 12:01	07/16/24 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*07/15/24 12:01*	*07/16/24 11:41*	*1*

Lab Sample ID: LCS 885-8429/2-A
Matrix: Solid
Analysis Batch: 8508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8429

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	23.9		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*201*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-8429/1-A
Matrix: Solid
Analysis Batch: 8565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8429

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		07/15/24 12:01	07/16/24 11:41	1
Ethylbenzene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 11:41	1
Toluene	ND		0.050		mg/Kg		07/15/24 12:01	07/16/24 11:41	1
Xylenes, Total	ND		0.10		mg/Kg		07/15/24 12:01	07/16/24 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*48 - 145*	*07/15/24 12:01*	*07/16/24 11:41*	*1*

Lab Sample ID: LCS 885-8429/3-A
Matrix: Solid
Analysis Batch: 8565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8429

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	0.906		mg/Kg		91	70 - 130		
Ethylbenzene			1.00	0.861		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			2.00	1.77		mg/Kg		88	70 - 130		
o-Xylene			1.00	0.859		mg/Kg		86	70 - 130		
Toluene			1.00	0.857		mg/Kg		86	70 - 130		
Xylenes, Total			3.00	2.63		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-8496/1-A
Matrix: Solid
Analysis Batch: 8518

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8496

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		07/16/24 11:56	07/17/24 02:45	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		07/16/24 11:56	07/17/24 02:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*07/16/24 11:56*	*07/17/24 02:45*	*1*

Lab Sample ID: LCS 885-8496/2-A
Matrix: Solid
Analysis Batch: 8518

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8496

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	45.8		mg/Kg		92	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-8529/1-A
Matrix: Solid
Analysis Batch: 8550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 8529

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		07/16/24 17:14	07/16/24 18:36	1

Lab Sample ID: LCS 885-8529/2-A
Matrix: Solid
Analysis Batch: 8550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 8529

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.5		mg/Kg		98	90 - 110		

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

GC VOA

Prep Batch: 8429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	5030C	
885-7928-2	WS24-04 0.5'	Total/NA	Solid	5030C	
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	5030C	
885-7928-4	WS24-06 0-1'	Total/NA	Solid	5030C	
885-7928-5	BS24-14 0.5'	Total/NA	Solid	5030C	
885-7928-6	BS24-15 0.5'	Total/NA	Solid	5030C	
885-7928-7	BS24-16 0.5'	Total/NA	Solid	5030C	
885-7928-8	BS24-17 0.5'	Total/NA	Solid	5030C	
885-7928-9	BS24-18 1'	Total/NA	Solid	5030C	
885-7928-10	BS24-19 1'	Total/NA	Solid	5030C	
885-7928-11	BS24-20 1'	Total/NA	Solid	5030C	
MB 885-8429/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-8429/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-8429/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 8508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	8015M/D	8429
885-7928-2	WS24-04 0.5'	Total/NA	Solid	8015M/D	8429
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	8015M/D	8429
885-7928-4	WS24-06 0-1'	Total/NA	Solid	8015M/D	8429
885-7928-5	BS24-14 0.5'	Total/NA	Solid	8015M/D	8429
885-7928-7	BS24-16 0.5'	Total/NA	Solid	8015M/D	8429
885-7928-8	BS24-17 0.5'	Total/NA	Solid	8015M/D	8429
885-7928-9	BS24-18 1'	Total/NA	Solid	8015M/D	8429
885-7928-10	BS24-19 1'	Total/NA	Solid	8015M/D	8429
885-7928-11	BS24-20 1'	Total/NA	Solid	8015M/D	8429
MB 885-8429/1-A	Method Blank	Total/NA	Solid	8015M/D	8429
LCS 885-8429/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8429

