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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.16494 Longitude -103.77815
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 3-25-31 Battery	Site Type Tank Battery
Date Release Discovered 06/14/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	04	25S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 5.99	Volume Recovered (bbls) 0.00
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A leaking valve and a circulating pump left on during shut-in caused a liquid loading event that carried over into the flare system. No fluids were recovered. A third-party contractor has been retained for remediation purposes.

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 8/31/2023

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

OCD Only

Received by: Shelly Wells Date: 9/12/2023

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Closure

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

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

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 8/31/2023

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

OCD Only

Received by: Shelly Wells Date: 9/12/2023

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Incident Number: nAPP2317052998

Release Assessment and Closure

PLU Big Sinks 3-25-31 Battery

Section 04, Township 25 South, Range 31 East

County: Eddy

Vertex File Number: 23E-04103

Prepared for:
XTO Energy

Prepared by:
Vertex Resource Services Inc.

Date:
August 2023

Release Assessment and Closure
PLU Big Sinks 3-25-31 Battery
Section 04, Township 25 South, Range 31 East
County: Eddy

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

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

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

Fernando Rodriguez

Fernando Rodriguez, B.Sc.
INTERMEDIATE BIOLOGIST, REPORTING

8/29/2023
Date

Chance Dixon

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

8/29/2023
Date

Table of Contents

In-text Tables

List of Figures

List of Tables

List of Appendices

1.0 Introduction

XTO Energy (XTO) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a crude oil release that occurred on June 14, 2023, at PLU Big Sinks 3-25-31 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 June 19, 2023 (Appendix A). Incident ID number nAPP2317052998 was assigned to this incident. XTO also provided a 24-hour Notification of Release (NOR) to NMOCD on June 14, 2023 and is included in Appendix D.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for the closure of this release, with the understanding that the reclamation requirements of 19.15.29.13 NMAC have been obtained.

2.0 Incident Description

The release occurred on June 14, 2023, due to a leaking valve and a circulating pump left on during a shut-in, that caused a liquid loading event that carried over into the flare system. The incident was reported on June 19, 2023, and involved the release of approximately 5.99 barrels of crude oil onto areas near the flare infrastructure. No free fluid was removed during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report. Daily Field Reports (DFRs) and site photographs are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 17.7 miles southeast of Malaga, New Mexico (Google Inc., 2023). The legal location for the site is Section 04, Township 25 South, Range 31 East in Eddy County, New Mexico. The release area is located on Federal property. An aerial photograph and site schematic are presented on Figure 1.

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

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology primarily comprises Qep – Piedmont alluvial deposits, which include deposits of higher gradient tributaries bordering major stream valleys, alluvial veneers of the piedmont slope, and alluvial fans. May locally include uppermost Pliocene deposits. The predominant soil texture on the site is sandy and loamy sand. Soil can be classified as well-drained with a low runoff class. The karst geology potential for the site is characterized as low (United States Department of the Interior, Bureau of Land Management, 2018).

The surrounding landscape is associated with plains, alluvial fans, uplands, and fan piedmonts with elevations ranging between 2,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 13 inches. Using information from the United States Department of Agriculture, the historic plant community was

determined to be dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus* spp.), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*; United States Department of Agriculture, Natural Resources Conservation Service, 2023). Limited to no vegetation is allowed to grow near the flare system and the compacted production pad.

4.0 Closure Criteria Determination

The nearest depth to groundwater reference to the site is a New Mexico Office of the State Engineer (NMOSE) monitoring well (C 04593 POD1) located approximately 1.07 miles east of the site (United States Geological Survey, 2023). Data from 2022 shows the NMOSE borehole recorded a dry hole at 55 feet below ground surface (bgs). Information pertaining to the depth to groundwater determination is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is the Pecos River located approximately 11.14 miles east of the site (United States Fish and Wildlife Service, 2023).

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

Due to the size of the release, Vertex and XTO determined that the release area should be cleaned to NMOCD's strictest closure criteria in order to eliminate any long-term liabilities attached to the site.

Closure Criteria Worksheet			
Site Name: PLU Big Sinks 3-25-31 Battery			
Spill Coordinates: 32.16494, -103.77815		**X: 615207**	**Y: 3559372**
Site Specific Conditions		**Value**	**Unit**
1	Depth to Groundwater	**>55**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	58,855	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	2,668	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	21,974	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**	564	feet
	ii) Within 1000 feet of any fresh water well or spring		feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	8,249	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
10	Within a 100-year Floodplain	500	year
11	Soil Type	Berino Complex, 0 to 3 percent slopes	
12	Ecological Classification	Loamy Sand and Sandy Sites	
13	Geology	Qep: Eolian and Piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	<50'	<50' 51-100' >100'

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

Table 2. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

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

5.0 Remedial Actions Taken

An initial site inspection of the release area began on July 10, 2023, which identified the area of the release specified in the initial C-141 Report and assessed the contaminant concentrations throughout the flare area. Horizontal delineation was completed on July 14, 2023. Vertical delineation was not obtained during characterization activities due to refusal being hit with hand excavation tools. Vertical delineation would later be obtained during remedial activities. A total of 15 sample points were established in the release area. From these points, 27 samples were collected and submitted to Eurofins Environment Testing for laboratory analysis. The main impacted area was determined to be approximately 33 feet long and 48 feet wide; the total affected area was 296 square feet. The other remediated area was an approximate 7 ft by 10 ft area that resulted from fluids passing through the flare system. Field screen and laboratory analysis results are presented in Table 3. The DFR associated with the site inspection is included in Appendix C.

Remediation efforts began on August 14, 2023, and were finalized on August 15, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed during excavation 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. The contaminated soil was removed to a depth of four feet bgs for the main impact area and two and a half feet bgs for the area near the flare stack. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility.

Notification that confirmatory samples were being collected was provided to the NMOCD on August 10, 2023, and is 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 eight samples were collected for laboratory analysis following NMOCD soil sampling procedures (Figure 2). 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 NMOCD's strictest closure criteria for the site.

6.0 Closure Request

Vertex recommends no additional remedial action at the site. Laboratory analyses of confirmation samples collected at the site show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is below 50 feet bgs and also meet the reclamation requirements of 19.15.29.13 NMAC. There are no anticipated risks to human, ecological, or hydrological receptors at this site.

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

Vertex requests that this incident (nAPP2317052998) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. XTO certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

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

7.0 References

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

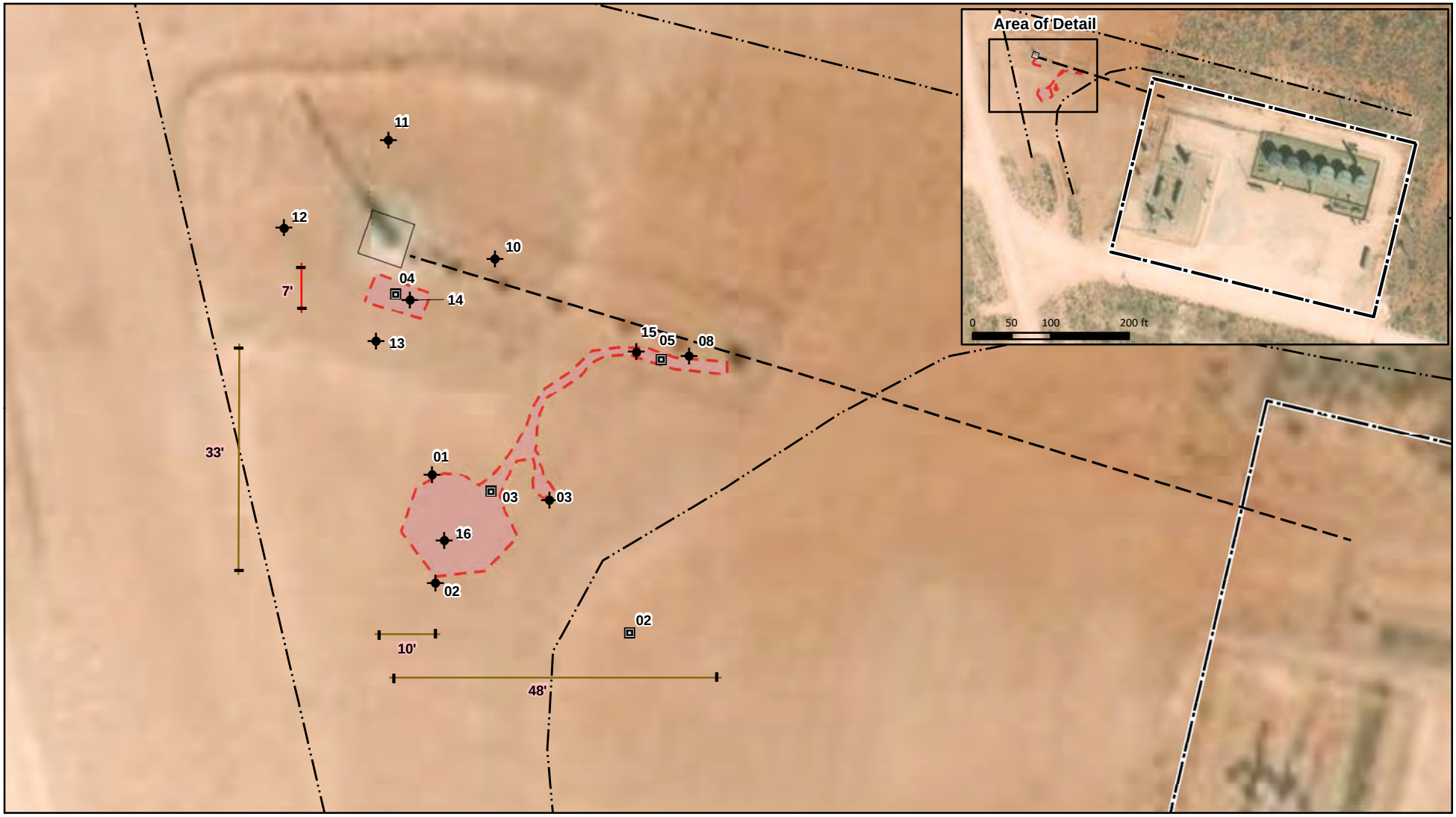
United States Geological Survey. (2023). *National Water Information System: Web Interface*. Retrieved from https://waterdata.usgs.gov/nwis

8.0 Limitations

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

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

FIGURES



Borehole (Prefixed by "BH23-")
Surface Sample (Prefixed by "SS23-")
Pipeline (Aboveground)
Pipeline (Underground)
Approximate Release Area/Proposed Excavation (~296 sq.ft.)
Approximate Lease Boundary
Flare Infrastructure

VERTEX

0 5 10 20 ft

Map Center:
Lat/Long: 32.164909, -103.778053

NAD 1983 UTM Zone 13N
Date: Aug 04/23

N

Characterization Schematic
PLU Big Sinks 3-25-31 Battery

FIGURE:
1

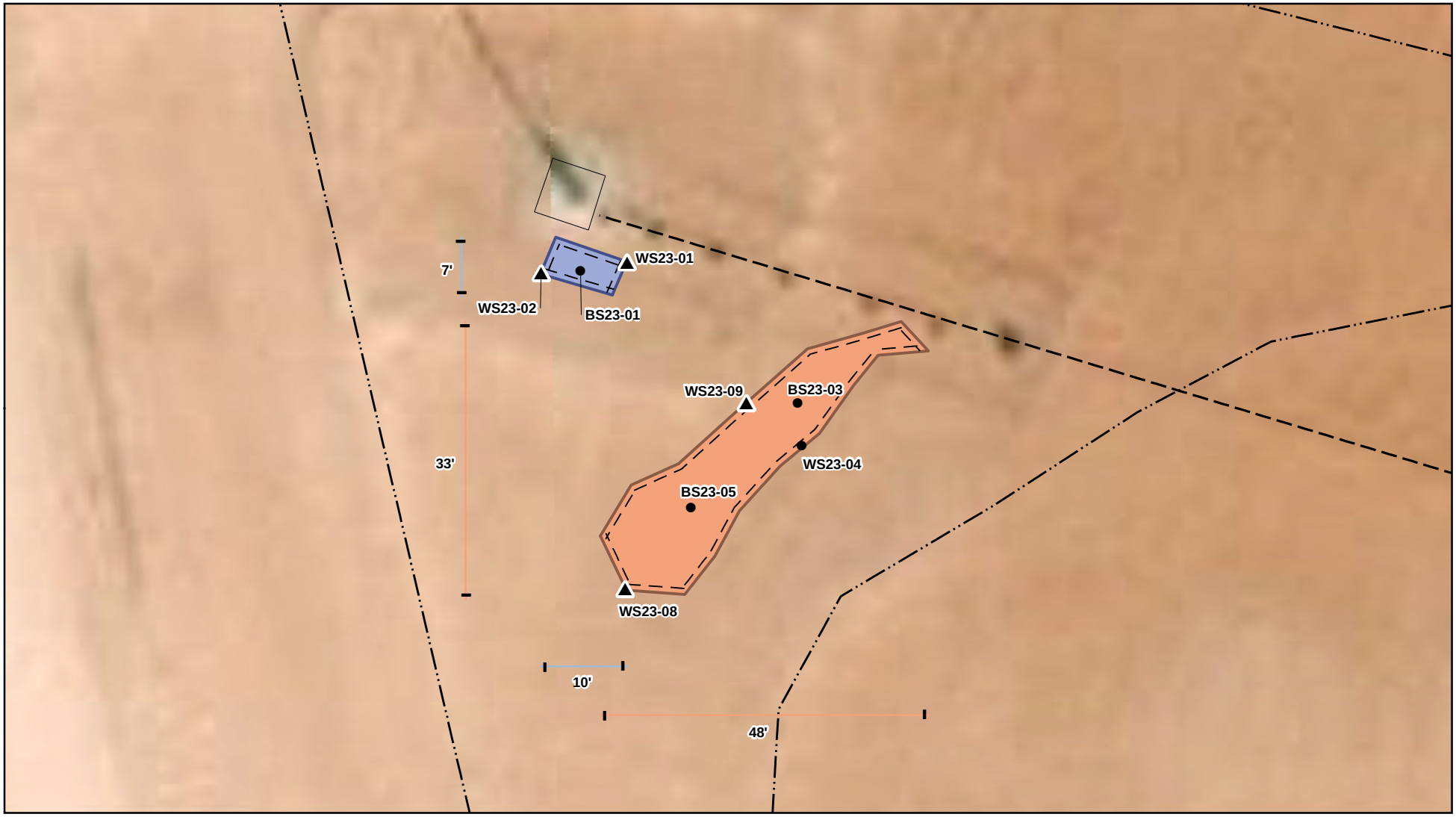
XTO ENERGY

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, 2022. Approximate lease boundary from imagery by Vertex Professional Services Ltd. (Vertex), 2023. Site features from GPS by Vertex, 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECT S\XTO Energy\23E-04103 - Plu Big Sinks Battery\Figure 1 Characterization Schematic (23E-04103).mxd



● Base Sample
▲ Wall Sample
Pipeline (Aboveground)
Pipeline (Underground)
Approximate Excavation to 2.5' bgs (~38 sq.ft.)
Approximate Excavation to 4' bgs (~363 sq.ft.)
Flare Infrastructure

VERTEX

0 5 10 20 ft

Map Center:
Lat/Long: 32.164909, -103.778154

NAD 1983 UTM Zone 13N
Date: Aug 21/23

N

Confirmation Schematic
PLU Big Sinks 3-25-31 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. Site features from GPS by Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\XTO Energy\23E-04103 - Plu Big Sinks Battery\Figure 2 Confirmation Schematic (23E-04103).mxd

TABLES

Client Name: XTO Energy
Site Name: PLU Big Sinks 3-25-31 Battery
NMOCD Tracking #: nAPP2317052998
Project #: 23E-04103
Lab Report(sX): 890-4932-1, 890-4968-1

Table 3. Initial Characterization 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)
SS23-01	0	2023-07-10	-	150	80	ND	ND	ND	53	ND	53	53	37
SS23-02	0	2023-07-10	-	80	101	ND	0.0499	ND	ND	ND	ND	ND	34
SS23-03	0	2023-07-10	-	7,150	67	ND	-	**1100**	**9500**	ND	**10600**	**10600**	29
SS23-04	0	2023-07-10	-	3,180	80	ND	0.109	ND	**5720**	ND	**5720**	**5720**	42
SS23-05	0	2023-07-10	-	9,130	67	ND	13.5	**1440**	**13200**	ND	**14640**	**14640**	39
BH23-01	0	2023-07-14	ND	31	ND	ND	ND	ND	50	ND	50	50	48
BH23-01	2	2023-07-14	ND	35	24	ND	ND	ND	ND	ND	ND	ND	63
BH23-02	0	2023-07-14	ND	18	ND	-	-	ND	ND	ND	ND	ND	59
BH23-02	2	2023-07-14	ND	20	1	ND	ND	ND	ND	ND	ND	ND	59
BH23-03	0	2023-07-14	ND	27	ND	ND	ND	ND	ND	ND	ND	ND	59
BH23-03	2	2023-07-14	ND	29	ND	ND	ND	ND	ND	ND	ND	ND	29
BH23-08	0	2023-07-14	ND	18	ND	ND	ND	ND	ND	ND	ND	ND	57
BH23-08	2	2023-07-14	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	20
BH23-10	0	2023-07-14	ND	25	ND	ND	ND	ND	ND	ND	ND	ND	67
BH23-10	2	2023-07-14	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	63
BH23-11	0	2023-07-14	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	96
BH23-11	2	2023-07-14	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	68
BH23-12	0	2023-07-14	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	57
BH23-12	2	2023-07-14	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	63
BH23-13	0	2023-07-14	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	64
BH23-13	2	2023-07-14	ND	18	5	ND	ND	ND	ND	ND	ND	ND	81
BH23-14	0	2023-07-14	10	**2,540**	ND	ND	0.0726	52	**2550**	91	**2602**	**2692**	63
BH23-14	2	2023-07-14	2	36	ND	ND	ND	ND	**108**	ND	**108**	**108**	65
BH23-15	0	2023-07-14	**1,500**	**4,190**	ND	0.241	19	**583**	**4420**	**148**	**5003**	**5150**	70
BH23-15	2	2023-07-14	**1,000**	**6,410**	ND	2	84	**2650**	**5710**	**208**	**8360**	**8570**	92
BH23-15	4	2023-08-15	0	19	0	ND	ND	ND	ND	ND	ND	ND	50
BH23-16	0	2023-07-14	**1,000**	**4,620**	ND	0.342	51	**944**	**3940**	**159**	**4884**	**5040**	44
BH23-16	2	2023-07-14	**1,500**	**7,850**	ND	3	216	**2530**	**5810**	**208**	**8340**	**8550**	56
BH23-16	4	2023-08-15	0	12	0	ND	ND	ND	ND	ND	ND	ND	50

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

Client Name: XTO Energy
Site Name: PLU 3-25-31 CTB
NMOCD Tracking #: nAPP2317052998
Project #: 23E-04103
Lab Reports: 890-5105-1, 890-5107-1

Table 4. Confirmatory 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)
BES23-01	2.5	8/14/2023	0	16	0	ND	ND	ND	ND	ND	ND	ND	62.3
BES23-03	4	8/15/2023	1	45	33	ND	ND	ND	ND	ND	ND	ND	70.2
BES23-05	4	8/15/2023	0	44	57	ND	ND	ND	ND	ND	ND	ND	54.9
WES23-01	0-2.5	8/14/2023				ND	ND	ND	ND	ND	ND	ND	58.8
WES23-02	0-2.5	8/14/2023	0	24	0	ND	ND	ND	ND	ND	ND	ND	59
WES23-04	0-4	8/15/2023	0	59	0	ND	ND	ND	63.5	ND	63.5	63.5	50
WES23-08	0-4	8/15/2023	2	74	0	ND	ND	ND	ND	ND	ND	ND	51.7
WES23-09	0-4	8/15/2023	0	21	0	ND	ND	ND	ND	ND	ND	ND	52.5

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed

APPENDIX A - NMOCD C-141 Report

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.16494 Longitude -103.77815

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 3-25-31 Battery	Site Type Tank Battery
Date Release Discovered 06/14/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	04	25S	31E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 5.99	Volume Recovered (bbls) 0.00
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A leaking valve and a circulating pump left on during shut-in caused a liquid loading event that carried over into the flare system. No fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>55 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 8/31/2023

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

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2317052998
District RP	
Facility ID	
Application ID	

Closure

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

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

☑ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☑ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☑ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☑ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Garrett Green Title: Environmental Coordinator

Signature:  Date: 8/31/2023

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B – Closure Criteria Research Documentation

New Mexico Office of the State Engineer
Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04593 POD1	3	4	4	34	24S	31E	616903	3559674

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

Drill Start Date:	03/09/2022	**Drill Finish Date:**	03/10/2022	**Plug Date:**	03/15/2022
Log File Date:	04/04/2022	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	55 feet	**Depth Water:**	

NMOSE 0.5-Mile Radius

9/6/2023, 2:44:16 PM

GIS WATERS PODs

- Active
- Pending
- Plugged
- OSE District Boundary

New Mexico State Trust Lands

- Subsurface Estate
- Both Estates
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

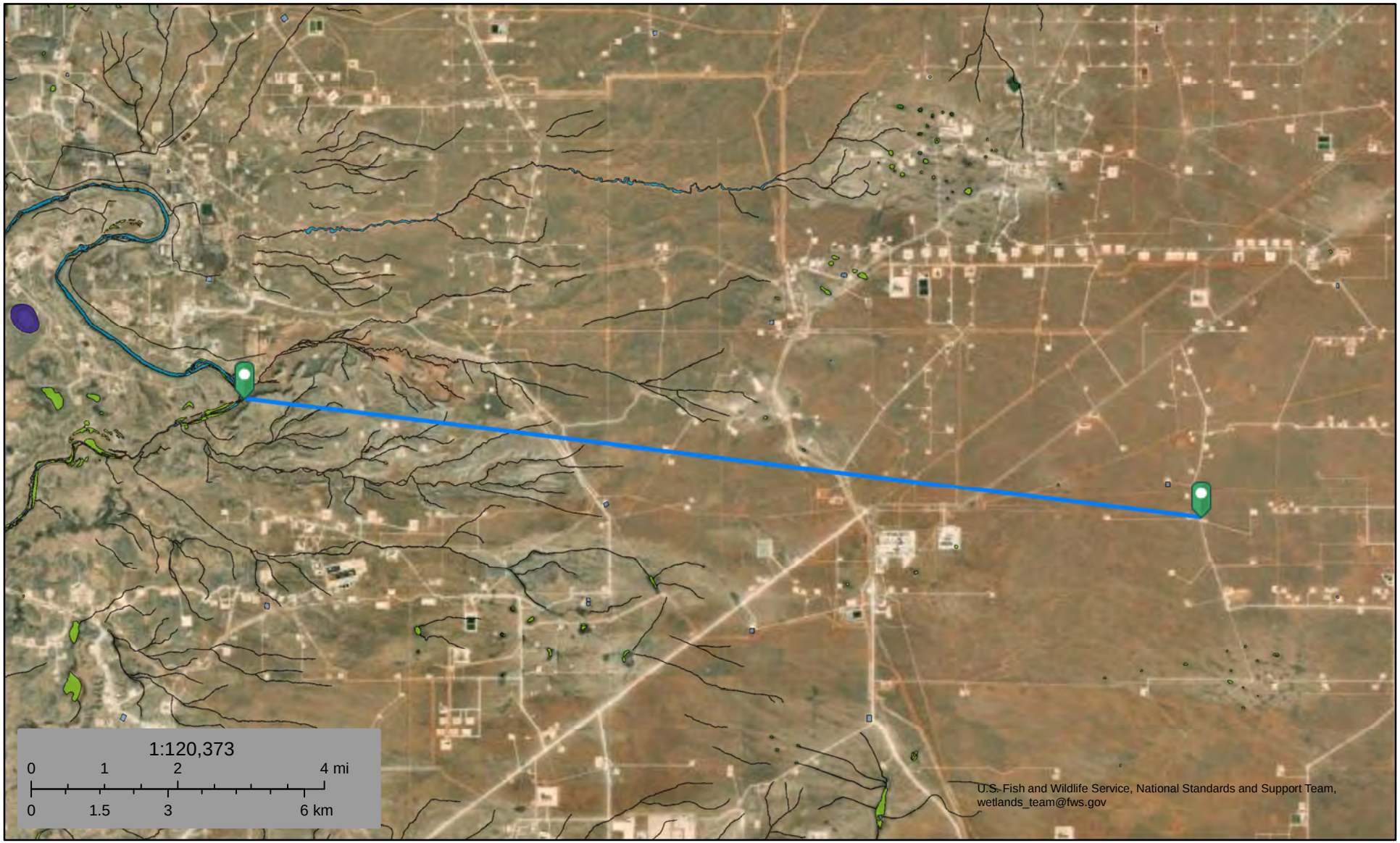
0 0.28 0.55 1.1 km

Online web user

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

U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU Big Sinks 3-25-31 Battery Watercours



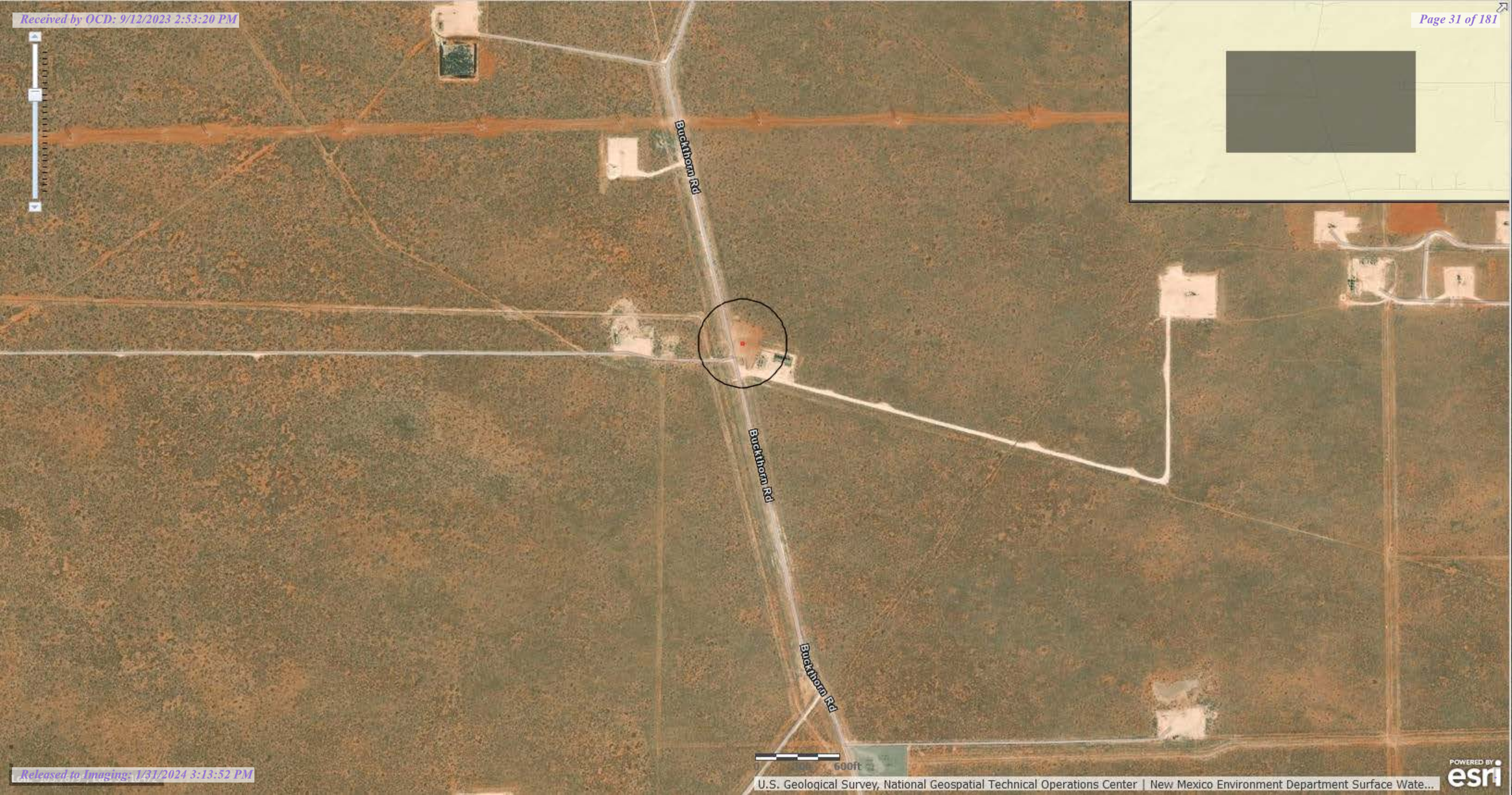
August 17, 2023

Wetlands

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

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

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


Buckthorn Rd
Buckthorn Rd
Buckthorn Rd
600ft
U.S. Geological Survey, National Geospatial Technical Operations Center | New Mexico Environment Department Surface Wate...
POWERED BY esri

U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU Big Sinks 3-25-31 Battery Lake

July 11, 2023

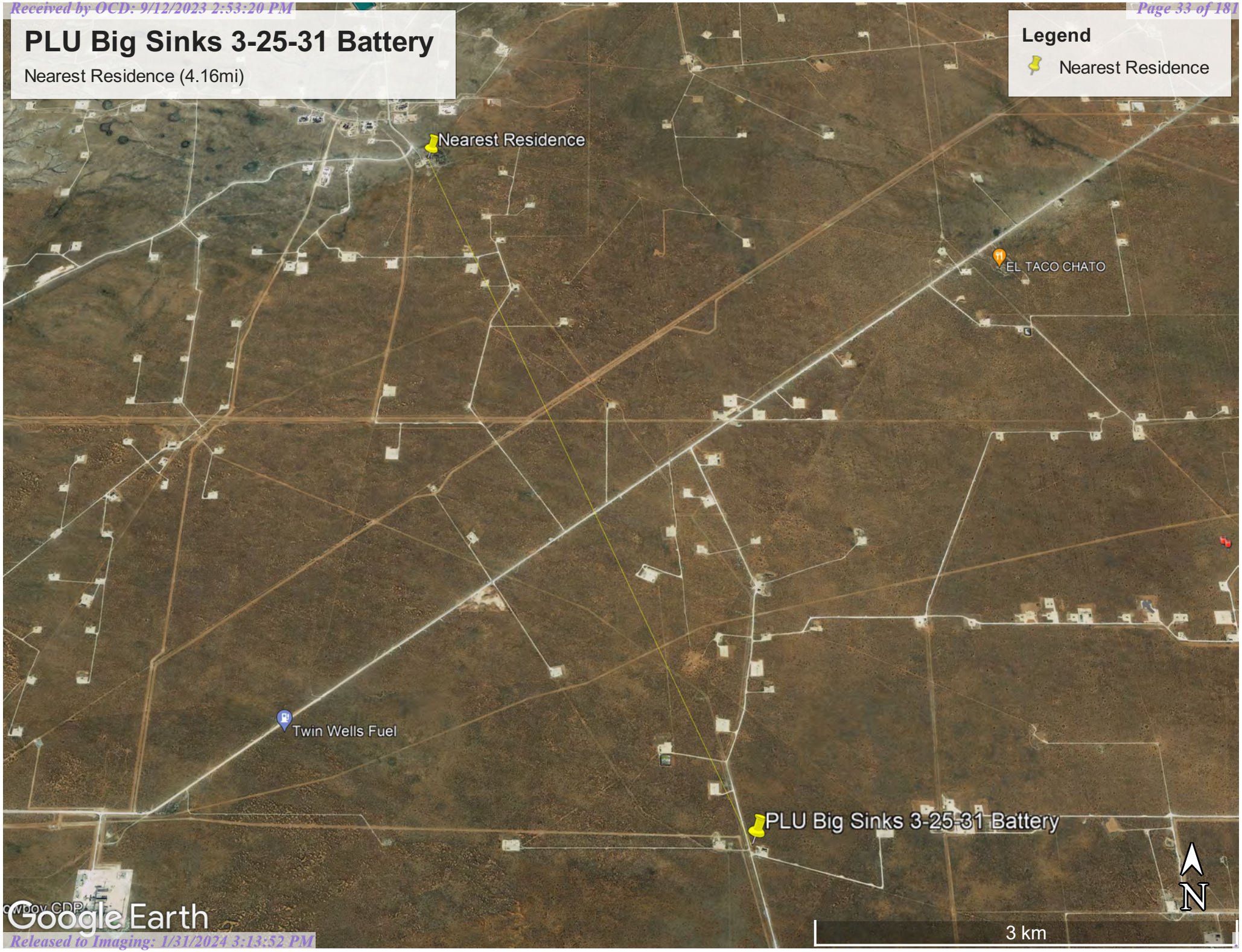
Wetlands

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

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

PLU Big Sinks 3-25-31 Battery

Nearest Residence (4.16mi)



U.S. Fish and Wildlife Service
National Wetlands Inventory

PLU Big Sinks 3-25-31 Battery Wetland

July 11, 2023

Wetlands

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

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

PLU Big Sinks 3-25-31 Tank Battery Mines

7/13/2023, 11:11:25 AM

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.03 0.05 km

Maxar, Microsoft, Esri, HERE, Garmin, iPC

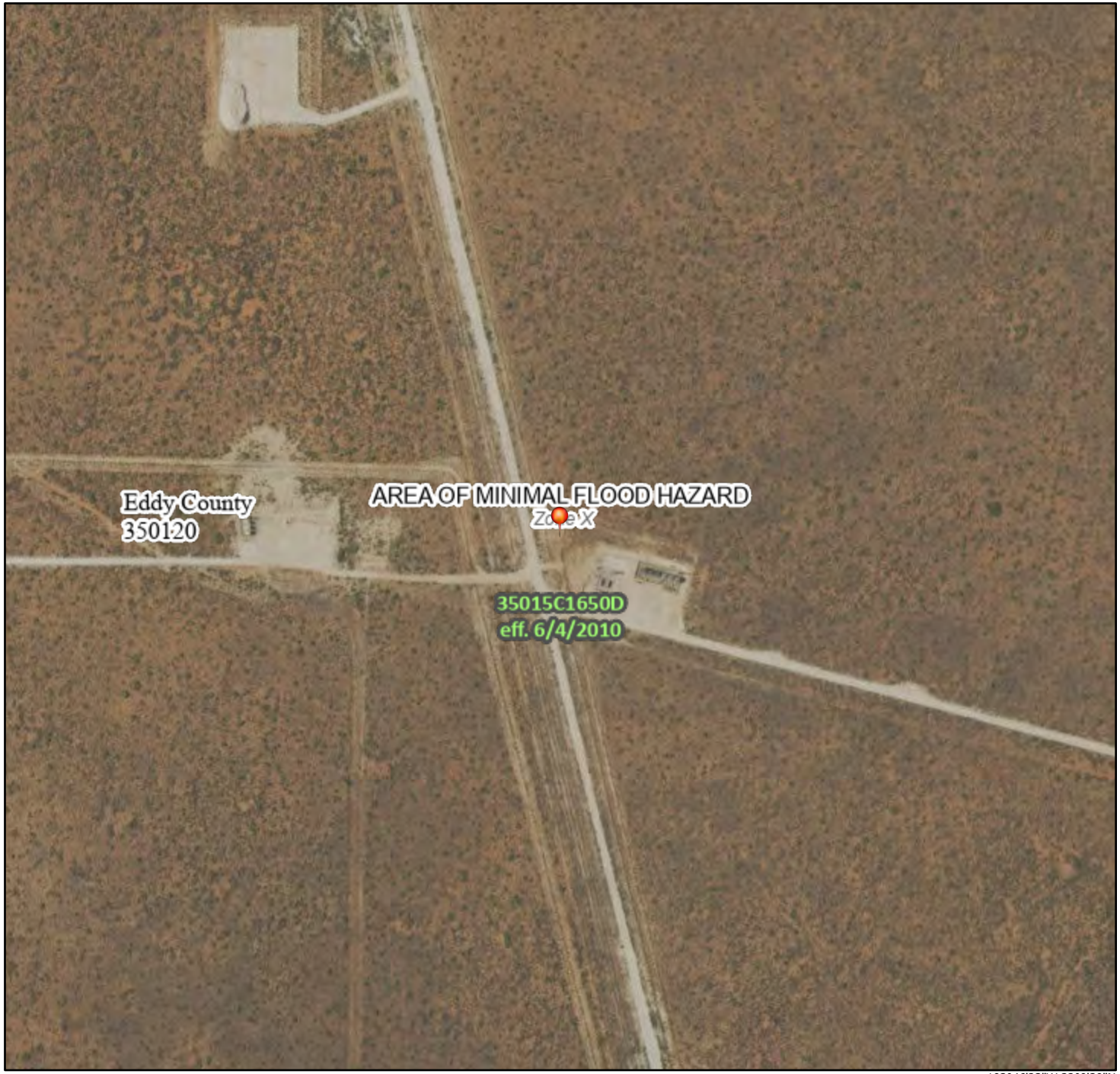
EMNRD MMD GIS Coordinator

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

National Flood Hazard Layer FIRMette

FEMA

103°47'W 32°10'9"N



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

1:6,000

103°46'23"W 32°9'39"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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/13/2023 at 1:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

APPENDIX C – Daily Field Report

Daily Site Visit Report

Client:	XTO Energy Inc. (US)	Inspection Date:	8/15/2023
Site Location Name:	PLU Big Sinks 3-25-31 Battery	Report Run Date:	8/15/2023 11:54 PM
Client Contact Name:	Garrett Green	API #:	
Client Contact Phone #:	575-200-0729		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/15/2023 7:30 AM
Departed Site	8/15/2023 3:00 PM

Field Notes

9:56 Arrived at location and filled out safety paperwork. Met with Tex-Mex contractor, held safety meeting and PSMS procedures, and discussed the work plan for the day. Will continue to excavate areas outlined by the site schematic.

10:00 Two dump trucks have brought a load of topsoil materials for backfill. Collected some wall samples and a few more base samples. Started stepping out walls horizontally about a foot, will resample walls and retest. Base samples tested clean for both chlorides and TPH.

14:59 Collected a total of six wall and base samples that represent the current excavation. All samples tested under criteria for chlorides and TPH. Added samples into glass containers and will send in for laboratory analysis. Contractor will bring in trucks to haul off the stockpiled materials. It is estimated about five dump trucks will haul off materials to disposal. Three of those trucks will haul in materials for backfill.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Overview of excavation

Viewing Direction: Southwest

Overview of excavation

Viewing Direction: West

Overview of excavation

Viewing Direction: East

Overview of excavation

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: East
	
Flare area excavation	Flare area excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Fernando Rodriguez

Signature: 

APPENDIX D – Notifications

From: Collins, Melanie
To: Chance Dixon
Subject: FW: XTO Sampling Notification PLU Big Sinks 3-25-31 Week of August 14, 2023
Date: August 10, 2023 7:31:02 AM
Attachments: image001.png

Sent

Melanie Collins

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

From: Collins, Melanie
Sent: Thursday, August 10, 2023 8:24 AM
To: 'ocd.enviro@state.nm.us' <ocd.enviro@state.nm.us>; Hamlet, Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov) <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov) <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Green, Garrett J <garrett.green@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO Sampling Notification PLU Big Sinks 3-25-31 Week of August 14, 2023

All,

Please see the sampling notification for the PLU Big Sinks 3-25-31 Battery for the week of August 14, 2023. Please reach out if you have questions, concerns, or if you would like additional information.

Site Name	PLU Big Sinks 3-25-31 Battery
Location	A-04-25S-31E; Eddy County, NM
Incident ID	nAPP2317052998
Source & Description of Activities	Excavation and Sampling
Expected Duration for Activities	2 Days 08.14.2023 – 08.15.2023
Env Consultant	Vertex
Contractor	TexMex
Sampling Notification Required	Yes, 08.14.2023 – 08.18.2023 (NMOCD District 2)
Surface Owner	BLM

Thank you,

Melanie Collins

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

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 230304

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 230304
	Action Type: [NOTIFY] Notification Of Release (NOR)

QUESTIONS

Location of Release Source *Please answer all the questions in this group.*	
Site Name	PLU Big Sinks 3-25-31 Battery
Date Release Discovered	06/14/2023
Surface Owner	Federal

Incident Details *Please answer all the questions in this group.*	
Incident Type	Oil Release
Did this release result in a fire or is the result of a fire	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release *Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.*	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Pump | Crude Oil | Released: 6 BBL | Recovered: 0 BBL | Lost: 6 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of dissolved chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*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: 230304
	Action Type: [NOTIFY] Notification Of Release (NOR)

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 19.15.29.7(A) NMAC	**No, minor release.**
Reasons why this would be considered a submission for a notification of a major release	
If YES, was immediate notice given to the OCD, by whom	*Not answered.*
If YES, was immediate notice given to the OCD, to whom	*Not answered.*
If YES, was immediate notice given to the OCD, when	*Not answered.*
If YES, was immediate notice given to the OCD, by what means (phone, email, etc.)	*Not answered.*
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 19.15.29.8 B. (4) 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 19.15.29.11(A)(5)(a) NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

ACKNOWLEDGMENTS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 230304
	Action Type: [NOTIFY] Notification Of Release (NOR)

ACKNOWLEDGMENTS

☑	I acknowledge that I am authorized to submit notification of a releases on behalf of my operator.
☑	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to my operator) to track the notification(s) and corrective action(s) for a release, pursuant to NMAC 19.15.29.
☑	I acknowledge that creating a new incident file will require my operator to file subsequent submission(s) of form "C-141, Application for administrative approval of a release notification and corrective action", pursuant to NMAC 19.15.29.
☑	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.
☑	I acknowledge the fact that 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.
☑	I acknowledge the fact that, 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.