Analysis Batch: 8565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	8021B	8429
885-7928-2	WS24-04 0.5'	Total/NA	Solid	8021B	8429
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	8021B	8429
885-7928-4	WS24-06 0-1'	Total/NA	Solid	8021B	8429
885-7928-5	BS24-14 0.5'	Total/NA	Solid	8021B	8429
885-7928-6	BS24-15 0.5'	Total/NA	Solid	8021B	8429
885-7928-7	BS24-16 0.5'	Total/NA	Solid	8021B	8429
885-7928-8	BS24-17 0.5'	Total/NA	Solid	8021B	8429
885-7928-9	BS24-18 1'	Total/NA	Solid	8021B	8429
885-7928-10	BS24-19 1'	Total/NA	Solid	8021B	8429
885-7928-11	BS24-20 1'	Total/NA	Solid	8021B	8429
MB 885-8429/1-A	Method Blank	Total/NA	Solid	8021B	8429
LCS 885-8429/3-A	Lab Control Sample	Total/NA	Solid	8021B	8429

Analysis Batch: 8636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-6	BS24-15 0.5'	Total/NA	Solid	8015M/D	8429

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

GC Semi VOA

Prep Batch: 8496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	SHAKE	
885-7928-2	WS24-04 0.5'	Total/NA	Solid	SHAKE	
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	SHAKE	
885-7928-4	WS24-06 0-1'	Total/NA	Solid	SHAKE	
885-7928-5	BS24-14 0.5'	Total/NA	Solid	SHAKE	
885-7928-6	BS24-15 0.5'	Total/NA	Solid	SHAKE	
885-7928-7	BS24-16 0.5'	Total/NA	Solid	SHAKE	
885-7928-8	BS24-17 0.5'	Total/NA	Solid	SHAKE	
885-7928-9	BS24-18 1'	Total/NA	Solid	SHAKE	
885-7928-10	BS24-19 1'	Total/NA	Solid	SHAKE	
885-7928-11	BS24-20 1'	Total/NA	Solid	SHAKE	
MB 885-8496/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-8496/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 8518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-2	WS24-04 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	8015M/D	8496
885-7928-4	WS24-06 0-1'	Total/NA	Solid	8015M/D	8496
885-7928-5	BS24-14 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-6	BS24-15 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-7	BS24-16 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-8	BS24-17 0.5'	Total/NA	Solid	8015M/D	8496
885-7928-9	BS24-18 1'	Total/NA	Solid	8015M/D	8496
885-7928-10	BS24-19 1'	Total/NA	Solid	8015M/D	8496
885-7928-11	BS24-20 1'	Total/NA	Solid	8015M/D	8496
MB 885-8496/1-A	Method Blank	Total/NA	Solid	8015M/D	8496
LCS 885-8496/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	8496

HPLC/IC

Prep Batch: 8529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	300_Prep	
885-7928-2	WS24-04 0.5'	Total/NA	Solid	300_Prep	
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	300_Prep	
885-7928-4	WS24-06 0-1'	Total/NA	Solid	300_Prep	
885-7928-5	BS24-14 0.5'	Total/NA	Solid	300_Prep	
885-7928-6	BS24-15 0.5'	Total/NA	Solid	300_Prep	
885-7928-7	BS24-16 0.5'	Total/NA	Solid	300_Prep	
885-7928-8	BS24-17 0.5'	Total/NA	Solid	300_Prep	
885-7928-9	BS24-18 1'	Total/NA	Solid	300_Prep	
885-7928-10	BS24-19 1'	Total/NA	Solid	300_Prep	
885-7928-11	BS24-20 1'	Total/NA	Solid	300_Prep	
MB 885-8529/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-8529/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 8550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-1	WS24-03 0.5'	Total/NA	Solid	300.0	8529

QC Association Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

HPLC/IC (Continued)