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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: 230304
	Action Type: [NOTIFY] Notification Of Release (NOR)

CONDITIONS

Created By	Condition	Condition Date
mcollins	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.	6/19/2023

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 7/28/2023 11:38:51 AM

JOB DESCRIPTION

PLU Big Sinks 3-25-31
SDG NUMBER 23E-04103

JOB NUMBER

890-4932-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

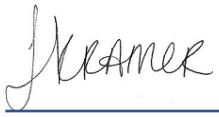
Eurofins Carlsbad

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
7/28/2023 11:38:51 AM

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

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Laboratory Job ID: 890-4932-1
SDG: 23E-04103

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Job ID: 890-4932-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4932-1

Receipt
The samples were received on 7/12/2023 10:04 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS23-01 0FT (890-4932-1), SS23-02 0FT (890-4932-2), SS23-03 0FT (890-4932-3), SS23-04 0FT (890-4932-4) and SS23-05 0FT (890-4932-5).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS23-03 0FT (890-4932-3) and SS23-05 0FT (890-4932-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS23-01 0FT (890-4932-1), SS23-03 0FT (890-4932-3), SS23-04 0FT (890-4932-4), SS23-05 0FT (890-4932-5), (MB 880-58171/1-A), (890-4932-A-1-D MS) and (890-4932-A-1-E MSD). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-01 0FT

Lab Sample ID: 890-4932-1
Matrix: Solid
Date Collected: 07/10/23 10:00
Date Received: 07/12/23 10:04
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		07/14/23 14:36	07/15/23 21:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 21:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 21:12	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/14/23 14:36	07/15/23 21:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 21:12	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/14/23 14:36	07/15/23 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*07/14/23 14:36*	*07/15/23 21:12*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/14/23 14:36*	*07/15/23 21:12*	*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			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.1**		50.3		mg/Kg			07/28/23 11:50	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		07/20/23 15:49	07/27/23 21:19	1
Diesel Range Organics (Over C10-C28)	**53.1**		50.3		mg/Kg		07/20/23 15:49	07/27/23 21:19	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		07/20/23 15:49	07/27/23 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/27/23 21:19*	*1*
o-Terphenyl	*119*		*70 - 130*	*07/20/23 15:49*	*07/27/23 21:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**37.3**		5.05		mg/Kg			07/14/23 18:18	1

Client Sample ID: SS23-02 0FT

Lab Sample ID: 890-4932-2
Matrix: Solid
Date Collected: 07/10/23 10:05
Date Received: 07/12/23 10:04
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		07/14/23 14:36	07/15/23 23:03	1
Toluene	**0.0111**		0.00199		mg/Kg		07/14/23 14:36	07/15/23 23:03	1
Ethylbenzene	**0.00378**		0.00199		mg/Kg		07/14/23 14:36	07/15/23 23:03	1
m-Xylene & p-Xylene	**0.0270**		0.00398		mg/Kg		07/14/23 14:36	07/15/23 23:03	1
o-Xylene	**0.00806**		0.00199		mg/Kg		07/14/23 14:36	07/15/23 23:03	1
Xylenes, Total	**0.0351**		0.00398		mg/Kg		07/14/23 14:36	07/15/23 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:03*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-02 0FT

Lab Sample ID: 890-4932-2
Matrix: Solid
Date Collected: 07/10/23 10:05
Date Received: 07/12/23 10:04
Sample Depth: 0 - 5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0499**		0.00398		mg/Kg			07/17/23 13:55	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			07/28/23 11:50	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		07/20/23 15:49	07/27/23 22:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/23 15:49	07/27/23 22:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/23 15:49	07/27/23 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*125*		*70 - 130*	*07/20/23 15:49*	*07/27/23 22:25*	*1*
o-Terphenyl	*106*		*70 - 130*	*07/20/23 15:49*	*07/27/23 22:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.6**		5.01		mg/Kg			07/14/23 18:23	1

Client Sample ID: SS23-03 0FT

Lab Sample ID: 890-4932-3
Matrix: Solid
Date Collected: 07/10/23 10:10
Date Received: 07/12/23 10:04
Sample Depth: 0 - 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0400	U	0.0400		mg/Kg		07/14/23 14:36	07/16/23 01:46	20
Toluene	**1.43**		0.0400		mg/Kg		07/14/23 14:36	07/16/23 01:46	20
Ethylbenzene	**1.45**		0.0400		mg/Kg		07/14/23 14:36	07/16/23 01:46	20
m-Xylene & p-Xylene	**9.11**		0.0800		mg/Kg		07/14/23 14:36	07/16/23 01:46	20
o-Xylene	**4.02**		0.0400		mg/Kg		07/14/23 14:36	07/16/23 01:46	20
Xylenes, Total	**13.1**		0.0800		mg/Kg		07/14/23 14:36	07/16/23 01:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*	*07/14/23 14:36*	*07/16/23 01:46*	*20*
1,4-Difluorobenzene (Surr)	*2*	*S1-*	*70 - 130*	*07/14/23 14:36*	*07/16/23 01:46*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**16.0**		0.0800		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**10600**		252		mg/Kg			07/28/23 11:50	1

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Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-03 0FT

Lab Sample ID: 890-4932-3
Matrix: Solid
Date Collected: 07/10/23 10:10
Date Received: 07/12/23 10:04
Sample Depth: 0 - 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**1100**	***-**	50.4		mg/Kg		07/20/23 15:49	07/27/23 23:30	1
Diesel Range Organics (Over C10-C28)	**9500**		252		mg/Kg		07/20/23 15:49	07/28/23 07:25	5
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		07/20/23 15:49	07/27/23 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*207*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/27/23 23:30*	*1*
1-Chlorooctane	*220*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/28/23 07:25*	*5*
o-Terphenyl	*98*		*70 - 130*	*07/20/23 15:49*	*07/27/23 23:30*	*1*
o-Terphenyl	*116*		*70 - 130*	*07/20/23 15:49*	*07/28/23 07:25*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.1**		5.04		mg/Kg			07/14/23 18:28	1

Client Sample ID: SS23-04 0FT

Lab Sample ID: 890-4932-4
Matrix: Solid
Date Collected: 07/10/23 10:15
Date Received: 07/12/23 10:04
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		07/14/23 14:36	07/15/23 23:23	1
Toluene	**0.0332**		0.00198		mg/Kg		07/14/23 14:36	07/15/23 23:23	1
Ethylbenzene	**0.00819**		0.00198		mg/Kg		07/14/23 14:36	07/15/23 23:23	1
m-Xylene & p-Xylene	**0.0520**		0.00396		mg/Kg		07/14/23 14:36	07/15/23 23:23	1
o-Xylene	**0.0155**		0.00198		mg/Kg		07/14/23 14:36	07/15/23 23:23	1
Xylenes, Total	**0.0675**		0.00396		mg/Kg		07/14/23 14:36	07/15/23 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:23*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*07/14/23 14:36*	*07/15/23 23:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.109**		0.00396		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**5720**		50.5		mg/Kg			07/28/23 11:50	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		07/20/23 15:49	07/27/23 23:52	1
Diesel Range Organics (Over C10-C28)	**5720**		50.5		mg/Kg		07/20/23 15:49	07/27/23 23:52	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		07/20/23 15:49	07/27/23 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/27/23 23:52*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-04 0FT

Lab Sample ID: 890-4932-4
Matrix: Solid
Date Collected: 07/10/23 10:15
Date Received: 07/12/23 10:04
Sample Depth: 0 - 5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*100*		*70 - 130*	*07/20/23 15:49*	*07/27/23 23:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**41.8**		4.98		mg/Kg			07/14/23 18:33	1

Client Sample ID: SS23-05 0FT

Lab Sample ID: 890-4932-5
Matrix: Solid
Date Collected: 07/10/23 10:20
Date Received: 07/12/23 10:04
Sample Depth: 0 - 5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0402	U	0.0402		mg/Kg		07/14/23 14:36	07/16/23 02:07	20
Toluene	**1.10**		0.0402		mg/Kg		07/14/23 14:36	07/16/23 02:07	20
Ethylbenzene	**1.09**		0.0402		mg/Kg		07/14/23 14:36	07/16/23 02:07	20
m-Xylene & p-Xylene	**8.14**		0.0805		mg/Kg		07/14/23 14:36	07/16/23 02:07	20
o-Xylene	**3.15**		0.0402		mg/Kg		07/14/23 14:36	07/16/23 02:07	20
Xylenes, Total	**11.3**		0.0805		mg/Kg		07/14/23 14:36	07/16/23 02:07	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/14/23 14:36*	*07/16/23 02:07*	*20*
1,4-Difluorobenzene (Surr)	*3*	*S1-*	*70 - 130*	*07/14/23 14:36*	*07/16/23 02:07*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**13.5**		0.0805		mg/Kg			07/17/23 13:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**14600**		248		mg/Kg			07/28/23 11:50	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	**1440**	***-**	49.6		mg/Kg		07/20/23 15:49	07/27/23 23:09	1
Diesel Range Organics (Over C10-C28)	**13200**		248		mg/Kg		07/20/23 15:49	07/28/23 07:03	5
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		07/20/23 15:49	07/27/23 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*279*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/27/23 23:09*	*1*
1-Chlorooctane	*281*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/28/23 07:03*	*5*
o-Terphenyl	*149*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/27/23 23:09*	*1*
o-Terphenyl	*159*	*S1+*	*70 - 130*	*07/20/23 15:49*	*07/28/23 07:03*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**38.5**		4.96		mg/Kg			07/14/23 18:38	1

Surrogate Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

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)										
890-4931-A-1-B MS	Matrix Spike	99	92										
890-4931-A-1-C MSD	Matrix Spike Duplicate	91	93										
890-4932-1	SS23-01 0FT	88	98										
890-4932-2	SS23-02 0FT	71	94										
890-4932-3	SS23-03 0FT	140 S1+	2 S1-										
890-4932-4	SS23-04 0FT	86	90										
890-4932-5	SS23-05 0FT	103	3 S1-										
LCS 880-57706/1-A	Lab Control Sample	97	92										
LCSD 880-57706/2-A	Lab Control Sample Dup	103	93										
MB 880-57706/5-A	Method Blank	91	110										

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)										
890-4932-1	SS23-01 0FT	139 S1+	119										
890-4932-1 MS	SS23-01 0FT	134 S1+	105										
890-4932-1 MSD	SS23-01 0FT	131 S1+	99										
890-4932-2	SS23-02 0FT	125	106										
890-4932-3	SS23-03 0FT	207 S1+	98										
890-4932-3	SS23-03 0FT	220 S1+	116										
890-4932-4	SS23-04 0FT	137 S1+	100										
890-4932-5	SS23-05 0FT	279 S1+	149 S1+										
890-4932-5	SS23-05 0FT	281 S1+	159 S1+										
LCS 880-58171/2-A	Lab Control Sample	104	98										
LCSD 880-58171/3-A	Lab Control Sample Dup	102	93										
MB 880-58171/1-A	Method Blank	171 S1+	156 S1+										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-57706/5-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57706

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/14/23 14:36	07/15/23 17:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/14/23 14:36	07/15/23 17:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*07/14/23 14:36*	*07/15/23 17:39*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*07/14/23 14:36*	*07/15/23 17:39*	*1*

Lab Sample ID: LCS 880-57706/1-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08059		mg/Kg		81	70 - 130		
Toluene			0.100	0.09173		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.07726		mg/Kg		77	70 - 130		
m-Xylene & p-Xylene			0.200	0.1625		mg/Kg		81	70 - 130		
o-Xylene			0.100	0.07434		mg/Kg		74	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 880-57706/2-A
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 57706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08691		mg/Kg		87	70 - 130	8	35
Toluene			0.100	0.1013		mg/Kg		101	70 - 130	10	35
Ethylbenzene			0.100	0.08840		mg/Kg		88	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1819		mg/Kg		91	70 - 130	11	35
o-Xylene			0.100	0.08739		mg/Kg		87	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-4931-A-1-B MS
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0994	0.09181		mg/Kg		92	70 - 130		
Toluene	<0.00202	U	0.0994	0.1034		mg/Kg		104	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

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

Lab Sample ID: 890-4931-A-1-B MS
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0994	0.08545		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.199	0.1713		mg/Kg		86	70 - 130
o-Xylene	<0.00202	U	0.0994	0.09163		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-4931-A-1-C MSD
Matrix: Solid
Analysis Batch: 57752

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57706

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0998	0.08348		mg/Kg		84	70 - 130	10	35
Toluene	<0.00202	U	0.0998	0.09166		mg/Kg		92	70 - 130	12	35
Ethylbenzene	<0.00202	U	0.0998	0.07256		mg/Kg		73	70 - 130	16	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1499		mg/Kg		75	70 - 130	13	35
o-Xylene	<0.00202	U	0.0998	0.08090		mg/Kg		81	70 - 130	12	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-58171/1-A
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58171

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		07/20/23 15:48	07/27/23 20:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/20/23 15:48	07/27/23 20:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/20/23 15:48	07/27/23 20:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*171*	*S1+*	*70 - 130*	*07/20/23 15:48*	*07/27/23 20:13*	*1*
o-Terphenyl	*156*	*S1+*	*70 - 130*	*07/20/23 15:48*	*07/27/23 20:13*	*1*

Lab Sample ID: LCS 880-58171/2-A
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58171

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	592.9	*-	mg/Kg		59	70 - 130
Diesel Range Organics (Over C10-C28)			1000	936.9		mg/Kg		94	70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

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

Lab Sample ID: LCS 880-58171/2-A
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58171

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: LCSD 880-58171/3-A
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58171

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	614.6	*-	mg/Kg		61	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	971.0		mg/Kg		97	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 890-4932-1 MS
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: SS23-01 0FT
Prep Type: Total/NA
Prep Batch: 58171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U *-	992	1037		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	53.1		992	1270		mg/Kg		123	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	134	S1+	70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 890-4932-1 MSD
Matrix: Solid
Analysis Batch: 58603

Client Sample ID: SS23-01 0FT
Prep Type: Total/NA
Prep Batch: 58171

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	<50.3	U *-	992	991.4		mg/Kg		98	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	53.1		992	1223		mg/Kg		118	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	99		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-57588/1-A
Matrix: Solid
Analysis Batch: 57721

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			07/14/23 16:14	1

Lab Sample ID: LCS 880-57588/2-A
Matrix: Solid
Analysis Batch: 57721

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.7		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-57588/3-A
Matrix: Solid
Analysis Batch: 57721

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	250.0		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-4931-A-6-B MS
Matrix: Solid
Analysis Batch: 57721

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	291		252	539.9		mg/Kg		99	90 - 110		

Lab Sample ID: 890-4931-A-6-C MSD
Matrix: Solid
Analysis Batch: 57721

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	291		252	538.1		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

GC VOA

Prep Batch: 57706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	5035	
890-4932-2	SS23-02 0FT	Total/NA	Solid	5035	
890-4932-3	SS23-03 0FT	Total/NA	Solid	5035	
890-4932-4	SS23-04 0FT	Total/NA	Solid	5035	
890-4932-5	SS23-05 0FT	Total/NA	Solid	5035	
MB 880-57706/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-57706/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-57706/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4931-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-4931-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 57752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	8021B	57706
890-4932-2	SS23-02 0FT	Total/NA	Solid	8021B	57706
890-4932-3	SS23-03 0FT	Total/NA	Solid	8021B	57706
890-4932-4	SS23-04 0FT	Total/NA	Solid	8021B	57706
890-4932-5	SS23-05 0FT	Total/NA	Solid	8021B	57706
MB 880-57706/5-A	Method Blank	Total/NA	Solid	8021B	57706
LCS 880-57706/1-A	Lab Control Sample	Total/NA	Solid	8021B	57706
LCSD 880-57706/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	57706
890-4931-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	57706
890-4931-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	57706

Analysis Batch: 57846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	Total BTEX	
890-4932-2	SS23-02 0FT	Total/NA	Solid	Total BTEX	
890-4932-3	SS23-03 0FT	Total/NA	Solid	Total BTEX	
890-4932-4	SS23-04 0FT	Total/NA	Solid	Total BTEX	
890-4932-5	SS23-05 0FT	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 58171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4932-2	SS23-02 0FT	Total/NA	Solid	8015NM Prep	
890-4932-3	SS23-03 0FT	Total/NA	Solid	8015NM Prep	
890-4932-4	SS23-04 0FT	Total/NA	Solid	8015NM Prep	
890-4932-5	SS23-05 0FT	Total/NA	Solid	8015NM Prep	
MB 880-58171/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-58171/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-58171/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4932-1 MS	SS23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4932-1 MSD	SS23-01 0FT	Total/NA	Solid	8015NM Prep	

Analysis Batch: 58603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	8015B NM	58171
890-4932-2	SS23-02 0FT	Total/NA	Solid	8015B NM	58171

QC Association Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

GC Semi VOA (Continued)

Analysis Batch: 58603 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-3	SS23-03 0FT	Total/NA	Solid	8015B NM	58171
890-4932-3	SS23-03 0FT	Total/NA	Solid	8015B NM	58171
890-4932-4	SS23-04 0FT	Total/NA	Solid	8015B NM	58171
890-4932-5	SS23-05 0FT	Total/NA	Solid	8015B NM	58171
890-4932-5	SS23-05 0FT	Total/NA	Solid	8015B NM	58171
MB 880-58171/1-A	Method Blank	Total/NA	Solid	8015B NM	58171
LCS 880-58171/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	58171
LCSD 880-58171/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	58171
890-4932-1 MS	SS23-01 0FT	Total/NA	Solid	8015B NM	58171
890-4932-1 MSD	SS23-01 0FT	Total/NA	Solid	8015B NM	58171

Analysis Batch: 58720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Total/NA	Solid	8015 NM	
890-4932-2	SS23-02 0FT	Total/NA	Solid	8015 NM	
890-4932-3	SS23-03 0FT	Total/NA	Solid	8015 NM	
890-4932-4	SS23-04 0FT	Total/NA	Solid	8015 NM	
890-4932-5	SS23-05 0FT	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 57588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Soluble	Solid	DI Leach	
890-4932-2	SS23-02 0FT	Soluble	Solid	DI Leach	
890-4932-3	SS23-03 0FT	Soluble	Solid	DI Leach	
890-4932-4	SS23-04 0FT	Soluble	Solid	DI Leach	
890-4932-5	SS23-05 0FT	Soluble	Solid	DI Leach	
MB 880-57588/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-57588/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-57588/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4931-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4931-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 57721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4932-1	SS23-01 0FT	Soluble	Solid	300.0	57588
890-4932-2	SS23-02 0FT	Soluble	Solid	300.0	57588
890-4932-3	SS23-03 0FT	Soluble	Solid	300.0	57588
890-4932-4	SS23-04 0FT	Soluble	Solid	300.0	57588
890-4932-5	SS23-05 0FT	Soluble	Solid	300.0	57588
MB 880-57588/1-A	Method Blank	Soluble	Solid	300.0	57588
LCS 880-57588/2-A	Lab Control Sample	Soluble	Solid	300.0	57588
LCSD 880-57588/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	57588
890-4931-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	57588
890-4931-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	57588

Lab Chronicle

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-01 0FT

Lab Sample ID: 890-4932-1
Matrix: Solid
Date Collected: 07/10/23 10:00
Date Received: 07/12/23 10:04

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	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/15/23 21:12	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57846	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58720	07/28/23 11:50	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58603	07/27/23 21:19	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	57588	07/13/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1			57721	07/14/23 18:18	CH	EET MID

Client Sample ID: SS23-02 0FT

Lab Sample ID: 890-4932-2
Matrix: Solid
Date Collected: 07/10/23 10:05
Date Received: 07/12/23 10:04

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	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/15/23 23:03	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57846	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58720	07/28/23 11:50	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58603	07/27/23 22:25	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	57588	07/13/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1			57721	07/14/23 18:23	CH	EET MID

Client Sample ID: SS23-03 0FT

Lab Sample ID: 890-4932-3
Matrix: Solid
Date Collected: 07/10/23 10:10
Date Received: 07/12/23 10:04

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	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	57752	07/16/23 01:46	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57846	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58720	07/28/23 11:50	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58603	07/27/23 23:30	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	58603	07/28/23 07:25	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	57588	07/13/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1			57721	07/14/23 18:28	CH	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Client Sample ID: SS23-04 0FT

Date Collected: 07/10/23 10:15
Date Received: 07/12/23 10:04

Lab Sample ID: 890-4932-4

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			5.05 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	57752	07/15/23 23:23	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57846	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58720	07/28/23 11:50	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58603	07/27/23 23:52	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	57588	07/13/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1			57721	07/14/23 18:33	CH	EET MID

Client Sample ID: SS23-05 0FT

Date Collected: 07/10/23 10:20
Date Received: 07/12/23 10:04

Lab Sample ID: 890-4932-5

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			4.97 g	5 mL	57706	07/14/23 14:36	EL	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	57752	07/16/23 02:07	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			57846	07/17/23 13:55	AJ	EET MID
Total/NA	Analysis	8015 NM		1			58720	07/28/23 11:50	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58603	07/27/23 23:09	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	58171	07/20/23 15:49	TKC	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	58603	07/28/23 07:03	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	57588	07/13/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1			57721	07/14/23 18:38	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 Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

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 Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

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 Big Sinks 3-25-31

Job ID: 890-4932-1
SDG: 23E-04103

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4932-1	SS23-01 0FT	Solid	07/10/23 10:00	07/12/23 10:04	0 - 5
890-4932-2	SS23-02 0FT	Solid	07/10/23 10:05	07/12/23 10:04	0 - 5
890-4932-3	SS23-03 0FT	Solid	07/10/23 10:10	07/12/23 10:04	0 - 5
890-4932-4	SS23-04 0FT	Solid	07/10/23 10:15	07/12/23 10:04	0 - 5
890-4932-5	SS23-05 0FT	Solid	07/10/23 10:20	07/12/23 10:04	0 - 5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex Resources	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	On file
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	CDixon@vertexca.com, Permian@vertex.ca.com, Analytics@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:	Rustler Sinks 3-25-31 Battery	Turn Around	7/12
Project Number:	23E-04103	Routine ☒ Rush ☐	Pres. Code
Project Location:	Rural Eddy, NM	Due Date:	2 Day
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.8
Total Containers:		Corrected Temperature:	2.6

ANALYSIS REQUEST

Parameters: BTEX; TPH: 8015D; Cl-

890-4932 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont
SS23-01 0ft	Soil	7/10	10:00	0ft	Grab	1
SS23-02 0ft			10:05			
SS23-03 0ft			10:10			
SS23-04 0ft			10:15			
SS23-05 0ft			10:20			

Preservative Codes

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

Sample Comments

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7-12-23 1004	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4932-1
SDG Number: 23E-04103

Login Number: 4932
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4932-1
SDG Number: 23E-04103

Login Number: 4932
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/13/23 11:48 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 7/28/2023 11:36:54 AM

JOB DESCRIPTION

PLU BIG SINKS 3-25-31 Battery
SDG NUMBER Carslbad NM

JOB NUMBER

890-4968-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

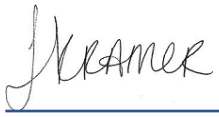
Eurofins Carlsbad

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
7/28/2023 11:36:54 AM

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

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Job ID: 890-4968-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4968-1

Receipt
The samples were received on 7/20/2023 8:40 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 1.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH23-01 0FT (890-4968-1), BH23-01 2FT (890-4968-2), BH23-02 0FT (890-4968-3), BH23-02 2FT (890-4968-4), BH23-03 0FT (890-4968-5), BH23-03 2FT (890-4968-6), BH23-08 0FT (890-4968-7), BH23-08 2FT (890-4968-8), BH23-10 0FT (890-4968-9), BH23-10 2FT (890-4968-10), BH23-11 0FT (890-4968-11), BH23-11 2FT (890-4968-12), BH23-12 0FT (890-4968-13), BH23-12 2FT (890-4968-14), BH23-13 0FT (890-4968-15), BH23-13 2FT (890-4968-16), BH23-14 0FT (890-4968-17), BH23-14 2FT (890-4968-18), BH23-15 0FT (890-4968-19), BH23-15 2FT (890-4968-20), BH23-16 0FT (890-4968-21) and BH23-16 2FT (890-4968-22).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-01 2FT (890-4968-2), BH23-02 0FT (890-4968-3), BH23-08 0FT (890-4968-7), BH23-08 2FT (890-4968-8) and BH23-10 0FT (890-4968-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-11 2FT (890-4968-12), BH23-12 2FT (890-4968-14), BH23-13 2FT (890-4968-16), BH23-14 0FT (890-4968-17) and BH23-15 0FT (890-4968-19). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-58304 recovered above the upper control limit for m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-58304/2).

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-58304 recovered above the upper control limit for Toluene and m-Xylene & p-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 880-58304/33).

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH23-15 2FT (890-4968-20) and BH23-16 0FT (890-4968-21). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-58294 and analytical batch 880-58509 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-58509/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH23-11 0FT (890-4968-11), BH23-13 0FT (890-4968-15), BH23-14 0FT (890-4968-17), BH23-15 0FT (890-4968-19), BH23-15 2FT (890-4968-20), BH23-16 2FT (890-4968-22) and (MB 880-58343/1-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-58217 and analytical batch 880-58468 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because

Case Narrative

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Job ID: 890-4968-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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 BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-01 0FT

Lab Sample ID: 890-4968-1
Matrix: Solid
Date Collected: 07/14/23 07:00
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 12:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 12:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/24/23 08:43*	*07/24/23 12:02*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*07/24/23 08:43*	*07/24/23 12:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/25/23 10:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**50.3**		49.9		mg/Kg			07/27/23 08:30	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		07/24/23 08:30	07/26/23 17:25	1
Diesel Range Organics (Over C10-C28)	**50.3**		49.9		mg/Kg		07/24/23 08:30	07/26/23 17:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/24/23 08:30	07/26/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/24/23 08:30*	*07/26/23 17:25*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/24/23 08:30*	*07/26/23 17:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.4**		4.99		mg/Kg			07/24/23 22:49	1

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4968-2
Matrix: Solid
Date Collected: 07/14/23 07:05
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 12:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 12:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/24/23 08:43*	*07/24/23 12:22*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4968-2
Matrix: Solid

Date Collected: 07/14/23 07:05
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*61*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 12:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/25/23 10:04	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			07/27/23 08:30	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		07/24/23 08:30	07/26/23 17:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/24/23 08:30	07/26/23 17:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/24/23 08:30	07/26/23 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*99*		*70 - 130*	*07/24/23 08:30*	*07/26/23 17:47*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/24/23 08:30*	*07/26/23 17:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**62.9**		5.00		mg/Kg			07/24/23 23:04	1

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4968-3
Matrix: Solid

Date Collected: 07/14/23 07:10
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 12:43	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 12:43	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 12:43	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/24/23 08:43	07/24/23 12:43	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 12:43	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/24/23 08:43	07/24/23 12:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*07/24/23 08:43*	*07/24/23 12:43*	*1*
1,4-Difluorobenzene (Surr)	*53*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 12:43*	*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			07/25/23 10:04	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			07/28/23 12:21	1

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4968-3
Matrix: Solid
Date Collected: 07/14/23 07:10
Date Received: 07/20/23 08:40
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	<50.3	U	50.3		mg/Kg		07/24/23 10:22	07/27/23 21:19	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		07/24/23 10:22	07/27/23 21:19	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		07/24/23 10:22	07/27/23 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*07/24/23 10:22*	*07/27/23 21:19*	*1*
o-Terphenyl	*112*		*70 - 130*	*07/24/23 10:22*	*07/27/23 21:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**58.7**		4.98		mg/Kg			07/24/23 23:09	1

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4968-4
Matrix: Solid
Date Collected: 07/14/23 07:15
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 13:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 13:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 13:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/24/23 08:43	07/24/23 13:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 13:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/24/23 08:43	07/24/23 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:03*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:03*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/27/23 22:25	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/27/23 22:25	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/27/23 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*07/24/23 10:22*	*07/27/23 22:25*	*1*
o-Terphenyl	*108*		*70 - 130*	*07/24/23 10:22*	*07/27/23 22:25*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4968-4
Matrix: Solid
Date Collected: 07/14/23 07:15
Date Received: 07/20/23 08:40
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.4		4.96		mg/Kg			07/24/23 23:14	1

Client Sample ID: BH23-03 0FT

Lab Sample ID: 890-4968-5
Matrix: Solid
Date Collected: 07/14/23 07:20
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 13:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 13:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 13:24	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/24/23 08:43	07/24/23 13:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 13:24	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/24/23 08:43	07/24/23 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:24*	*1*
1,4-Difluorobenzene (Surr)	*70*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:24*	*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			07/25/23 10:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			07/28/23 12:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		07/24/23 10:22	07/27/23 22:47	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		07/24/23 10:22	07/27/23 22:47	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		07/24/23 10:22	07/27/23 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*07/24/23 10:22*	*07/27/23 22:47*	*1*
o-Terphenyl	*99*		*70 - 130*	*07/24/23 10:22*	*07/27/23 22:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59.2		4.99		mg/Kg			07/24/23 23:19	1

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-03 2FT

Lab Sample ID: 890-4968-6
Matrix: Solid
Date Collected: 07/14/23 07:25
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 13:44	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 13:44	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 13:44	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/24/23 08:43	07/24/23 13:44	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 13:44	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/24/23 08:43	07/24/23 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:44*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*07/24/23 08:43*	*07/24/23 13:44*	*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			07/25/23 10:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5		mg/Kg			07/28/23 12:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5		mg/Kg		07/24/23 10:22	07/27/23 23:09	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		07/24/23 10:22	07/27/23 23:09	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		07/24/23 10:22	07/27/23 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:09*	*1*
o-Terphenyl	*105*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**29.3**		4.97		mg/Kg			07/24/23 23:34	1

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4968-7
Matrix: Solid
Date Collected: 07/14/23 08:10
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 14:05	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 14:05	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 14:05	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/24/23 08:43	07/24/23 14:05	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/24/23 08:43	07/24/23 14:05	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/24/23 08:43	07/24/23 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*07/24/23 08:43*	*07/24/23 14:05*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4968-7
Matrix: Solid

Date Collected: 07/14/23 08:10
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*58*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 14:05*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/27/23 23:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/24/23 10:22	07/27/23 23:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/24/23 10:22	07/27/23 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*92*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:30*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**57.0**		5.00	mg/Kg			07/24/23 23:39	1

Client Sample ID: BH23-08 2FT

Lab Sample ID: 890-4968-8
Matrix: Solid

Date Collected: 07/14/23 08:15
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 14:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 14:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 14:25	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		07/24/23 08:43	07/24/23 14:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 14:25	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		07/24/23 08:43	07/24/23 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*56*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 14:25*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*07/24/23 08:43*	*07/24/23 14:25*	*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			07/25/23 10:04	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			07/28/23 12:21	1

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-08 2FT

Lab Sample ID: 890-4968-8
Matrix: Solid
Date Collected: 07/14/23 08:15
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/27/23 23:52	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/27/23 23:52	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/27/23 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:52*	*1*
o-Terphenyl	*126*		*70 - 130*	*07/24/23 10:22*	*07/27/23 23:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19.8**		4.95		mg/Kg			07/24/23 23:44	1

Client Sample ID: BH23-10 0FT

Lab Sample ID: 890-4968-9
Matrix: Solid
Date Collected: 07/14/23 08:30
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 14:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 14:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 14:46	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/24/23 08:43	07/24/23 14:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 14:46	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/24/23 08:43	07/24/23 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 14:46*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*07/24/23 08:43*	*07/24/23 14:46*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 00:14	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/28/23 00:14	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		07/24/23 10:22	07/28/23 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*07/24/23 10:22*	*07/28/23 00:14*	*1*
o-Terphenyl	*109*		*70 - 130*	*07/24/23 10:22*	*07/28/23 00:14*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-10 0FT

Lab Sample ID: 890-4968-9
Matrix: Solid
Date Collected: 07/14/23 08:30
Date Received: 07/20/23 08:40
Sample Depth: 0

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	67.3		5.04		mg/Kg			07/24/23 23:49	1

Client Sample ID: BH23-10 2FT

Lab Sample ID: 890-4968-10
Matrix: Solid
Date Collected: 07/14/23 08:35
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 15:06	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 15:06	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 15:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/24/23 08:43	07/24/23 15:06	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/24/23 08:43	07/24/23 15:06	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/24/23 08:43	07/24/23 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/24/23 08:43*	*07/24/23 15:06*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*07/24/23 08:43*	*07/24/23 15:06*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 00:36	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		07/24/23 10:22	07/28/23 00:36	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		07/24/23 10:22	07/28/23 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*07/24/23 10:22*	*07/28/23 00:36*	*1*
o-Terphenyl	*99*		*70 - 130*	*07/24/23 10:22*	*07/28/23 00:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.9		5.00		mg/Kg			07/24/23 23:54	1

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-11 0FT

Lab Sample ID: 890-4968-11
Matrix: Solid
Date Collected: 07/14/23 08:40
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 16:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 16:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 16:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		07/24/23 08:43	07/24/23 16:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 16:29	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		07/24/23 08:43	07/24/23 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*07/24/23 08:43*	*07/24/23 16:29*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/24/23 08:43*	*07/24/23 16:29*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 00:58	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		07/24/23 10:22	07/28/23 00:58	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		07/24/23 10:22	07/28/23 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/24/23 10:22*	*07/28/23 00:58*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*07/24/23 10:22*	*07/28/23 00:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95.6**		4.95		mg/Kg			07/24/23 23:59	1

Client Sample ID: BH23-11 2FT

Lab Sample ID: 890-4968-12
Matrix: Solid
Date Collected: 07/14/23 08:45
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 16:50	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 16:50	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 16:50	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		07/24/23 08:43	07/24/23 16:50	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 16:50	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		07/24/23 08:43	07/24/23 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*07/24/23 08:43*	*07/24/23 16:50*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-11 2FT

Lab Sample ID: 890-4968-12
Matrix: Solid
Date Collected: 07/14/23 08:45
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*58*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 16:50*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 01:19	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		07/24/23 10:22	07/28/23 01:19	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		07/24/23 10:22	07/28/23 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*07/24/23 10:22*	*07/28/23 01:19*	*1*
o-Terphenyl	*99*		*70 - 130*	*07/24/23 10:22*	*07/28/23 01:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**67.8**		4.99	mg/Kg			07/25/23 00:14	1

Client Sample ID: BH23-12 0FT

Lab Sample ID: 890-4968-13
Matrix: Solid
Date Collected: 07/14/23 08:50
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 17:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 17:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 17:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/24/23 08:43	07/24/23 17:10	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:43	07/24/23 17:10	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/24/23 08:43	07/24/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*07/24/23 08:43*	*07/24/23 17:10*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*07/24/23 08:43*	*07/24/23 17:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/25/23 10:04	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			07/28/23 12:21	1

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-12 0FT

Lab Sample ID: 890-4968-13
Matrix: Solid
Date Collected: 07/14/23 08:50
Date Received: 07/20/23 08:40
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	<50.0	U	50.0		mg/Kg		07/24/23 10:22	07/28/23 02:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/24/23 10:22	07/28/23 02:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/24/23 10:22	07/28/23 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*07/24/23 10:22*	*07/28/23 02:03*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/24/23 10:22*	*07/28/23 02:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**57.3**		5.01		mg/Kg			07/25/23 00:19	1

Client Sample ID: BH23-12 2FT

Lab Sample ID: 890-4968-14
Matrix: Solid
Date Collected: 07/14/23 08:55
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 17:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 17:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 17:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 17:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/24/23 08:43	07/24/23 17:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/24/23 08:43	07/24/23 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/24/23 08:43*	*07/24/23 17:31*	*1*
1,4-Difluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 17:31*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 02:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/24/23 10:22	07/28/23 02:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/24/23 10:22	07/28/23 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*07/24/23 10:22*	*07/28/23 02:25*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/24/23 10:22*	*07/28/23 02:25*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-12 2FT

Lab Sample ID: 890-4968-14
Matrix: Solid
Date Collected: 07/14/23 08:55
Date Received: 07/20/23 08:40
Sample Depth: 2

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.4		4.97		mg/Kg			07/25/23 00:33	1

Client Sample ID: BH23-13 0FT

Lab Sample ID: 890-4968-15
Matrix: Solid
Date Collected: 07/14/23 09:00
Date Received: 07/20/23 08:40
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		07/24/23 08:43	07/24/23 17:51	1
Toluene	0.00218		0.00200		mg/Kg		07/24/23 08:43	07/24/23 17:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 17:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/24/23 08:43	07/24/23 17:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 17:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/24/23 08:43	07/24/23 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/24/23 08:43*	*07/24/23 17:51*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*07/24/23 08:43*	*07/24/23 17:51*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 02:46	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		07/24/23 10:22	07/28/23 02:46	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		07/24/23 10:22	07/28/23 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*07/24/23 10:22*	*07/28/23 02:46*	*1*
o-Terphenyl	*137*	*S1+*	*70 - 130*	*07/24/23 10:22*	*07/28/23 02:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.3		4.95		mg/Kg			07/25/23 00:38	1

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-13 2FT

Lab Sample ID: 890-4968-16
Matrix: Solid
Date Collected: 07/14/23 09:05
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 18:12	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 18:12	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 18:12	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/24/23 08:43	07/24/23 18:12	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/24/23 08:43	07/24/23 18:12	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/24/23 08:43	07/24/23 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/24/23 08:43*	*07/24/23 18:12*	*1*
1,4-Difluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 18:12*	*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			07/25/23 10:04	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			07/28/23 12:21	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		07/24/23 10:22	07/28/23 03:08	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		07/24/23 10:22	07/28/23 03:08	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		07/24/23 10:22	07/28/23 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*07/24/23 10:22*	*07/28/23 03:08*	*1*
o-Terphenyl	*113*		*70 - 130*	*07/24/23 10:22*	*07/28/23 03:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**80.5**		4.98		mg/Kg			07/25/23 00:43	1

Client Sample ID: BH23-14 0FT

Lab Sample ID: 890-4968-17
Matrix: Solid
Date Collected: 07/14/23 09:10
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00287**		0.00201		mg/Kg		07/24/23 08:43	07/24/23 18:32	1
Toluene	**0.0260**		0.00201		mg/Kg		07/24/23 08:43	07/24/23 18:32	1
Ethylbenzene	**0.00571**		0.00201		mg/Kg		07/24/23 08:43	07/24/23 18:32	1
m-Xylene & p-Xylene	**0.0296**		0.00402		mg/Kg		07/24/23 08:43	07/24/23 18:32	1
o-Xylene	**0.00838**		0.00201		mg/Kg		07/24/23 08:43	07/24/23 18:32	1
Xylenes, Total	**0.0380**		0.00402		mg/Kg		07/24/23 08:43	07/24/23 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*07/24/23 08:43*	*07/24/23 18:32*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-14 0FT

Lab Sample ID: 890-4968-17
Matrix: Solid
Date Collected: 07/14/23 09:10
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/24/23 08:43*	*07/24/23 18:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0726**		0.00402	mg/Kg			07/25/23 10:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2690**		49.5	mg/Kg			07/28/23 12:21	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	**51.5**		49.5	mg/Kg		07/24/23 10:22	07/28/23 03:30	1
Diesel Range Organics (Over C10-C28)	**2550**		49.5	mg/Kg		07/24/23 10:22	07/28/23 03:30	1
Oil Range Organics (Over C28-C36)	**91.1**		49.5	mg/Kg		07/24/23 10:22	07/28/23 03:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*115*		*70 - 130*	*07/24/23 10:22*	*07/28/23 03:30*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*07/24/23 10:22*	*07/28/23 03:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**62.5**		5.00	mg/Kg			07/25/23 00:48	1

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4968-18
Matrix: Solid
Date Collected: 07/14/23 09:15
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		07/24/23 08:43	07/24/23 18:53	1
Toluene	<0.00202	U	0.00202	mg/Kg		07/24/23 08:43	07/24/23 18:53	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		07/24/23 08:43	07/24/23 18:53	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		07/24/23 08:43	07/24/23 18:53	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		07/24/23 08:43	07/24/23 18:53	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		07/24/23 08:43	07/24/23 18:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*07/24/23 08:43*	*07/24/23 18:53*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*07/24/23 08:43*	*07/24/23 18:53*	*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			07/25/23 10:04	1

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4968-18
Matrix: Solid
Date Collected: 07/14/23 09:15
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**108**		50.5		mg/Kg			07/28/23 12:21	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		07/24/23 10:22	07/28/23 03:51	1
Diesel Range Organics (Over C10-C28)	**108**		50.5		mg/Kg		07/24/23 10:22	07/28/23 03:51	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		07/24/23 10:22	07/28/23 03:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*07/24/23 10:22*	*07/28/23 03:51*	*1*
o-Terphenyl	*119*		*70 - 130*	*07/24/23 10:22*	*07/28/23 03:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**64.8**		4.96		mg/Kg			07/25/23 00:53	1

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4968-19
Matrix: Solid
Date Collected: 07/14/23 09:20
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.241**		0.00202		mg/Kg		07/24/23 08:43	07/24/23 19:13	1
Toluene	**3.10**		0.998		mg/Kg		07/24/23 17:46	07/25/23 10:35	500
Ethylbenzene	**1.34**		0.998		mg/Kg		07/24/23 17:46	07/25/23 10:35	500
m-Xylene & p-Xylene	**12.3**		2.00		mg/Kg		07/24/23 17:46	07/25/23 10:35	500
o-Xylene	**2.44**		0.998		mg/Kg		07/24/23 17:46	07/25/23 10:35	500
Xylenes, Total	**14.7**		2.00		mg/Kg		07/24/23 17:46	07/25/23 10:35	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*510*	*S1+*	*70 - 130*	*07/24/23 08:43*	*07/24/23 19:13*	*1*
1,4-Difluorobenzene (Surr)	*155*	*S1+*	*70 - 130*	*07/24/23 08:43*	*07/24/23 19:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**19.4**		2.00		mg/Kg			07/25/23 10:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**5150**		50.3		mg/Kg			07/28/23 12:21	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	**583**		50.3		mg/Kg		07/24/23 10:22	07/28/23 04:13	1
Diesel Range Organics (Over C10-C28)	**4420**		50.3		mg/Kg		07/24/23 10:22	07/28/23 04:13	1
OII Range Organics (Over C28-C36)	**148**		50.3		mg/Kg		07/24/23 10:22	07/28/23 04:13	1

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Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4968-19
Matrix: Solid
Date Collected: 07/14/23 09:20
Date Received: 07/20/23 08:40
Sample Depth: 0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	07/24/23 10:22	07/28/23 04:13	1
o-Terphenyl	136	S1+	70 - 130	07/24/23 10:22	07/28/23 04:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70.4		5.05	mg/Kg			07/25/23 00:58	1

Client Sample ID: BH23-15 2FT

Lab Sample ID: 890-4968-20
Matrix: Solid
Date Collected: 07/14/23 09:25
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.80		0.199	mg/Kg		07/24/23 17:46	07/25/23 10:55	100
Toluene	21.9		0.199	mg/Kg		07/24/23 17:46	07/25/23 10:55	100
Ethylbenzene	5.79		0.199	mg/Kg		07/24/23 17:46	07/25/23 10:55	100
m-Xylene & p-Xylene	40.0		0.398	mg/Kg		07/24/23 17:46	07/25/23 10:55	100
o-Xylene	14.7		0.199	mg/Kg		07/24/23 17:46	07/25/23 10:55	100
Xylenes, Total	54.7		0.398	mg/Kg		07/24/23 17:46	07/25/23 10:55	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	07/24/23 17:46	07/25/23 10:55	100
1,4-Difluorobenzene (Surr)	63	S1-	70 - 130	07/24/23 17:46	07/25/23 10:55	100

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	84.2		0.398	mg/Kg			07/26/23 16:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	8570		50.1	mg/Kg			07/28/23 12:21	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	2650		50.1	mg/Kg		07/24/23 10:22	07/28/23 04:35	1
Diesel Range Organics (Over C10-C28)	5710		50.1	mg/Kg		07/24/23 10:22	07/28/23 04:35	1
Oil Range Organics (Over C28-C36)	208		50.1	mg/Kg		07/24/23 10:22	07/28/23 04:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	152	S1+	70 - 130	07/24/23 10:22	07/28/23 04:35	1
o-Terphenyl	157	S1+	70 - 130	07/24/23 10:22	07/28/23 04:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92.4		5.02	mg/Kg			07/25/23 01:03	1

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4968-21
Matrix: Solid
Date Collected: 07/14/23 09:30
Date Received: 07/20/23 08:40
Sample Depth: 0