Analysis Batch: 8550 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7928-2	WS24-04 0.5'	Total/NA	Solid	300.0	8529
885-7928-3	WS24-05 0.5-1'	Total/NA	Solid	300.0	8529
885-7928-4	WS24-06 0-1'	Total/NA	Solid	300.0	8529
885-7928-5	BS24-14 0.5'	Total/NA	Solid	300.0	8529
885-7928-6	BS24-15 0.5'	Total/NA	Solid	300.0	8529
885-7928-7	BS24-16 0.5'	Total/NA	Solid	300.0	8529
885-7928-8	BS24-17 0.5'	Total/NA	Solid	300.0	8529
885-7928-9	BS24-18 1'	Total/NA	Solid	300.0	8529
885-7928-10	BS24-19 1'	Total/NA	Solid	300.0	8529
885-7928-11	BS24-20 1'	Total/NA	Solid	300.0	8529
MB 885-8529/1-A	Method Blank	Total/NA	Solid	300.0	8529
LCS 885-8529/2-A	Lab Control Sample	Total/NA	Solid	300.0	8529

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: WS24-03 0.5'
Lab Sample ID: 885-7928-1
Date Collected: 07/11/24 08:30
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 15:38
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 15:38
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 04:01
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 20:22

Client Sample ID: WS24-04 0.5'
Lab Sample ID: 885-7928-2
Date Collected: 07/11/24 08:35
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 16:02
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 16:02
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 04:13
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 21:38

Client Sample ID: WS24-05 0.5-1'
Lab Sample ID: 885-7928-3
Date Collected: 07/11/24 11:30
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 16:26
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 16:26
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 04:26
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 21:53

Client Sample ID: WS24-06 0-1'
Lab Sample ID: 885-7928-4
Date Collected: 07/11/24 11:35
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 16:50

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: WS24-06 0-1'

Lab Sample ID: 885-7928-4
Matrix: Solid
Date Collected: 07/11/24 11:35
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 16:50
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 04:51
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 22:09

Client Sample ID: BS24-14 0.5'

Lab Sample ID: 885-7928-5
Matrix: Solid
Date Collected: 07/11/24 08:45
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 17:14
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 17:14
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 05:03
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 22:24

Client Sample ID: BS24-15 0.5'

Lab Sample ID: 885-7928-6
Matrix: Solid
Date Collected: 07/11/24 08:50
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8636	JP	EET ALB	07/17/24 16:51
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 19:37
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 05:16
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 22:39

Client Sample ID: BS24-16 0.5'

Lab Sample ID: 885-7928-7
Matrix: Solid
Date Collected: 07/11/24 08:55
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 20:01
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 20:01

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-16 0.5'
Lab Sample ID: 885-7928-7
Date Collected: 07/11/24 08:55
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 05:28
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 22:54

Client Sample ID: BS24-17 0.5'
Lab Sample ID: 885-7928-8
Date Collected: 07/11/24 09:00
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 20:24
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 20:24
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 05:40
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 23:09

Client Sample ID: BS24-18 1'
Lab Sample ID: 885-7928-9
Date Collected: 07/11/24 11:00
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 20:48
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 20:48
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 05:53
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/16/24 23:24

Client Sample ID: BS24-19 1'
Lab Sample ID: 885-7928-10
Date Collected: 07/11/24 11:05
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 21:12
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 21:12
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 06:05

Lab Chronicle

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Client Sample ID: BS24-19 1'

Lab Sample ID: 885-7928-10

Date Collected: 07/11/24 11:05
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/17/24 00:10

Client Sample ID: BS24-20 1'

Lab Sample ID: 885-7928-11

Date Collected: 07/11/24 11:10
Matrix: Solid
Date Received: 07/13/24 07:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8015M/D		1	8508	JP	EET ALB	07/16/24 21:35
Total/NA	Prep	5030C			8429	JP	EET ALB	07/15/24 12:01
Total/NA	Analysis	8021B		1	8565	JP	EET ALB	07/16/24 21:35
Total/NA	Prep	SHAKE			8496	KR	EET ALB	07/16/24 11:56
Total/NA	Analysis	8015M/D		1	8518	PD	EET ALB	07/17/24 06:17
Total/NA	Prep	300_Prep			8529	RC	EET ALB	07/16/24 17:14
Total/NA	Analysis	300.0		20	8550	JT	EET ALB	07/17/24 00:25