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.342		0.199		mg/Kg		07/24/23 17:46	07/25/23 07:19	100
Toluene	8.52		0.199		mg/Kg		07/24/23 17:46	07/25/23 07:19	100
Ethylbenzene	4.20		0.199		mg/Kg		07/24/23 17:46	07/25/23 07:19	100
m-Xylene & p-Xylene	27.0		0.398		mg/Kg		07/24/23 17:46	07/25/23 07:19	100
o-Xylene	10.8		0.199		mg/Kg		07/24/23 17:46	07/25/23 07:19	100
Xylenes, Total	37.8		0.398		mg/Kg		07/24/23 17:46	07/25/23 07:19	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*07/24/23 17:46*	*07/25/23 07:19*	*100*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*07/24/23 17:46*	*07/25/23 07:19*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	50.9		0.398		mg/Kg			07/26/23 16:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	5040		50.0		mg/Kg			07/28/23 12:21	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	944		50.0		mg/Kg		07/24/23 10:22	07/28/23 04:57	1
Diesel Range Organics (Over C10-C28)	3940		50.0		mg/Kg		07/24/23 10:22	07/28/23 04:57	1
Oil Range Organics (Over C28-C36)	159		50.0		mg/Kg		07/24/23 10:22	07/28/23 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*07/24/23 10:22*	*07/28/23 04:57*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/24/23 10:22*	*07/28/23 04:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.1	F1	5.01		mg/Kg			07/25/23 11:52	1

Client Sample ID: BH23-16 2FT

Lab Sample ID: 890-4968-22
Matrix: Solid
Date Collected: 07/14/23 09:35
Date Received: 07/20/23 08:40
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.29		0.990		mg/Kg		07/24/23 17:46	07/25/23 10:15	500
Toluene	52.1		0.990		mg/Kg		07/24/23 17:46	07/25/23 10:15	500
Ethylbenzene	17.8		0.990		mg/Kg		07/24/23 17:46	07/25/23 10:15	500
m-Xylene & p-Xylene	104		1.98		mg/Kg		07/24/23 17:46	07/25/23 10:15	500
o-Xylene	39.0		0.990		mg/Kg		07/24/23 17:46	07/25/23 10:15	500
Xylenes, Total	143		1.98		mg/Kg		07/24/23 17:46	07/25/23 10:15	500

Client Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-16 2FT

Date Collected: 07/14/23 09:35
Date Received: 07/20/23 08:40
Sample Depth: 2

Lab Sample ID: 890-4968-22

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*07/24/23 17:46*	*07/25/23 10:15*	*500*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*07/24/23 17:46*	*07/25/23 10:15*	*500*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**216**		1.98	mg/Kg			07/26/23 16:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**8550**		49.6	mg/Kg			07/28/23 12:21	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	**2530**		49.6	mg/Kg		07/24/23 10:22	07/28/23 05:19	1
Diesel Range Organics (Over C10-C28)	**5810**		49.6	mg/Kg		07/24/23 10:22	07/28/23 05:19	1
Oil Range Organics (Over C28-C36)	**208**		49.6	mg/Kg		07/24/23 10:22	07/28/23 05:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*07/24/23 10:22*	*07/28/23 05:19*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*07/24/23 10:22*	*07/28/23 05:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.3**		4.98	mg/Kg			07/25/23 12:07	1

Surrogate Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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)
880-30749-A-1-C MS	Matrix Spike	90	97
880-30749-A-1-D MSD	Matrix Spike Duplicate	86	124
890-4968-1	BH23-01 0FT	90	74
890-4968-1 MS	BH23-01 0FT	119	104
890-4968-1 MSD	BH23-01 0FT	118	104
890-4968-2	BH23-01 2FT	92	61 S1-
890-4968-3	BH23-02 0FT	93	53 S1-
890-4968-4	BH23-02 2FT	116	75
890-4968-5	BH23-03 0FT	90	70
890-4968-6	BH23-03 2FT	92	74
890-4968-7	BH23-08 0FT	87	58 S1-
890-4968-8	BH23-08 2FT	56 S1-	78
890-4968-9	BH23-10 0FT	65 S1-	75
890-4968-10	BH23-10 2FT	94	81
890-4968-11	BH23-11 0FT	95	98
890-4968-12	BH23-11 2FT	88	58 S1-
890-4968-13	BH23-12 0FT	93	79
890-4968-14	BH23-12 2FT	94	59 S1-
890-4968-15	BH23-13 0FT	90	80
890-4968-16	BH23-13 2FT	99	60 S1-
890-4968-17	BH23-14 0FT	66 S1-	95
890-4968-18	BH23-14 2FT	87	72
890-4968-19	BH23-15 0FT	510 S1+	155 S1+
890-4968-20	BH23-15 2FT	72	63 S1-
890-4968-21	BH23-16 0FT	74	69 S1-
890-4968-22	BH23-16 2FT	101	79
LCS 880-58296/1-A	Lab Control Sample	115	103
LCS 880-58407/1-A	Lab Control Sample	104	98
LCSD 880-58296/2-A	Lab Control Sample Dup	121	103
LCSD 880-58407/2-A	Lab Control Sample Dup	96	99
MB 880-58296/5-A	Method Blank	70	80
MB 880-58305/5-A	Method Blank	93	105
MB 880-58407/5-A	Method Blank	93	117

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)
890-4964-A-23-E MS	Matrix Spike	101	103
890-4964-A-23-F MSD	Matrix Spike Duplicate	100	102
890-4968-1	BH23-01 0FT	91	97
890-4968-2	BH23-01 2FT	99	107
890-4968-3	BH23-02 0FT	87	112
890-4968-3 MS	BH23-02 0FT	83	96

Surrogate Summary

Client: Vertex Job ID: 890-4968-1
Project/Site: PLU BIG SINKS 3-25-31 Battery SDG: Carslbad NM

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
890-4968-3 MSD	BH23-02 0FT	85	96								
890-4968-4	BH23-02 2FT	86	108								
890-4968-5	BH23-03 0FT	80	99								
890-4968-6	BH23-03 2FT	84	105								
890-4968-7	BH23-08 0FT	92	120								
890-4968-8	BH23-08 2FT	104	126								
890-4968-9	BH23-10 0FT	87	109								
890-4968-10	BH23-10 2FT	82	99								
890-4968-11	BH23-11 0FT	114	136 S1+								
890-4968-12	BH23-11 2FT	82	99								
890-4968-13	BH23-12 0FT	86	107								
890-4968-14	BH23-12 2FT	80	97								
890-4968-15	BH23-13 0FT	112	137 S1+								
890-4968-16	BH23-13 2FT	87	113								
890-4968-17	BH23-14 0FT	115	143 S1+								
890-4968-18	BH23-14 2FT	91	119								
890-4968-19	BH23-15 0FT	120	136 S1+								
890-4968-20	BH23-15 2FT	152 S1+	157 S1+								
890-4968-21	BH23-16 0FT	110	120								
890-4968-22	BH23-16 2FT	151 S1+	138 S1+								
LCS 880-58294/2-A	Lab Control Sample	87	118								
LCS 880-58343/2-A	Lab Control Sample	90	116								
LCSD 880-58294/3-A	Lab Control Sample Dup	88	120								
LCSD 880-58343/3-A	Lab Control Sample Dup	93	119								
MB 880-58294/1-A	Method Blank	135 S1+	178 S1+								
MB 880-58343/1-A	Method Blank	143 S1+	175 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-58296/5-A
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58296

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 11:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 11:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/24/23 08:43	07/24/23 11:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/24/23 08:43	07/24/23 11:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/24/23 08:43	07/24/23 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*	*07/24/23 08:43*	*07/24/23 11:40*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*07/24/23 08:43*	*07/24/23 11:40*	*1*

Lab Sample ID: LCS 880-58296/1-A
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58296

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1108		mg/Kg		111	70 - 130		
Toluene			0.100	0.09485		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.1102		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.2356		mg/Kg		118	70 - 130		
o-Xylene			0.100	0.1155		mg/Kg		116	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-58296/2-A
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58296

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1104		mg/Kg		110	70 - 130	0	35
Toluene			0.100	0.09841		mg/Kg		98	70 - 130	4	35
Ethylbenzene			0.100	0.1155		mg/Kg		115	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2473		mg/Kg		124	70 - 130	5	35
o-Xylene			0.100	0.1211		mg/Kg		121	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 890-4968-1 MS
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: BH23-01 0FT
Prep Type: Total/NA
Prep Batch: 58296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0994	0.09944		mg/Kg		100	70 - 130		
Toluene	<0.00199	U	0.0994	0.08561		mg/Kg		86	70 - 130		

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QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: 890-4968-1 MS
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: BH23-01 0FT
Prep Type: Total/NA
Prep Batch: 58296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0994	0.09673		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.2016		mg/Kg		101	70 - 130
o-Xylene	<0.00199	U	0.0994	0.09797		mg/Kg		98	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-4968-1 MSD
Matrix: Solid
Analysis Batch: 58304

Client Sample ID: BH23-01 0FT
Prep Type: Total/NA
Prep Batch: 58296

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0998	0.1007		mg/Kg		101	70 - 130	1	35
Toluene	<0.00199	U	0.0998	0.08819		mg/Kg		88	70 - 130	3	35
Ethylbenzene	<0.00199	U	0.0998	0.1018		mg/Kg		102	70 - 130	5	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2110		mg/Kg		106	70 - 130	5	35
o-Xylene	<0.00199	U	0.0998	0.1023		mg/Kg		102	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: MB 880-58305/5-A
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58305

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:56	07/24/23 13:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:56	07/24/23 13:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:56	07/24/23 13:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/24/23 08:56	07/24/23 13:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/24/23 08:56	07/24/23 13:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/24/23 08:56	07/24/23 13:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*07/24/23 08:56*	*07/24/23 13:58*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*07/24/23 08:56*	*07/24/23 13:58*	*1*

Lab Sample ID: MB 880-58407/5-A
Matrix: Solid
Analysis Batch: 58347

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			07/25/23 01:36	1
Toluene	<0.00200	U	0.00200	mg/Kg			07/25/23 01:36	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			07/25/23 01:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			07/25/23 01:36	1

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: MB 880-58407/5-A
Matrix: Solid
Analysis Batch: 58347

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg			07/25/23 01:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			07/25/23 01:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*07/25/23 01:36*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*		*07/25/23 01:36*	*1*

Lab Sample ID: LCS 880-58407/1-A
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1110		mg/Kg		111	70 - 130		
Toluene			0.100	0.1041		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1018		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2248		mg/Kg		112	70 - 130		
o-Xylene			0.100	0.1083		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-58407/2-A
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1104		mg/Kg		110	70 - 130	0	35
Toluene			0.100	0.1015		mg/Kg		101	70 - 130	3	35
Ethylbenzene			0.100	0.1005		mg/Kg		101	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2131		mg/Kg		107	70 - 130	5	35
o-Xylene			0.100	0.1014		mg/Kg		101	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-30749-A-1-C MS
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0994	0.08101		mg/Kg		81	70 - 130		
Toluene	<0.00198	U F1	0.0994	0.07726		mg/Kg		78	70 - 130		
Ethylbenzene	<0.00198	U F1	0.0994	0.06019	F1	mg/Kg		61	70 - 130		
m-Xylene & p-Xylene	<0.00396	U F1	0.199	0.1293	F1	mg/Kg		65	70 - 130		
o-Xylene	<0.00198	U F1	0.0994	0.07050		mg/Kg		71	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: 880-30749-A-1-C MS
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58407

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-30749-A-1-D MSD
Matrix: Solid
Analysis Batch: 58347

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 58407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0992	0.08268		mg/Kg		83	70 - 130	2	35
Toluene	<0.00198	U F1	0.0992	0.05680	F1	mg/Kg		57	70 - 130	31	35
Ethylbenzene	<0.00198	U F1	0.0992	0.04895	F1	mg/Kg		49	70 - 130	21	35
m-Xylene & p-Xylene	<0.00396	U F1	0.198	0.1317	F1	mg/Kg		66	70 - 130	2	35
o-Xylene	<0.00198	U F1	0.0992	0.06187	F1	mg/Kg		62	70 - 130	13	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		70 - 130
1,4-Difluorobenzene (Surr)	124		70 - 130

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

Lab Sample ID: MB 880-58294/1-A
Matrix: Solid
Analysis Batch: 58509

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58294

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		07/24/23 08:30	07/26/23 07:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/24/23 08:30	07/26/23 07:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/24/23 08:30	07/26/23 07:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	135	S1+	70 - 130	07/24/23 08:30	07/26/23 07:53	1
o-Terphenyl	178	S1+	70 - 130	07/24/23 08:30	07/26/23 07:53	1

Lab Sample ID: LCS 880-58294/2-A
Matrix: Solid
Analysis Batch: 58509

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58294

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1057		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	935.7		mg/Kg		94	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	118		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: LCSD 880-58294/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58509 — **Prep Batch: 58294**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1051		mg/Kg		105	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	952.9		mg/Kg		95	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Lab Sample ID: 890-4964-A-23-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58509 — **Prep Batch: 58294**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	68.2		998	1286		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	150		998	1195		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: 890-4964-A-23-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58509 — **Prep Batch: 58294**

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	68.2		997	1277		mg/Kg		121	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	150		997	974.1		mg/Kg		83	70 - 130	20	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: MB 880-58343/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58605 — **Prep Batch: 58343**

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		07/24/23 10:22	07/27/23 20:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/24/23 10:22	07/27/23 20:13	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/24/23 10:22	07/27/23 20:13	1

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: MB 880-58343/1-A
Matrix: Solid
Analysis Batch: 58605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58343

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130	07/24/23 10:22	07/27/23 20:13	1
o-Terphenyl	175	S1+	70 - 130	07/24/23 10:22	07/27/23 20:13	1

Lab Sample ID: LCS 880-58343/2-A
Matrix: Solid
Analysis Batch: 58605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	920.8		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	881.8		mg/Kg		88	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	116		70 - 130

Lab Sample ID: LCSD 880-58343/3-A
Matrix: Solid
Analysis Batch: 58605

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 58343

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	938.8		mg/Kg		94	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	965.3		mg/Kg		97	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: 890-4968-3 MS
Matrix: Solid
Analysis Batch: 58605

Client Sample ID: BH23-02 0FT
Prep Type: Total/NA
Prep Batch: 58343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	997	1121		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U	997	792.7		mg/Kg		80	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	96		70 - 130

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Lab Sample ID: 890-4968-3 MSD — **Client Sample ID: BH23-02 0FT**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 58605 — **Prep Batch: 58343**

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	<50.3	U	997	1175		mg/Kg		115	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.3	U	997	778.8		mg/Kg		78	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-58216/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/23 22:34	1

Lab Sample ID: LCS 880-58216/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

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

Lab Sample ID: LCSD 880-58216/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.2		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 890-4968-1 MS — **Client Sample ID: BH23-01 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	48.4		250	275.6		mg/Kg		91	90 - 110		

Lab Sample ID: 890-4968-1 MSD — **Client Sample ID: BH23-01 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	48.4		250	275.9		mg/Kg		91	90 - 110	0	20

QC Sample Results

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4968-11 MS — **Client Sample ID: BH23-11 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	95.6		248	328.1		mg/Kg		94	90 - 110

Lab Sample ID: 890-4968-11 MSD — **Client Sample ID: BH23-11 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58393

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	95.6		248	328.5		mg/Kg		94	90 - 110	0	20

Lab Sample ID: MB 880-58217/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58468

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/25/23 11:37	1

Lab Sample ID: LCS 880-58217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	242.2		mg/Kg		97	90 - 110

Lab Sample ID: LCSD 880-58217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58468

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	242.6		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-4968-21 MS — **Client Sample ID: BH23-16 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	44.1	F1	251	328.6	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-4968-21 MSD — **Client Sample ID: BH23-16 0FT**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 58468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	44.1	F1	251	328.9	F1	mg/Kg		114	90 - 110	0	20

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

GC VOA

Prep Batch: 58296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	5035	
890-4968-2	BH23-01 2FT	Total/NA	Solid	5035	
890-4968-3	BH23-02 0FT	Total/NA	Solid	5035	
890-4968-4	BH23-02 2FT	Total/NA	Solid	5035	
890-4968-5	BH23-03 0FT	Total/NA	Solid	5035	
890-4968-6	BH23-03 2FT	Total/NA	Solid	5035	
890-4968-7	BH23-08 0FT	Total/NA	Solid	5035	
890-4968-8	BH23-08 2FT	Total/NA	Solid	5035	
890-4968-9	BH23-10 0FT	Total/NA	Solid	5035	
890-4968-10	BH23-10 2FT	Total/NA	Solid	5035	
890-4968-11	BH23-11 0FT	Total/NA	Solid	5035	
890-4968-12	BH23-11 2FT	Total/NA	Solid	5035	
890-4968-13	BH23-12 0FT	Total/NA	Solid	5035	
890-4968-14	BH23-12 2FT	Total/NA	Solid	5035	
890-4968-15	BH23-13 0FT	Total/NA	Solid	5035	
890-4968-16	BH23-13 2FT	Total/NA	Solid	5035	
890-4968-17	BH23-14 0FT	Total/NA	Solid	5035	
890-4968-18	BH23-14 2FT	Total/NA	Solid	5035	
890-4968-19	BH23-15 0FT	Total/NA	Solid	5035	
MB 880-58296/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-58296/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58296/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4968-1 MS	BH23-01 0FT	Total/NA	Solid	5035	
890-4968-1 MSD	BH23-01 0FT	Total/NA	Solid	5035	

Analysis Batch: 58304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	8021B	58296
890-4968-2	BH23-01 2FT	Total/NA	Solid	8021B	58296
890-4968-3	BH23-02 0FT	Total/NA	Solid	8021B	58296
890-4968-4	BH23-02 2FT	Total/NA	Solid	8021B	58296
890-4968-5	BH23-03 0FT	Total/NA	Solid	8021B	58296
890-4968-6	BH23-03 2FT	Total/NA	Solid	8021B	58296
890-4968-7	BH23-08 0FT	Total/NA	Solid	8021B	58296
890-4968-8	BH23-08 2FT	Total/NA	Solid	8021B	58296
890-4968-9	BH23-10 0FT	Total/NA	Solid	8021B	58296
890-4968-10	BH23-10 2FT	Total/NA	Solid	8021B	58296
890-4968-11	BH23-11 0FT	Total/NA	Solid	8021B	58296
890-4968-12	BH23-11 2FT	Total/NA	Solid	8021B	58296
890-4968-13	BH23-12 0FT	Total/NA	Solid	8021B	58296
890-4968-14	BH23-12 2FT	Total/NA	Solid	8021B	58296
890-4968-15	BH23-13 0FT	Total/NA	Solid	8021B	58296
890-4968-16	BH23-13 2FT	Total/NA	Solid	8021B	58296
890-4968-17	BH23-14 0FT	Total/NA	Solid	8021B	58296
890-4968-18	BH23-14 2FT	Total/NA	Solid	8021B	58296
890-4968-19	BH23-15 0FT	Total/NA	Solid	8021B	58296
MB 880-58296/5-A	Method Blank	Total/NA	Solid	8021B	58296
LCS 880-58296/1-A	Lab Control Sample	Total/NA	Solid	8021B	58296
LCSD 880-58296/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58296
890-4968-1 MS	BH23-01 0FT	Total/NA	Solid	8021B	58296
890-4968-1 MSD	BH23-01 0FT	Total/NA	Solid	8021B	58296

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

GC VOA

Prep Batch: 58305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-58305/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 58347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-19	BH23-15 0FT	Total/NA	Solid	8021B	58407
890-4968-20	BH23-15 2FT	Total/NA	Solid	8021B	58407
890-4968-21	BH23-16 0FT	Total/NA	Solid	8021B	58407
890-4968-22	BH23-16 2FT	Total/NA	Solid	8021B	58407
MB 880-58305/5-A	Method Blank	Total/NA	Solid	8021B	58305
MB 880-58407/5-A	Method Blank	Total/NA	Solid	8021B	
LCS 880-58407/1-A	Lab Control Sample	Total/NA	Solid	8021B	58407
LCSD 880-58407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	58407
880-30749-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	58407
880-30749-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	58407

Prep Batch: 58407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-19	BH23-15 0FT	Total/NA	Solid	5035	
890-4968-20	BH23-15 2FT	Total/NA	Solid	5035	
890-4968-21	BH23-16 0FT	Total/NA	Solid	5035	
890-4968-22	BH23-16 2FT	Total/NA	Solid	5035	
LCS 880-58407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-58407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30749-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-30749-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 58456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	Total BTEX	
890-4968-2	BH23-01 2FT	Total/NA	Solid	Total BTEX	
890-4968-3	BH23-02 0FT	Total/NA	Solid	Total BTEX	
890-4968-4	BH23-02 2FT	Total/NA	Solid	Total BTEX	
890-4968-5	BH23-03 0FT	Total/NA	Solid	Total BTEX	
890-4968-6	BH23-03 2FT	Total/NA	Solid	Total BTEX	
890-4968-7	BH23-08 0FT	Total/NA	Solid	Total BTEX	
890-4968-8	BH23-08 2FT	Total/NA	Solid	Total BTEX	
890-4968-9	BH23-10 0FT	Total/NA	Solid	Total BTEX	
890-4968-10	BH23-10 2FT	Total/NA	Solid	Total BTEX	
890-4968-11	BH23-11 0FT	Total/NA	Solid	Total BTEX	
890-4968-12	BH23-11 2FT	Total/NA	Solid	Total BTEX	
890-4968-13	BH23-12 0FT	Total/NA	Solid	Total BTEX	
890-4968-14	BH23-12 2FT	Total/NA	Solid	Total BTEX	
890-4968-15	BH23-13 0FT	Total/NA	Solid	Total BTEX	
890-4968-16	BH23-13 2FT	Total/NA	Solid	Total BTEX	
890-4968-17	BH23-14 0FT	Total/NA	Solid	Total BTEX	
890-4968-18	BH23-14 2FT	Total/NA	Solid	Total BTEX	
890-4968-19	BH23-15 0FT	Total/NA	Solid	Total BTEX	
890-4968-20	BH23-15 2FT	Total/NA	Solid	Total BTEX	
890-4968-21	BH23-16 0FT	Total/NA	Solid	Total BTEX	
890-4968-22	BH23-16 2FT	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

GC Semi VOA

Prep Batch: 58294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	8015NM Prep	
890-4968-2	BH23-01 2FT	Total/NA	Solid	8015NM Prep	
MB 880-58294/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-58294/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-58294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4964-A-23-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4964-A-23-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 58343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-3	BH23-02 0FT	Total/NA	Solid	8015NM Prep	
890-4968-4	BH23-02 2FT	Total/NA	Solid	8015NM Prep	
890-4968-5	BH23-03 0FT	Total/NA	Solid	8015NM Prep	
890-4968-6	BH23-03 2FT	Total/NA	Solid	8015NM Prep	
890-4968-7	BH23-08 0FT	Total/NA	Solid	8015NM Prep	
890-4968-8	BH23-08 2FT	Total/NA	Solid	8015NM Prep	
890-4968-9	BH23-10 0FT	Total/NA	Solid	8015NM Prep	
890-4968-10	BH23-10 2FT	Total/NA	Solid	8015NM Prep	
890-4968-11	BH23-11 0FT	Total/NA	Solid	8015NM Prep	
890-4968-12	BH23-11 2FT	Total/NA	Solid	8015NM Prep	
890-4968-13	BH23-12 0FT	Total/NA	Solid	8015NM Prep	
890-4968-14	BH23-12 2FT	Total/NA	Solid	8015NM Prep	
890-4968-15	BH23-13 0FT	Total/NA	Solid	8015NM Prep	
890-4968-16	BH23-13 2FT	Total/NA	Solid	8015NM Prep	
890-4968-17	BH23-14 0FT	Total/NA	Solid	8015NM Prep	
890-4968-18	BH23-14 2FT	Total/NA	Solid	8015NM Prep	
890-4968-19	BH23-15 0FT	Total/NA	Solid	8015NM Prep	
890-4968-20	BH23-15 2FT	Total/NA	Solid	8015NM Prep	
890-4968-21	BH23-16 0FT	Total/NA	Solid	8015NM Prep	
890-4968-22	BH23-16 2FT	Total/NA	Solid	8015NM Prep	
MB 880-58343/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-58343/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-58343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4968-3 MS	BH23-02 0FT	Total/NA	Solid	8015NM Prep	
890-4968-3 MSD	BH23-02 0FT	Total/NA	Solid	8015NM Prep	

Analysis Batch: 58509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	8015B NM	58294
890-4968-2	BH23-01 2FT	Total/NA	Solid	8015B NM	58294
MB 880-58294/1-A	Method Blank	Total/NA	Solid	8015B NM	58294
LCS 880-58294/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	58294
LCSD 880-58294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	58294
890-4964-A-23-E MS	Matrix Spike	Total/NA	Solid	8015B NM	58294
890-4964-A-23-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	58294

Analysis Batch: 58605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-3	BH23-02 0FT	Total/NA	Solid	8015B NM	58343
890-4968-4	BH23-02 2FT	Total/NA	Solid	8015B NM	58343
890-4968-5	BH23-03 0FT	Total/NA	Solid	8015B NM	58343

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

GC Semi VOA (Continued)

Analysis Batch: 58605 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-6	BH23-03 2FT	Total/NA	Solid	8015B NM	58343
890-4968-7	BH23-08 0FT	Total/NA	Solid	8015B NM	58343
890-4968-8	BH23-08 2FT	Total/NA	Solid	8015B NM	58343
890-4968-9	BH23-10 0FT	Total/NA	Solid	8015B NM	58343
890-4968-10	BH23-10 2FT	Total/NA	Solid	8015B NM	58343
890-4968-11	BH23-11 0FT	Total/NA	Solid	8015B NM	58343
890-4968-12	BH23-11 2FT	Total/NA	Solid	8015B NM	58343
890-4968-13	BH23-12 0FT	Total/NA	Solid	8015B NM	58343
890-4968-14	BH23-12 2FT	Total/NA	Solid	8015B NM	58343
890-4968-15	BH23-13 0FT	Total/NA	Solid	8015B NM	58343
890-4968-16	BH23-13 2FT	Total/NA	Solid	8015B NM	58343
890-4968-17	BH23-14 0FT	Total/NA	Solid	8015B NM	58343
890-4968-18	BH23-14 2FT	Total/NA	Solid	8015B NM	58343
890-4968-19	BH23-15 0FT	Total/NA	Solid	8015B NM	58343
890-4968-20	BH23-15 2FT	Total/NA	Solid	8015B NM	58343
890-4968-21	BH23-16 0FT	Total/NA	Solid	8015B NM	58343
890-4968-22	BH23-16 2FT	Total/NA	Solid	8015B NM	58343
MB 880-58343/1-A	Method Blank	Total/NA	Solid	8015B NM	58343
LCS 880-58343/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	58343
LCSD 880-58343/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	58343
890-4968-3 MS	BH23-02 0FT	Total/NA	Solid	8015B NM	58343
890-4968-3 MSD	BH23-02 0FT	Total/NA	Solid	8015B NM	58343

Analysis Batch: 58626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Total/NA	Solid	8015 NM	
890-4968-2	BH23-01 2FT	Total/NA	Solid	8015 NM	
890-4968-3	BH23-02 0FT	Total/NA	Solid	8015 NM	
890-4968-4	BH23-02 2FT	Total/NA	Solid	8015 NM	
890-4968-5	BH23-03 0FT	Total/NA	Solid	8015 NM	
890-4968-6	BH23-03 2FT	Total/NA	Solid	8015 NM	
890-4968-7	BH23-08 0FT	Total/NA	Solid	8015 NM	
890-4968-8	BH23-08 2FT	Total/NA	Solid	8015 NM	
890-4968-9	BH23-10 0FT	Total/NA	Solid	8015 NM	
890-4968-10	BH23-10 2FT	Total/NA	Solid	8015 NM	
890-4968-11	BH23-11 0FT	Total/NA	Solid	8015 NM	
890-4968-12	BH23-11 2FT	Total/NA	Solid	8015 NM	
890-4968-13	BH23-12 0FT	Total/NA	Solid	8015 NM	
890-4968-14	BH23-12 2FT	Total/NA	Solid	8015 NM	
890-4968-15	BH23-13 0FT	Total/NA	Solid	8015 NM	
890-4968-16	BH23-13 2FT	Total/NA	Solid	8015 NM	
890-4968-17	BH23-14 0FT	Total/NA	Solid	8015 NM	
890-4968-18	BH23-14 2FT	Total/NA	Solid	8015 NM	
890-4968-19	BH23-15 0FT	Total/NA	Solid	8015 NM	
890-4968-20	BH23-15 2FT	Total/NA	Solid	8015 NM	
890-4968-21	BH23-16 0FT	Total/NA	Solid	8015 NM	
890-4968-22	BH23-16 2FT	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

HPLC/IC

Leach Batch: 58216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Soluble	Solid	DI Leach	
890-4968-2	BH23-01 2FT	Soluble	Solid	DI Leach	
890-4968-3	BH23-02 0FT	Soluble	Solid	DI Leach	
890-4968-4	BH23-02 2FT	Soluble	Solid	DI Leach	
890-4968-5	BH23-03 0FT	Soluble	Solid	DI Leach	
890-4968-6	BH23-03 2FT	Soluble	Solid	DI Leach	
890-4968-7	BH23-08 0FT	Soluble	Solid	DI Leach	
890-4968-8	BH23-08 2FT	Soluble	Solid	DI Leach	
890-4968-9	BH23-10 0FT	Soluble	Solid	DI Leach	
890-4968-10	BH23-10 2FT	Soluble	Solid	DI Leach	
890-4968-11	BH23-11 0FT	Soluble	Solid	DI Leach	
890-4968-12	BH23-11 2FT	Soluble	Solid	DI Leach	
890-4968-13	BH23-12 0FT	Soluble	Solid	DI Leach	
890-4968-14	BH23-12 2FT	Soluble	Solid	DI Leach	
890-4968-15	BH23-13 0FT	Soluble	Solid	DI Leach	
890-4968-16	BH23-13 2FT	Soluble	Solid	DI Leach	
890-4968-17	BH23-14 0FT	Soluble	Solid	DI Leach	
890-4968-18	BH23-14 2FT	Soluble	Solid	DI Leach	
890-4968-19	BH23-15 0FT	Soluble	Solid	DI Leach	
890-4968-20	BH23-15 2FT	Soluble	Solid	DI Leach	
MB 880-58216/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58216/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58216/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4968-1 MS	BH23-01 0FT	Soluble	Solid	DI Leach	
890-4968-1 MSD	BH23-01 0FT	Soluble	Solid	DI Leach	
890-4968-11 MS	BH23-11 0FT	Soluble	Solid	DI Leach	
890-4968-11 MSD	BH23-11 0FT	Soluble	Solid	DI Leach	

Leach Batch: 58217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-21	BH23-16 0FT	Soluble	Solid	DI Leach	
890-4968-22	BH23-16 2FT	Soluble	Solid	DI Leach	
MB 880-58217/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-58217/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-58217/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4968-21 MS	BH23-16 0FT	Soluble	Solid	DI Leach	
890-4968-21 MSD	BH23-16 0FT	Soluble	Solid	DI Leach	

Analysis Batch: 58393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-1	BH23-01 0FT	Soluble	Solid	300.0	58216
890-4968-2	BH23-01 2FT	Soluble	Solid	300.0	58216
890-4968-3	BH23-02 0FT	Soluble	Solid	300.0	58216
890-4968-4	BH23-02 2FT	Soluble	Solid	300.0	58216
890-4968-5	BH23-03 0FT	Soluble	Solid	300.0	58216
890-4968-6	BH23-03 2FT	Soluble	Solid	300.0	58216
890-4968-7	BH23-08 0FT	Soluble	Solid	300.0	58216
890-4968-8	BH23-08 2FT	Soluble	Solid	300.0	58216
890-4968-9	BH23-10 0FT	Soluble	Solid	300.0	58216
890-4968-10	BH23-10 2FT	Soluble	Solid	300.0	58216
890-4968-11	BH23-11 0FT	Soluble	Solid	300.0	58216

QC Association Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

HPLC/IC (Continued)

Analysis Batch: 58393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-12	BH23-11 2FT	Soluble	Solid	300.0	58216
890-4968-13	BH23-12 0FT	Soluble	Solid	300.0	58216
890-4968-14	BH23-12 2FT	Soluble	Solid	300.0	58216
890-4968-15	BH23-13 0FT	Soluble	Solid	300.0	58216
890-4968-16	BH23-13 2FT	Soluble	Solid	300.0	58216
890-4968-17	BH23-14 0FT	Soluble	Solid	300.0	58216
890-4968-18	BH23-14 2FT	Soluble	Solid	300.0	58216
890-4968-19	BH23-15 0FT	Soluble	Solid	300.0	58216
890-4968-20	BH23-15 2FT	Soluble	Solid	300.0	58216
MB 880-58216/1-A	Method Blank	Soluble	Solid	300.0	58216
LCS 880-58216/2-A	Lab Control Sample	Soluble	Solid	300.0	58216
LCSD 880-58216/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58216
890-4968-1 MS	BH23-01 0FT	Soluble	Solid	300.0	58216
890-4968-1 MSD	BH23-01 0FT	Soluble	Solid	300.0	58216
890-4968-11 MS	BH23-11 0FT	Soluble	Solid	300.0	58216
890-4968-11 MSD	BH23-11 0FT	Soluble	Solid	300.0	58216

Analysis Batch: 58468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4968-21	BH23-16 0FT	Soluble	Solid	300.0	58217
890-4968-22	BH23-16 2FT	Soluble	Solid	300.0	58217
MB 880-58217/1-A	Method Blank	Soluble	Solid	300.0	58217
LCS 880-58217/2-A	Lab Control Sample	Soluble	Solid	300.0	58217
LCSD 880-58217/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	58217
890-4968-21 MS	BH23-16 0FT	Soluble	Solid	300.0	58217
890-4968-21 MSD	BH23-16 0FT	Soluble	Solid	300.0	58217

Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-01 0FT

Lab Sample ID: 890-4968-1
Matrix: Solid
Date Collected: 07/14/23 07:00
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 12:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/27/23 08:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	58294	07/24/23 08:30	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58509	07/26/23 17:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 22:49	CH	EET MID

Client Sample ID: BH23-01 2FT

Lab Sample ID: 890-4968-2
Matrix: Solid
Date Collected: 07/14/23 07:05
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 12:22	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/27/23 08:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	58294	07/24/23 08:30	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58509	07/26/23 17:47	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:04	CH	EET MID

Client Sample ID: BH23-02 0FT

Lab Sample ID: 890-4968-3
Matrix: Solid
Date Collected: 07/14/23 07:10
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 12:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 21:19	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:09	CH	EET MID

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4968-4
Matrix: Solid
Date Collected: 07/14/23 07:15
Date Received: 07/20/23 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 13:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-02 2FT

Lab Sample ID: 890-4968-4
Matrix: Solid
Date Collected: 07/14/23 07:15
Date Received: 07/20/23 08:40

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			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 22:25	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:14	CH	EET MID

Client Sample ID: BH23-03 0FT

Lab Sample ID: 890-4968-5
Matrix: Solid
Date Collected: 07/14/23 07:20
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 13:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 22:47	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:19	CH	EET MID

Client Sample ID: BH23-03 2FT

Lab Sample ID: 890-4968-6
Matrix: Solid
Date Collected: 07/14/23 07:25
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 13:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 23:09	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:34	CH	EET MID

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4968-7
Matrix: Solid
Date Collected: 07/14/23 08:10
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 14:05	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 23:30	AJ	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-08 0FT

Lab Sample ID: 890-4968-7
Matrix: Solid
Date Collected: 07/14/23 08:10
Date Received: 07/20/23 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:39	CH	EET MID

Client Sample ID: BH23-08 2FT

Lab Sample ID: 890-4968-8
Matrix: Solid
Date Collected: 07/14/23 08:15
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 14:25	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/27/23 23:52	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:44	CH	EET MID

Client Sample ID: BH23-10 0FT

Lab Sample ID: 890-4968-9
Matrix: Solid
Date Collected: 07/14/23 08:30
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 14:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 00:14	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:49	CH	EET MID

Client Sample ID: BH23-10 2FT

Lab Sample ID: 890-4968-10
Matrix: Solid
Date Collected: 07/14/23 08:35
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 15:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 00:36	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:54	CH	EET MID

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Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-11 0FT

Lab Sample ID: 890-4968-11
Matrix: Solid
Date Collected: 07/14/23 08:40
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 16:29	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 00:58	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/24/23 23:59	CH	EET MID

Client Sample ID: BH23-11 2FT

Lab Sample ID: 890-4968-12
Matrix: Solid
Date Collected: 07/14/23 08:45
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 16:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 01:19	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:14	CH	EET MID

Client Sample ID: BH23-12 0FT

Lab Sample ID: 890-4968-13
Matrix: Solid
Date Collected: 07/14/23 08:50
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 17:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 02:03	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:19	CH	EET MID

Client Sample ID: BH23-12 2FT

Lab Sample ID: 890-4968-14
Matrix: Solid
Date Collected: 07/14/23 08:55
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 17:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-12 2FT
Date Collected: 07/14/23 08:55
Date Received: 07/20/23 08:40

Lab Sample ID: 890-4968-14
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			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 02:25	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:33	CH	EET MID

Client Sample ID: BH23-13 0FT
Date Collected: 07/14/23 09:00
Date Received: 07/20/23 08:40

Lab Sample ID: 890-4968-15
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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 17:51	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 02:46	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:38	CH	EET MID

Client Sample ID: BH23-13 2FT
Date Collected: 07/14/23 09:05
Date Received: 07/20/23 08:40

Lab Sample ID: 890-4968-16
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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 18:12	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 03:08	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:43	CH	EET MID

Client Sample ID: BH23-14 0FT
Date Collected: 07/14/23 09:10
Date Received: 07/20/23 08:40

Lab Sample ID: 890-4968-17
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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 18:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 03:30	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-14 0FT

Lab Sample ID: 890-4968-17

Date Collected: 07/14/23 09:10
Matrix: Solid
Date Received: 07/20/23 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:48	CH	EET MID

Client Sample ID: BH23-14 2FT

Lab Sample ID: 890-4968-18

Date Collected: 07/14/23 09:15
Matrix: Solid
Date Received: 07/20/23 08:40

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	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 18:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 03:51	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:53	CH	EET MID

Client Sample ID: BH23-15 0FT

Lab Sample ID: 890-4968-19

Date Collected: 07/14/23 09:20
Matrix: Solid
Date Received: 07/20/23 08:40

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	58407	07/24/23 17:46	AJ	EET MID
Total/NA	Analysis	8021B		500	5 mL	5 mL	58347	07/25/23 10:35	SM	EET MID
Total/NA	Prep	5035			4.96 g	5 mL	58296	07/24/23 08:43	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	58304	07/24/23 19:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/25/23 10:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 04:13	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 00:58	CH	EET MID

Client Sample ID: BH23-15 2FT

Lab Sample ID: 890-4968-20

Date Collected: 07/14/23 09:25
Matrix: Solid
Date Received: 07/20/23 08:40

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	58407	07/24/23 17:46	AJ	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	58347	07/25/23 10:55	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/26/23 16:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 04:35	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Client Sample ID: BH23-15 2FT

Lab Sample ID: 890-4968-20

Date Collected: 07/14/23 09:25
Matrix: Solid
Date Received: 07/20/23 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	58216	07/21/23 09:36	KS	EET MID
Soluble	Analysis	300.0		1			58393	07/25/23 01:03	CH	EET MID

Client Sample ID: BH23-16 0FT

Lab Sample ID: 890-4968-21

Date Collected: 07/14/23 09:30
Matrix: Solid
Date Received: 07/20/23 08:40

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	58407	07/24/23 17:46	AJ	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	58347	07/25/23 07:19	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/26/23 16:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 04:57	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	58217	07/21/23 09:38	KS	EET MID
Soluble	Analysis	300.0		1			58468	07/25/23 11:52	CH	EET MID

Client Sample ID: BH23-16 2FT

Lab Sample ID: 890-4968-22

Date Collected: 07/14/23 09:35
Matrix: Solid
Date Received: 07/20/23 08:40

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	58407	07/24/23 17:46	AJ	EET MID
Total/NA	Analysis	8021B		500	5 mL	5 mL	58347	07/25/23 10:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			58456	07/26/23 16:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			58626	07/28/23 12:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	58343	07/24/23 10:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	58605	07/28/23 05:19	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	58217	07/21/23 09:38	KS	EET MID
Soluble	Analysis	300.0		1			58468	07/25/23 12:07	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 BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	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 BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Vertex
Project/Site: PLU BIG SINKS 3-25-31 Battery

Job ID: 890-4968-1
SDG: Carslbad NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4968-1	BH23-01 0FT	Solid	07/14/23 07:00	07/20/23 08:40	0
890-4968-2	BH23-01 2FT	Solid	07/14/23 07:05	07/20/23 08:40	2
890-4968-3	BH23-02 0FT	Solid	07/14/23 07:10	07/20/23 08:40	0
890-4968-4	BH23-02 2FT	Solid	07/14/23 07:15	07/20/23 08:40	2
890-4968-5	BH23-03 0FT	Solid	07/14/23 07:20	07/20/23 08:40	0
890-4968-6	BH23-03 2FT	Solid	07/14/23 07:25	07/20/23 08:40	2
890-4968-7	BH23-08 0FT	Solid	07/14/23 08:10	07/20/23 08:40	0
890-4968-8	BH23-08 2FT	Solid	07/14/23 08:15	07/20/23 08:40	2
890-4968-9	BH23-10 0FT	Solid	07/14/23 08:30	07/20/23 08:40	0
890-4968-10	BH23-10 2FT	Solid	07/14/23 08:35	07/20/23 08:40	2
890-4968-11	BH23-11 0FT	Solid	07/14/23 08:40	07/20/23 08:40	0
890-4968-12	BH23-11 2FT	Solid	07/14/23 08:45	07/20/23 08:40	2
890-4968-13	BH23-12 0FT	Solid	07/14/23 08:50	07/20/23 08:40	0
890-4968-14	BH23-12 2FT	Solid	07/14/23 08:55	07/20/23 08:40	2
890-4968-15	BH23-13 0FT	Solid	07/14/23 09:00	07/20/23 08:40	0
890-4968-16	BH23-13 2FT	Solid	07/14/23 09:05	07/20/23 08:40	2
890-4968-17	BH23-14 0FT	Solid	07/14/23 09:10	07/20/23 08:40	0
890-4968-18	BH23-14 2FT	Solid	07/14/23 09:15	07/20/23 08:40	2
890-4968-19	BH23-15 0FT	Solid	07/14/23 09:20	07/20/23 08:40	0
890-4968-20	BH23-15 2FT	Solid	07/14/23 09:25	07/20/23 08:40	2
890-4968-21	BH23-16 0FT	Solid	07/14/23 09:30	07/20/23 08:40	0
890-4968-22	BH23-16 2FT	Solid	07/14/23 09:35	07/20/23 08:40	2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 3

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	cdixon@vertex.ca / analytics@vertex.ca / fernando@vertex.ca

Work Order Comments

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

Project Name:	PLU Big Sinks 3-18-31 Battery	Turn Around	
Project Number:	23E-04103	☐ Routine ☒ Rush 48HR	Pres. Code
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TWND07	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0	
Total Containers:		Corrected Temperature:	1.8	