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex
Project/Site: PLU 342

Job ID: 885-7928-1

Laboratory: Eurofins Albuquerque

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

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

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
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: **Vertex (Bill to XTO Energy, Inc)**

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard **X Rush** 5-day rush

Project Name:
PLU 342

Project #:
23E-06066

Project Manager:
Sally Carttar
SCarttar@vertex.ca

Sampler: L. Pullman
On Ice: ~~☐ Yes~~ ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.1+0.1=0.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM
Tel. 505-345-3975 Fax 505-345-4107

885-7928 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)						
07.11.24	8:30	Soil	WS24-03 0.5'	1, 4oz jar			X	X					X									
07.11.24	8:35	Soil	WS24-04 0.5'	1, 4oz jar			X	X					X									
07.11.24	11:30	Soil	WS24-05 0.5-1'	1, 4oz jar			X	X					X									
07.11.24	11:35	Soil	WS24-06 0-1'	1, 4oz jar			X	X					X									
07.11.24	8:45	Soil	BS24-14 0.5'	1, 4oz jar			X	X					X									
07.11.24	8:50	Soil	BS24-15 0.5'	1, 4oz jar			X	X					X									
07.11.24	8:55	Soil	BS24-16 0.5'	1, 4oz jar			X	X					X									
07.11.24	9:00	Soil	BS24-17 0.5'	1, 4oz jar			X	X					X									
07.11.24	11:00	Soil	BS24-18 1'	1, 4oz jar			X	X					X									
07.11.24	11:05	Soil	BS24-19 1'	1, 4oz jar			X	X					X									
07.11.24	11:10	Soil	BS24-20 1'	1, 4oz jar			X	X					X									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7-12-24	07:00	Sally Pullman	[illegible]		7/12/24	0700
7/12/24	1900	[illegible]	[illegible]	Courier	7/12/24	7:10

Remarks:
Direct Bill to XTO Energy, Inc.
NAPP2334849928
Cost Center # 1081591001
CC.Sally Carttar (scarttar@vertex.ca) for Final Report.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-7928-1

Login Number: 7928 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Rojas, Juan

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
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.	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 378621

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 378621
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334849928**
Incident Name	**NAPP2334849928 POKER LAKE UNIT 342 BATTERY @ 0**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	Poker Lake Unit 342 Battery
Date Release Discovered	12/07/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
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	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Pump | Produced Water | Released: 15 BBL | Recovered: 15 BBL | Lost: 0 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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)	*Not answered.*

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: 378621
	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)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
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: Melanie Collins Title: Regulatory Analyst Email: Melanie.Collins@exxonmobil.com Date: 12/14/2023

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: 378621
	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	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
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)	5550
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	53
GRO+DRO (EPA SW-846 Method 8015M)	53
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	06/01/2024
On what date will (or did) the final sampling or liner inspection occur	08/31/2024
On what date will (or was) the remediation complete(d)	08/31/2024
What is the estimated surface area (in square feet) that will be reclaimed	2918
What is the estimated volume (in cubic yards) that will be reclaimed	85
What is the estimated surface area (in square feet) that will be remediated	2918
What is the estimated volume (in cubic yards) that will be remediated	85
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: 378621
	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.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	No
OR is the **off-site** disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No
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: 05/29/2024
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: 378621
	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: 378621
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**361000**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**07/12/2024**
What was the (estimated) number of samples that were to be gathered	**18**
What was the sampling surface area in square feet	**3400**

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	3500
What was the total volume (cubic yards) remediated	120
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)	Excavated to strictest criteria for chloride and TPH

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: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 08/28/2024

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: 378621
	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 378621

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 378621
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	8/29/2024