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

890-4968 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	TPH:8015D	Cl	Sample Comments
BH23-01 0ft	Soil	7/14	7:00	0'	5pt	2	✓	✓	✓	
BH23-01 2ft			7:05	2'			✓	✓	✓	
BH23-02 0ft			7:10	0'			✓	✓	✓	
BH23-02 2ft			7:15	2'			✓	✓	✓	
BH23-03 0ft			7:20	0'			✓	✓	✓	
BH23-03 2ft			7:25	2'			✓	✓	✓	
BH23-08 0ft			8:10	0'			✓	✓	✓	
BH23-08 2ft			8:15	2'			✓	✓	✓	
BH23-10 0ft			8:30	0'			✓	✓	✓	
BH23-10 2ft			8:35	2'			✓	✓	✓	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Ice Emp	7.20.23 840			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 3

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
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:		Turn Around	
Project Number:		☐ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	TPH: 8015D	Cl	Sample Comments
BH23-11 0 ft	Soil	7/14	8:40	0'	Grab	1		✓	✓	✓	
BH23-11 2 ft			8:45	2'				✓	✓	✓	
BH23-12 0 ft			8:50	0'				✓	✓	✓	
BH23-12 2 ft			8:55	2'				✓	✓	✓	
BH23-13 0 ft			9:00	0'				✓	✓	✓	
BH23-13 2 ft			9:05	2'				✓	✓	✓	
BH23-14 0 ft			9:10	0'				✓	✓	✓	
BH23-14 2 ft			9:15	2'				✓	✓	✓	
BH23-15 0 ft			9:20	0'				✓	✓	✓	
BH23-15 2 ft			9:25	2'				✓	✓	✓	

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

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		7.20.23 840	3		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:		Bill to: (if different)	
Company Name:		Company Name:	
Address:		Address:	
City, State ZIP:		City, State ZIP:	
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:		Turn Around	
Project Number:		☐ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX	Parameters: TPH: 8015D	Parameters: Cl	Sample Comments
BH23-16 0ft	Soil	7/14	9:30	0'	5pt	1		✓	✓	✓	
BH23-16 2ft	Soil	7/14	9:35	2'	5pt	1		✓	✓	✓	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7.20.23 840	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4968-1
SDG Number: Carslbad NM

Login Number: 4968
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-4968-1
SDG Number: Carslbad NM

Login Number: 4968
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/23 10:58 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/21/2023 2:54:39 PM

JOB DESCRIPTION

PLU Big Sinks 3-25-31 Battery
SDG NUMBER 23J-04103

JOB NUMBER

890-5107-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

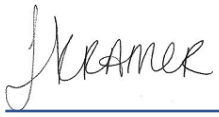
Eurofins Carlsbad

Job Notes

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

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

Authorization



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

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Laboratory Job ID: 890-5107-1
SDG: 23J-04103

Table of Contents

Eurofins Carlsbad
8/21/2023

Definitions/Glossary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery 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
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Job ID: 890-5107-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5107-1

Receipt
The samples were received on 8/16/2023 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BS23-01 (890-5107-1), WS23-01 (890-5107-2), WS23-02 (890-5107-3) and BH23-14 (890-5107-4).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-60466 and analytical batch 880-60525 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-60466 and analytical batch 880-60525 was outside control limits. Sample matrix interference and/or non-homogeneity is suspected.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-60466 and analytical batch 880-60525 recovered outside control limits for the following analytes: Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-60525 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 samples are impacted: (CCV 880-60525/20) and (CCV 880-60525/33).

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 880-60575 and analytical batch 880-60627 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60627/31), (CCV 880-60627/47), (CCV 880-60627/58) and (LCSD 880-60575/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: WS23-01 (890-5107-2), WS23-02 (890-5107-3) and BH23-14 (890-5107-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-5105-A-1-C) and (890-5105-A-1-D MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-60575 and analytical batch 880-60627 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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 Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: BS23-01

Lab Sample ID: 890-5107-1
Matrix: Solid
Date Collected: 08/14/23 12:00
Date Received: 08/16/23 09:55
Sample Depth: 2.5

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		08/17/23 13:00	08/18/23 15:08	1
Toluene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 15:08	1
Ethylbenzene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 15:08	1
m-Xylene & p-Xylene	<0.00397	U *- *1	0.00397		mg/Kg		08/17/23 13:00	08/18/23 15:08	1
o-Xylene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 15:08	1
Xylenes, Total	<0.00397	U *- *1	0.00397		mg/Kg		08/17/23 13:00	08/18/23 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/17/23 13:00*	*08/18/23 15:08*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/17/23 13:00*	*08/18/23 15:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4		mg/Kg			08/21/23 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		08/18/23 14:14	08/20/23 23:58	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/18/23 14:14	08/20/23 23:58	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/18/23 14:14	08/20/23 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*08/18/23 14:14*	*08/20/23 23:58*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/18/23 14:14*	*08/20/23 23:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**62.3**		5.02		mg/Kg			08/18/23 01:52	1

Client Sample ID: WS23-01

Lab Sample ID: 890-5107-2
Matrix: Solid
Date Collected: 08/14/23 12:05
Date Received: 08/16/23 09:55
Sample Depth: 2.5

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		08/17/23 13:00	08/18/23 16:32	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 16:32	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 16:32	1
m-Xylene & p-Xylene	<0.00400	U *- *1	0.00400		mg/Kg		08/17/23 13:00	08/18/23 16:32	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 16:32	1
Xylenes, Total	<0.00400	U *- *1	0.00400		mg/Kg		08/17/23 13:00	08/18/23 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*08/17/23 13:00*	*08/18/23 16:32*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: WS23-01

Date Collected: 08/14/23 12:05
Date Received: 08/16/23 09:55
Sample Depth: 2.5

Lab Sample ID: 890-5107-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*08/17/23 13:00*	*08/18/23 16:32*	*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			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			08/21/23 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	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/21/23 00:19	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/21/23 00:19	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/21/23 00:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/21/23 00:19*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/18/23 14:14*	*08/21/23 00:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**58.8**		4.97	mg/Kg			08/18/23 01:59	1

Client Sample ID: WS23-02

Date Collected: 08/14/23 12:10
Date Received: 08/16/23 09:55
Sample Depth: 2.5

Lab Sample ID: 890-5107-3

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		08/17/23 13:00	08/18/23 17:08	1
Toluene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 17:08	1
Ethylbenzene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 17:08	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398	mg/Kg		08/17/23 13:00	08/18/23 17:08	1
o-Xylene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 17:08	1
Xylenes, Total	<0.00398	U *- *1	0.00398	mg/Kg		08/17/23 13:00	08/18/23 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/17/23 13:00*	*08/18/23 17:08*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/17/23 13:00*	*08/18/23 17:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/21/23 11:05	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			08/21/23 13:36	1

Eurofins Carlsbad

Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: WS23-02

Lab Sample ID: 890-5107-3
Matrix: Solid
Date Collected: 08/14/23 12:10
Date Received: 08/16/23 09:55
Sample Depth: 2.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/18/23 14:14	08/21/23 00:40	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/18/23 14:14	08/21/23 00:40	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/18/23 14:14	08/21/23 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*140*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/21/23 00:40*	*1*
o-Terphenyl	*120*		*70 - 130*	*08/18/23 14:14*	*08/21/23 00:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**66.6**		5.00		mg/Kg			08/18/23 02:20	1

Client Sample ID: BH23-14

Lab Sample ID: 890-5107-4
Matrix: Solid
Date Collected: 08/14/23 12:15
Date Received: 08/16/23 09:55
Sample Depth: 2.5

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		08/17/23 13:00	08/18/23 17:29	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 17:29	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 17:29	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399		mg/Kg		08/17/23 13:00	08/18/23 17:29	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 17:29	1
Xylenes, Total	<0.00399	U *- *1	0.00399		mg/Kg		08/17/23 13:00	08/18/23 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/17/23 13:00*	*08/18/23 17:29*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*08/17/23 13:00*	*08/18/23 17:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/21/23 11:05	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			08/21/23 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	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/21/23 01:23	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/21/23 01:23	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/21/23 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/21/23 01:23*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/18/23 14:14*	*08/21/23 01:23*	*1*

Client Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: BH23-14
Date Collected: 08/14/23 12:15
Date Received: 08/16/23 09:55
Sample Depth: 2.5

Lab Sample ID: 890-5107-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.3		4.99		mg/Kg			08/18/23 02:27	1

Surrogate Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

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)
880-32224-A-1-B MS	Matrix Spike	87	106
880-32224-A-1-C MSD	Matrix Spike Duplicate	83	108
890-5107-1	BS23-01	76	120
890-5107-2	WS23-01	73	115
890-5107-3	WS23-02	84	120
890-5107-4	BH23-14	82	120
LCS 880-60466/1-A	Lab Control Sample	46 S1-	79
LCSD 880-60466/2-A	Lab Control Sample Dup	90	103
MB 880-60466/5-A	Method Blank	74	94

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)
890-5105-A-1-D MS	Matrix Spike	143 S1+	114
890-5105-A-1-E MSD	Matrix Spike Duplicate	130	103
890-5107-1	BS23-01	129	112
890-5107-2	WS23-01	131 S1+	109
890-5107-3	WS23-02	140 S1+	120
890-5107-4	BH23-14	131 S1+	118
LCS 880-60575/2-A	Lab Control Sample	119	102
LCSD 880-60575/3-A	Lab Control Sample Dup	154 S1+	136 S1+
MB 880-60575/1-A	Method Blank	176 S1+	162 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-60466/5-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/17/23 13:00	08/18/23 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*08/17/23 13:00*	*08/18/23 11:39*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/17/23 13:00*	*08/18/23 11:39*	*1*

Lab Sample ID: LCS 880-60466/1-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1085		mg/Kg		108	70 - 130		
Toluene			0.100	0.05476	*-	mg/Kg		55	70 - 130		
Ethylbenzene			0.100	0.04346	*-	mg/Kg		43	70 - 130		
m-Xylene & p-Xylene			0.200	0.08777	*-	mg/Kg		44	70 - 130		
o-Xylene			0.100	0.04199	*-	mg/Kg		42	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*46*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*

Lab Sample ID: LCSD 880-60466/2-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1110		mg/Kg		111	70 - 130	2	35
Toluene			0.100	0.1022	*1	mg/Kg		102	70 - 130	60	35
Ethylbenzene			0.100	0.08722	*1	mg/Kg		87	70 - 130	67	35
m-Xylene & p-Xylene			0.200	0.1836	*1	mg/Kg		92	70 - 130	71	35
o-Xylene			0.100	0.09055	*1	mg/Kg		91	70 - 130	73	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-32224-A-1-B MS
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0996	0.1128		mg/Kg		113	70 - 130		
Toluene	<0.00198	U *- *1	0.0996	0.09537		mg/Kg		96	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

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

Lab Sample ID: 880-32224-A-1-B MS
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U *- *1 F1	0.0996	0.07643		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00396	U *- *1 F1	0.199	0.1569		mg/Kg		79	70 - 130
o-Xylene	<0.00198	U *- *1 F1	0.0996	0.07842		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-32224-A-1-C MSD
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.1098		mg/Kg		110	70 - 130	3	35
Toluene	<0.00198	U *- *1	0.100	0.09026		mg/Kg		90	70 - 130	6	35
Ethylbenzene	<0.00198	U *- *1 F1	0.100	0.06801	F1	mg/Kg		68	70 - 130	12	35
m-Xylene & p-Xylene	<0.00396	U *- *1 F1	0.200	0.1347	F1	mg/Kg		67	70 - 130	15	35
o-Xylene	<0.00198	U *- *1 F1	0.100	0.06743	F1	mg/Kg		67	70 - 130	15	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-60575/1-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60575

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/18/23 14:14	08/20/23 19:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/18/23 14:14	08/20/23 19:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/18/23 14:14	08/20/23 19:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*176*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 19:33*	*1*
o-Terphenyl	*162*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 19:33*	*1*

Lab Sample ID: LCS 880-60575/2-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60575

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1005		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)			1000	961.3		mg/Kg		96	70 - 130

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QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

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

Lab Sample ID: LCS 880-60575/2-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60575

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-60575/3-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60575

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1199		mg/Kg		120	70 - 130	18	20
Diesel Range Organics (Over C10-C28)			1000	1136		mg/Kg		114	70 - 130	17	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	154	S1+	70 - 130
o-Terphenyl	136	S1+	70 - 130

Lab Sample ID: 890-5105-A-1-D MS
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	999	1028		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<50.3	U F1	999	1417	F1	mg/Kg		140	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	143	S1+	70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 890-5105-A-1-E MSD
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 60575

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	<50.3	U	999	920.4		mg/Kg		92	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.3	U F1	999	1277		mg/Kg		126	70 - 130	10	20

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

QC Sample Results

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60467/1-A
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/17/23 23:57	1

Lab Sample ID: LCS 880-60467/2-A
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.1		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-60467/3-A
Matrix: Solid
Analysis Batch: 60528

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	259.8		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 890-5107-2 MS
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: WS23-01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	58.8		249	309.3		mg/Kg		101	90 - 110		

Lab Sample ID: 890-5107-2 MSD
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: WS23-01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	58.8		249	310.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

GC VOA

Prep Batch: 60466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	5035	
890-5107-2	WS23-01	Total/NA	Solid	5035	
890-5107-3	WS23-02	Total/NA	Solid	5035	
890-5107-4	BH23-14	Total/NA	Solid	5035	
MB 880-60466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32224-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-32224-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 60525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	8021B	60466
890-5107-2	WS23-01	Total/NA	Solid	8021B	60466
890-5107-3	WS23-02	Total/NA	Solid	8021B	60466
890-5107-4	BH23-14	Total/NA	Solid	8021B	60466
MB 880-60466/5-A	Method Blank	Total/NA	Solid	8021B	60466
LCS 880-60466/1-A	Lab Control Sample	Total/NA	Solid	8021B	60466
LCSD 880-60466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60466
880-32224-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	60466
880-32224-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	60466

Analysis Batch: 60698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	Total BTEX	
890-5107-2	WS23-01	Total/NA	Solid	Total BTEX	
890-5107-3	WS23-02	Total/NA	Solid	Total BTEX	
890-5107-4	BH23-14	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 60575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	8015NM Prep	
890-5107-2	WS23-01	Total/NA	Solid	8015NM Prep	
890-5107-3	WS23-02	Total/NA	Solid	8015NM Prep	
890-5107-4	BH23-14	Total/NA	Solid	8015NM Prep	
MB 880-60575/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60575/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-60575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5105-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5105-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	8015B NM	60575
890-5107-2	WS23-01	Total/NA	Solid	8015B NM	60575
890-5107-3	WS23-02	Total/NA	Solid	8015B NM	60575
890-5107-4	BH23-14	Total/NA	Solid	8015B NM	60575
MB 880-60575/1-A	Method Blank	Total/NA	Solid	8015B NM	60575
LCS 880-60575/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60575

QC Association Summary

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

GC Semi VOA (Continued)

Analysis Batch: 60627 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-60575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60575
890-5105-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	60575
890-5105-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	60575

Analysis Batch: 60739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Total/NA	Solid	8015 NM	
890-5107-2	WS23-01	Total/NA	Solid	8015 NM	
890-5107-3	WS23-02	Total/NA	Solid	8015 NM	
890-5107-4	BH23-14	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Soluble	Solid	DI Leach	
890-5107-2	WS23-01	Soluble	Solid	DI Leach	
890-5107-3	WS23-02	Soluble	Solid	DI Leach	
890-5107-4	BH23-14	Soluble	Solid	DI Leach	
MB 880-60467/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60467/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60467/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5107-2 MS	WS23-01	Soluble	Solid	DI Leach	
890-5107-2 MSD	WS23-01	Soluble	Solid	DI Leach	

Analysis Batch: 60528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5107-1	BS23-01	Soluble	Solid	300.0	60467
890-5107-2	WS23-01	Soluble	Solid	300.0	60467
890-5107-3	WS23-02	Soluble	Solid	300.0	60467
890-5107-4	BH23-14	Soluble	Solid	300.0	60467
MB 880-60467/1-A	Method Blank	Soluble	Solid	300.0	60467
LCS 880-60467/2-A	Lab Control Sample	Soluble	Solid	300.0	60467
LCSD 880-60467/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60467
890-5107-2 MS	WS23-01	Soluble	Solid	300.0	60467
890-5107-2 MSD	WS23-01	Soluble	Solid	300.0	60467

Lab Chronicle

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: BS23-01
Date Collected: 08/14/23 12:00
Date Received: 08/16/23 09:55

Lab Sample ID: 890-5107-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 15:08	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60698	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60739	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 23:58	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:52	CH	EET MID

Client Sample ID: WS23-01
Date Collected: 08/14/23 12:05
Date Received: 08/16/23 09:55

Lab Sample ID: 890-5107-2
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			5.00 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 16:32	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60698	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60739	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/21/23 00:19	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:59	CH	EET MID

Client Sample ID: WS23-02
Date Collected: 08/14/23 12:10
Date Received: 08/16/23 09:55

Lab Sample ID: 890-5107-3
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			5.02 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 17:08	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60698	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60739	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/21/23 00:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 02:20	CH	EET MID

Client Sample ID: BH23-14
Date Collected: 08/14/23 12:15
Date Received: 08/16/23 09:55

Lab Sample ID: 890-5107-4
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			5.01 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 17:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60698	08/21/23 11:05	AJ	EET MID

Lab Chronicle

Client: Vertex
Project/Site: PLU Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Client Sample ID: BH23-14

Date Collected: 08/14/23 12:15
Date Received: 08/16/23 09:55

Lab Sample ID: 890-5107-4

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			60739	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/21/23 01:23	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 02:27	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 Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

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 Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

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 Big Sinks 3-25-31 Battery

Job ID: 890-5107-1
SDG: 23J-04103

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5107-1	BS23-01	Solid	08/14/23 12:00	08/16/23 09:55	2.5
890-5107-2	WS23-01	Solid	08/14/23 12:05	08/16/23 09:55	2.5
890-5107-3	WS23-02	Solid	08/14/23 12:10	08/16/23 09:55	2.5
890-5107-4	BH23-14	Solid	08/14/23 12:15	08/16/23 09:55	2.5

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Dr	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	575 988 1472	Email:	CDixon@vertex.ca/fernian@vertex.ca

Work Order Comments

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

Project Name:	PLU Big Sinks 3-25-31 Battery	Turn Around	
Project Number:	23E-04103	☐ Routine ☒ Rush 48HR	Pres. Code
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	Yes (No)
Samples Received Intact:	(Yes) No	Thermometer ID:	T_NM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.6
Total Containers:		Corrected Temperature:	1.4

ANALYSIS REQUEST

Parameters: BTEX 8021B; TPH: 8015M; 1 J

890-5107 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	Sample Comments
BS23-01 2.5Ft	Soil	8/14	12:00	2.5Ft	5pt	1	
WS23-01 2.5ft	Soil		12:05				
WS23-02 2.5ft	Soil		12:10				
BH23-14 2.5Ft	Soil		12:15				

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
		8-16-23 04:55			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5107-1
SDG Number: 23J-04103

Login Number: 5107
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: 890-5107-1
SDG Number: 23J-04103

Login Number: 5107
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 08/17/23 10:52 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/21/2023 2:54:49 PM

JOB DESCRIPTION

PW Big Sinks 3-25-31 Battery
SDG NUMBER 23E-04103

JOB NUMBER

890-5105-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

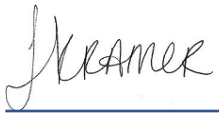
Eurofins Carlsbad

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



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

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Laboratory Job ID: 890-5105-1
SDG: 23E-04103

Table of Contents

Definitions/Glossary

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery 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
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Job ID: 890-5105-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5105-1

Receipt
The samples were received on 8/16/2023 9:54 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 1.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BS23-03 (890-5105-1), BS23-05 (890-5105-2), WS23-04 (890-5105-3), WS23-08 (890-5105-4), WS23-09 (890-5105-5), WS23-15 (890-5105-6) and BH23-16 (890-5105-7).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-60466 and analytical batch 880-60525 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-60466 and analytical batch 880-60525 was outside control limits. Sample matrix interference and/or non-homogeneity is suspected.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-60466 and analytical batch 880-60525 recovered outside control limits for the following analytes: Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-60525 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 880-60525/20).

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 880-60575 and analytical batch 880-60627 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-60627/31), (CCV 880-60627/47) and (LCSD 880-60575/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: WS23-15 (890-5105-6) and BH23-16 (890-5105-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BS23-03 (890-5105-1), WS23-09 (890-5105-5) and (890-5105-A-1-D MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-60575 and analytical batch 880-60627 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BS23-03

Date Collected: 08/15/23 09:00
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-1

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		08/17/23 13:00	08/18/23 12:43	1
Toluene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 12:43	1
Ethylbenzene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 12:43	1
m-Xylene & p-Xylene	<0.00403	U *- *1	0.00403		mg/Kg		08/17/23 13:00	08/18/23 12:43	1
o-Xylene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 12:43	1
Xylenes, Total	<0.00403	U *- *1	0.00403		mg/Kg		08/17/23 13:00	08/18/23 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/17/23 13:00*	*08/18/23 12:43*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*08/17/23 13:00*	*08/18/23 12:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/21/23 13:49	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/18/23 14:14	08/20/23 20:41	1
Diesel Range Organics (Over C10-C28)	<50.3	U F1	50.3		mg/Kg		08/18/23 14:14	08/20/23 20:41	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/18/23 14:14	08/20/23 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*165*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 20:41*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 20:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**70.2**		4.97		mg/Kg			08/18/23 00:47	1

Client Sample ID: BS23-05

Date Collected: 08/15/23 09:05
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-2

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		08/17/23 13:00	08/18/23 13:03	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 13:03	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 13:03	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399		mg/Kg		08/17/23 13:00	08/18/23 13:03	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 13:03	1
Xylenes, Total	<0.00399	U *- *1	0.00399		mg/Kg		08/17/23 13:00	08/18/23 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:03*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BS23-05

Date Collected: 08/15/23 09:05
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			08/21/23 13:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/20/23 21:49	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/20/23 21:49	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		08/18/23 14:14	08/20/23 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/18/23 14:14*	*08/20/23 21:49*	*1*
o-Terphenyl	*87*		*70 - 130*	*08/18/23 14:14*	*08/20/23 21:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.9**		5.02	mg/Kg			08/18/23 00:54	1

Client Sample ID: WS23-04

Date Collected: 08/15/23 09:10
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-3

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		08/17/23 13:00	08/18/23 13:24	1
Toluene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 13:24	1
Ethylbenzene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 13:24	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398	mg/Kg		08/17/23 13:00	08/18/23 13:24	1
o-Xylene	<0.00199	U *- *1	0.00199	mg/Kg		08/17/23 13:00	08/18/23 13:24	1
Xylenes, Total	<0.00398	U *- *1	0.00398	mg/Kg		08/17/23 13:00	08/18/23 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:24*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**63.5**		50.4	mg/Kg			08/21/23 13:49	1

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Client Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: WS23-04

Lab Sample ID: 890-5105-3
Matrix: Solid
Date Collected: 08/15/23 09:10
Date Received: 08/16/23 09:54
Sample Depth: 4FT

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/18/23 14:14	08/20/23 22:11	1
Diesel Range Organics (Over C10-C28)	**63.5**		50.4		mg/Kg		08/18/23 14:14	08/20/23 22:11	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/18/23 14:14	08/20/23 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*08/18/23 14:14*	*08/20/23 22:11*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/18/23 14:14*	*08/20/23 22:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**50.0**		4.95		mg/Kg			08/18/23 01:02	1

Client Sample ID: WS23-08

Lab Sample ID: 890-5105-4
Matrix: Solid
Date Collected: 08/15/23 09:15
Date Received: 08/16/23 09:54
Sample Depth: 4FT

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/17/23 13:00	08/18/23 13:45	1
Toluene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 13:45	1
Ethylbenzene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 13:45	1
m-Xylene & p-Xylene	<0.00396	U *- *1	0.00396		mg/Kg		08/17/23 13:00	08/18/23 13:45	1
o-Xylene	<0.00198	U *- *1	0.00198		mg/Kg		08/17/23 13:00	08/18/23 13:45	1
Xylenes, Total	<0.00396	U *- *1	0.00396		mg/Kg		08/17/23 13:00	08/18/23 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:45*	*1*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*	*08/17/23 13:00*	*08/18/23 13:45*	*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			08/21/23 11:05	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			08/21/23 13:49	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		08/18/23 14:14	08/20/23 22:33	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/18/23 14:14	08/20/23 22:33	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/18/23 14:14	08/20/23 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*08/18/23 14:14*	*08/20/23 22:33*	*1*
o-Terphenyl	*108*		*70 - 130*	*08/18/23 14:14*	*08/20/23 22:33*	*1*

Client Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: WS23-08

Lab Sample ID: 890-5105-4
Matrix: Solid

Date Collected: 08/15/23 09:15
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.7		5.04		mg/Kg			08/18/23 01:23	1

Client Sample ID: WS23-09

Lab Sample ID: 890-5105-5
Matrix: Solid

Date Collected: 08/15/23 09:20
Date Received: 08/16/23 09:54
Sample Depth: 4FT

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/17/23 13:00	08/18/23 14:06	1
Toluene	<0.00201	U *- *1	0.00201		mg/Kg		08/17/23 13:00	08/18/23 14:06	1
Ethylbenzene	<0.00201	U *- *1	0.00201		mg/Kg		08/17/23 13:00	08/18/23 14:06	1
m-Xylene & p-Xylene	<0.00402	U *- *1	0.00402		mg/Kg		08/17/23 13:00	08/18/23 14:06	1
o-Xylene	<0.00201	U *- *1	0.00201		mg/Kg		08/17/23 13:00	08/18/23 14:06	1
Xylenes, Total	<0.00402	U *- *1	0.00402		mg/Kg		08/17/23 13:00	08/18/23 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:06*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			08/21/23 13:49	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/18/23 14:14	08/20/23 22:54	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/18/23 14:14	08/20/23 22:54	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/18/23 14:14	08/20/23 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*160*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 22:54*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 22:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.5		4.99		mg/Kg			08/18/23 01:30	1

Client Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BH23-15

Date Collected: 08/15/23 09:25
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-6

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		08/17/23 13:00	08/18/23 14:27	1
Toluene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 14:27	1
Ethylbenzene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 14:27	1
m-Xylene & p-Xylene	<0.00404	U *- *1	0.00404		mg/Kg		08/17/23 13:00	08/18/23 14:27	1
o-Xylene	<0.00202	U *- *1	0.00202		mg/Kg		08/17/23 13:00	08/18/23 14:27	1
Xylenes, Total	<0.00404	U *- *1	0.00404		mg/Kg		08/17/23 13:00	08/18/23 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:27*	*1*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			08/21/23 11:05	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			08/21/23 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	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/20/23 23:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/20/23 23:15	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/18/23 14:14	08/20/23 23:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 23:15*	*1*
o-Terphenyl	*130*		*70 - 130*	*08/18/23 14:14*	*08/20/23 23:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**49.6**		4.98		mg/Kg			08/18/23 01:37	1

Client Sample ID: BH23-16

Date Collected: 08/15/23 09:30
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-7

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		08/17/23 13:00	08/18/23 14:47	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 14:47	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 14:47	1
m-Xylene & p-Xylene	<0.00401	U *- *1	0.00401		mg/Kg		08/17/23 13:00	08/18/23 14:47	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		08/17/23 13:00	08/18/23 14:47	1
Xylenes, Total	<0.00401	U *- *1	0.00401		mg/Kg		08/17/23 13:00	08/18/23 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:47*	*1*

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Client Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BH23-16

Date Collected: 08/15/23 09:30
Date Received: 08/16/23 09:54
Sample Depth: 4FT

Lab Sample ID: 890-5105-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/17/23 13:00*	*08/18/23 14:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/21/23 11:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/21/23 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	<49.6	U	49.6		mg/Kg		08/18/23 14:14	08/20/23 23:36	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/18/23 14:14	08/20/23 23:36	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/18/23 14:14	08/20/23 23:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 23:36*	*1*
o-Terphenyl	*116*		*70 - 130*	*08/18/23 14:14*	*08/20/23 23:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**49.6**		4.96		mg/Kg			08/18/23 01:44	1

Surrogate Summary

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

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)
880-32224-A-1-B MS	Matrix Spike	87	106
880-32224-A-1-C MSD	Matrix Spike Duplicate	83	108
890-5105-1	BS23-03	79	117
890-5105-2	BS23-05	84	121
890-5105-3	WS23-04	77	118
890-5105-4	WS23-08	79	121
890-5105-5	WS23-09	77	116
890-5105-6	WS23-15	82	121
890-5105-7	BH23-16	83	125
LCS 880-60466/1-A	Lab Control Sample	46 S1-	79
LCSD 880-60466/2-A	Lab Control Sample Dup	90	103
MB 880-60466/5-A	Method Blank	74	94

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)
890-5105-1	BS23-03	165 S1+	146 S1+
890-5105-1 MS	BS23-03	143 S1+	114
890-5105-1 MSD	BS23-03	130	103
890-5105-2	BS23-05	107	87
890-5105-3	WS23-04	123	105
890-5105-4	WS23-08	124	108
890-5105-5	WS23-09	160 S1+	139 S1+
890-5105-6	WS23-15	152 S1+	130
890-5105-7	BH23-16	133 S1+	116
LCS 880-60575/2-A	Lab Control Sample	119	102
LCSD 880-60575/3-A	Lab Control Sample Dup	154 S1+	136 S1+
MB 880-60575/1-A	Method Blank	176 S1+	162 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-60466/5-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/17/23 13:00	08/18/23 11:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/17/23 13:00	08/18/23 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*08/17/23 13:00*	*08/18/23 11:39*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*08/17/23 13:00*	*08/18/23 11:39*	*1*

Lab Sample ID: LCS 880-60466/1-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1085		mg/Kg		108	70 - 130		
Toluene			0.100	0.05476	*-	mg/Kg		55	70 - 130		
Ethylbenzene			0.100	0.04346	*-	mg/Kg		43	70 - 130		
m-Xylene & p-Xylene			0.200	0.08777	*-	mg/Kg		44	70 - 130		
o-Xylene			0.100	0.04199	*-	mg/Kg		42	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*46*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*

Lab Sample ID: LCSD 880-60466/2-A
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1110		mg/Kg		111	70 - 130	2	35
Toluene			0.100	0.1022	*1	mg/Kg		102	70 - 130	60	35
Ethylbenzene			0.100	0.08722	*1	mg/Kg		87	70 - 130	67	35
m-Xylene & p-Xylene			0.200	0.1836	*1	mg/Kg		92	70 - 130	71	35
o-Xylene			0.100	0.09055	*1	mg/Kg		91	70 - 130	73	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-32224-A-1-B MS
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0996	0.1128		mg/Kg		113	70 - 130		
Toluene	<0.00198	U *- *1	0.0996	0.09537		mg/Kg		96	70 - 130		

QC Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

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

Lab Sample ID: 880-32224-A-1-B MS
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U *- *1 F1	0.0996	0.07643		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00396	U *- *1 F1	0.199	0.1569		mg/Kg		79	70 - 130
o-Xylene	<0.00198	U *- *1 F1	0.0996	0.07842		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-32224-A-1-C MSD
Matrix: Solid
Analysis Batch: 60525

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 60466

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.1098		mg/Kg		110	70 - 130	3	35
Toluene	<0.00198	U *- *1	0.100	0.09026		mg/Kg		90	70 - 130	6	35
Ethylbenzene	<0.00198	U *- *1 F1	0.100	0.06801	F1	mg/Kg		68	70 - 130	12	35
m-Xylene & p-Xylene	<0.00396	U *- *1 F1	0.200	0.1347	F1	mg/Kg		67	70 - 130	15	35
o-Xylene	<0.00198	U *- *1 F1	0.100	0.06743	F1	mg/Kg		67	70 - 130	15	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-60575/1-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 60575

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/18/23 14:14	08/20/23 19:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/18/23 14:14	08/20/23 19:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/18/23 14:14	08/20/23 19:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*176*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 19:33*	*1*
o-Terphenyl	*162*	*S1+*	*70 - 130*	*08/18/23 14:14*	*08/20/23 19:33*	*1*

Lab Sample ID: LCS 880-60575/2-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1005		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	1000	961.3		mg/Kg		96	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

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

Lab Sample ID: LCS 880-60575/2-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 60575

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-60575/3-A
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 60575

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1199		mg/Kg		120	70 - 130	18	20
Diesel Range Organics (Over C10-C28)			1000	1136		mg/Kg		114	70 - 130	17	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	154	S1+	70 - 130
o-Terphenyl	136	S1+	70 - 130

Lab Sample ID: 890-5105-1 MS
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: BS23-03
Prep Type: Total/NA
Prep Batch: 60575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	999	1028		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	<50.3	U F1	999	1417	F1	mg/Kg		140	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	143	S1+	70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 890-5105-1 MSD
Matrix: Solid
Analysis Batch: 60627

Client Sample ID: BS23-03
Prep Type: Total/NA
Prep Batch: 60575

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	<50.3	U	999	920.4		mg/Kg		92	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.3	U F1	999	1277		mg/Kg		126	70 - 130	10	20

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

QC Sample Results

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-60467/1-A
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/17/23 23:57	1

Lab Sample ID: LCS 880-60467/2-A
Matrix: Solid
Analysis Batch: 60528

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	258.1		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-60467/3-A
Matrix: Solid
Analysis Batch: 60528

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	259.8		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 890-5107-A-2-B MS
Matrix: Solid
Analysis Batch: 60528

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	58.8		249	309.3		mg/Kg		101	90 - 110		

Lab Sample ID: 890-5107-A-2-C MSD
Matrix: Solid
Analysis Batch: 60528

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	58.8		249	310.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

GC VOA

Prep Batch: 60466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	5035	
890-5105-2	BS23-05	Total/NA	Solid	5035	
890-5105-3	WS23-04	Total/NA	Solid	5035	
890-5105-4	WS23-08	Total/NA	Solid	5035	
890-5105-5	WS23-09	Total/NA	Solid	5035	
890-5105-6	WS23-15	Total/NA	Solid	5035	
890-5105-7	BH23-16	Total/NA	Solid	5035	
MB 880-60466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-60466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-60466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32224-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-32224-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 60525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	8021B	60466
890-5105-2	BS23-05	Total/NA	Solid	8021B	60466
890-5105-3	WS23-04	Total/NA	Solid	8021B	60466
890-5105-4	WS23-08	Total/NA	Solid	8021B	60466
890-5105-5	WS23-09	Total/NA	Solid	8021B	60466
890-5105-6	WS23-15	Total/NA	Solid	8021B	60466
890-5105-7	BH23-16	Total/NA	Solid	8021B	60466
MB 880-60466/5-A	Method Blank	Total/NA	Solid	8021B	60466
LCS 880-60466/1-A	Lab Control Sample	Total/NA	Solid	8021B	60466
LCSD 880-60466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	60466
880-32224-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	60466
880-32224-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	60466

Analysis Batch: 60697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	Total BTEX	
890-5105-2	BS23-05	Total/NA	Solid	Total BTEX	
890-5105-3	WS23-04	Total/NA	Solid	Total BTEX	
890-5105-4	WS23-08	Total/NA	Solid	Total BTEX	
890-5105-5	WS23-09	Total/NA	Solid	Total BTEX	
890-5105-6	WS23-15	Total/NA	Solid	Total BTEX	
890-5105-7	BH23-16	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 60575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	8015NM Prep	
890-5105-2	BS23-05	Total/NA	Solid	8015NM Prep	
890-5105-3	WS23-04	Total/NA	Solid	8015NM Prep	
890-5105-4	WS23-08	Total/NA	Solid	8015NM Prep	
890-5105-5	WS23-09	Total/NA	Solid	8015NM Prep	
890-5105-6	WS23-15	Total/NA	Solid	8015NM Prep	
890-5105-7	BH23-16	Total/NA	Solid	8015NM Prep	
MB 880-60575/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-60575/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

GC Semi VOA (Continued)

Prep Batch: 60575 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-60575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5105-1 MS	BS23-03	Total/NA	Solid	8015NM Prep	
890-5105-1 MSD	BS23-03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 60627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	8015B NM	60575
890-5105-2	BS23-05	Total/NA	Solid	8015B NM	60575
890-5105-3	WS23-04	Total/NA	Solid	8015B NM	60575
890-5105-4	WS23-08	Total/NA	Solid	8015B NM	60575
890-5105-5	WS23-09	Total/NA	Solid	8015B NM	60575
890-5105-6	WS23-15	Total/NA	Solid	8015B NM	60575
890-5105-7	BH23-16	Total/NA	Solid	8015B NM	60575
MB 880-60575/1-A	Method Blank	Total/NA	Solid	8015B NM	60575
LCS 880-60575/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	60575
LCSD 880-60575/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	60575
890-5105-1 MS	BS23-03	Total/NA	Solid	8015B NM	60575
890-5105-1 MSD	BS23-03	Total/NA	Solid	8015B NM	60575

Analysis Batch: 60738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Total/NA	Solid	8015 NM	
890-5105-2	BS23-05	Total/NA	Solid	8015 NM	
890-5105-3	WS23-04	Total/NA	Solid	8015 NM	
890-5105-4	WS23-08	Total/NA	Solid	8015 NM	
890-5105-5	WS23-09	Total/NA	Solid	8015 NM	
890-5105-6	WS23-15	Total/NA	Solid	8015 NM	
890-5105-7	BH23-16	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 60467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Soluble	Solid	DI Leach	
890-5105-2	BS23-05	Soluble	Solid	DI Leach	
890-5105-3	WS23-04	Soluble	Solid	DI Leach	
890-5105-4	WS23-08	Soluble	Solid	DI Leach	
890-5105-5	WS23-09	Soluble	Solid	DI Leach	
890-5105-6	WS23-15	Soluble	Solid	DI Leach	
890-5105-7	BH23-16	Soluble	Solid	DI Leach	
MB 880-60467/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-60467/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-60467/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5107-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5107-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 60528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-1	BS23-03	Soluble	Solid	300.0	60467
890-5105-2	BS23-05	Soluble	Solid	300.0	60467
890-5105-3	WS23-04	Soluble	Solid	300.0	60467

QC Association Summary

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

HPLC/IC (Continued)

Analysis Batch: 60528 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5105-4	WS23-08	Soluble	Solid	300.0	60467
890-5105-5	WS23-09	Soluble	Solid	300.0	60467
890-5105-6	WS23-15	Soluble	Solid	300.0	60467
890-5105-7	BH23-16	Soluble	Solid	300.0	60467
MB 880-60467/1-A	Method Blank	Soluble	Solid	300.0	60467
LCS 880-60467/2-A	Lab Control Sample	Soluble	Solid	300.0	60467
LCSD 880-60467/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	60467
890-5107-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	60467
890-5107-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	60467

Lab Chronicle

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BS23-03

Date Collected: 08/15/23 09:00
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-1

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			4.96 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 12:43	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 20:41	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 00:47	CH	EET MID

Client Sample ID: BS23-05

Date Collected: 08/15/23 09:05
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-2

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			5.01 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 13:03	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 21:49	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 00:54	CH	EET MID

Client Sample ID: WS23-04

Date Collected: 08/15/23 09:10
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-3

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	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 13:24	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 22:11	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:02	CH	EET MID

Client Sample ID: WS23-08

Date Collected: 08/15/23 09:15
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-4

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			5.05 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 13:45	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: WS23-08
Date Collected: 08/15/23 09:15
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-4
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			60738	08/21/23 13:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 22:33	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:23	CH	EET MID

Client Sample ID: WS23-09
Date Collected: 08/15/23 09:20
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-5
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			4.98 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 14:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:49	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 22:54	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:30	CH	EET MID

Client Sample ID: WS23-15
Date Collected: 08/15/23 09:25
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-6
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			4.95 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 14:27	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 23:15	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:37	CH	EET MID

Client Sample ID: BH23-16
Date Collected: 08/15/23 09:30
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-7
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			4.99 g	5 mL	60466	08/17/23 13:00	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	60525	08/18/23 14:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			60697	08/21/23 11:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			60738	08/21/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	60575	08/18/23 14:14	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	60627	08/20/23 23:36	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Vertex
Project/Site: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Client Sample ID: BH23-16

Date Collected: 08/15/23 09:30
Date Received: 08/16/23 09:54

Lab Sample ID: 890-5105-7

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			5.04 g	50 mL	60467	08/17/23 13:00	SMC	EET MID
Soluble	Analysis	300.0		1			60528	08/18/23 01:44	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: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

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: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

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: PW Big Sinks 3-25-31 Battery

Job ID: 890-5105-1
SDG: 23E-04103

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5105-1	BS23-03	Solid	08/15/23 09:00	08/16/23 09:54	4FT
890-5105-2	BS23-05	Solid	08/15/23 09:05	08/16/23 09:54	4FT
890-5105-3	WS23-04	Solid	08/15/23 09:10	08/16/23 09:54	4FT
890-5105-4	WS23-08	Solid	08/15/23 09:15	08/16/23 09:54	4FT
890-5105-5	WS23-09	Solid	08/15/23 09:20	08/16/23 09:54	4FT
890-5105-6	WS23-15	Solid	08/15/23 09:25	08/16/23 09:54	4FT
890-5105-7	BH23-16	Solid	08/15/23 09:30	08/16/23 09:54	4FT

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Chance Dixon	Bill to: (if different)	Garrett Green
Company Name:	Vertex	Company Name:	XTO Energy
Address:	3101 Boyd Drive	Address:	
City, State ZIP:	Carlsbad, NM	City, State ZIP:	
Phone:	575 988 1472	Email:	CDixon@vertex.ca / PermianOvertex.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:	PW Big Sinks 3275-31 Battery	Turn Around	
Project Number:	23E-04103	☐ Routine ☒ Rush 48HR	Pres. Code
Project Location:	Carlsbad, NM	Due Date:	
Sampler's Name:	Fernando Rodriguez	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	T_NM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.6
Total Containers:		Corrected Temperature:	1.4

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	TPH 8015D	Cl	Sample Comments
BS23-03 4ft	Soil	8/15	9:00	4ft	Grab	1	✓	✓	✓	
BS23-05 4ft			9:05				✓	✓	✓	
WS23-04 4ft			9:10				✓	✓	✓	
WS23-08 4ft			9:15				✓	✓	✓	
WS23-09 4ft			9:20				✓	✓	✓	
BH23-15 4ft			9:25				✓	✓	✓	
BH23-16 4ft			9:30				✓	✓	✓	

890-5105 Chain of Custody

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8-16-23 09:24			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Vertex

Job Number: 890-5105-1
SDG Number: 23E-04103

Login Number: 5105
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: 890-5105-1
SDG Number: 23E-04103

Login Number: 5105
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 08/17/23 10:52 AM

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

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 264431

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 264431
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2317052998 PLU BIG SINKS 3-25-31 BATTERY, thank you. This Remediation Closure Report is approved. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation including pictures of the contoured backfilled excavation surface and a thorough discussion on reseeding mixture, vegetation ratio, timelines, etc.., will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete".	1/31/2024