State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222044186
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Garrett Green Date: 10/25/2022

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

OCD Only

Received by: Robert Hamlet Date: 3/3/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Robert Hamlet Date: 3/3/2023

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	NAPP2222044186
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 32.22565 Longitude -103.93051

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Pierce Canyon 12 Battery	Site Type Tank Battery
Date Release Discovered 07/27/2022	API# *(if applicable)* Eddy

Unit Letter	Section	Township	Range	County
P	12	24S	29E	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) 8.50	Volume Recovered (bbls) 8.50
☐ 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: Internal corrosion caused a pinhole leak in the oil dump line to release fluids into impermeable containment. All fluids were recovered. A 48-hour advance liner inspection notice was sent to NMOCD District 2. Liner was inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222044186
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
N/A

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
NA

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: Garrett Green
Date: 08/08/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 08/08/2022

Location:	PLU Pierce Canyon 12 Battery	
Spill Date:	7/27/2022	
Area 1		
Approximate Area =	47.72	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	8.50	bbls
Total Produced Water =	0.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**8.50**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**8.50**	**bbls**
Total Produced Water =	**0.00**	**bbls**

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 132145

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 132145
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	8/8/2022

Incident ID	NAPP2222044186
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2222044186
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: ____10/25/2022_____

email: _garrett.green@exxonmobil.com_____ Telephone: ____575-200-0729_____

OCD Only

Received by: ____Jocelyn Harimon_____ Date: __10/25/2022____

Incident ID	NAPP2222044186
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: [signature] Date: 10/25/2022

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

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

ENSOLUM

October 20, 2022

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Deferral Request
PLU Pierce Canyon 12 Battery
Incident Number NAPP2222044186
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document site assessment and soil sampling activities at the PLU Pierce Canyon 12 Battery (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil within a lined containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Deferral Request for Incident Number NAPP2222044186.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 12, Township 24 South, Range 29 East, in Eddy County, New Mexico (32.22565° N, 103.93051°W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 27, 2022, internal corrosion of an oil dump line resulted in the release of approximately 8.50 barrels (bbls) of crude oil into the lined containment. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; all 8.50 bbls of released crude oil were recovered from within the lined containment. A 48-hour advance notice of liner inspection was provided via email on August 1, 2022, to the New Mexico Oil Conservation Division (NMOCD) District II office. A liner integrity inspection was conducted by XTO personnel following fluid recovery. Upon inspection, the liner was determined to be insufficient. XTO reported the release to the NMOCD via email and submitted a Release Notification Form C-141 (Form C-141) on August 8, 2022. The release was assigned Incident Number NAPP2222044186.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to

groundwater data is USGS well 321321103544101, located approximately 1.11 miles east of the Site. The groundwater well has a reported depth to groundwater of 168 feet bgs. The total depth of the well has not been recorded. Ground surface elevation at the groundwater well location is 3,192 feet above mean sea level (amsl), which is approximately 58 feet higher in elevation than the Site. All wells used to determine depth to groundwater are depicted on Figure 1. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 304 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Potential site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES

On August 31, 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141, liner inspection results, and visual observations. Ensolum personnel advanced one borehole (BH01) via hand auger at the location of the tear in the liner. Two discrete delineation soil samples (BH01/BH01A) were collected from the borehole at depths of approximately 0.5 feet and 1-foot bgs. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations from the borehole were documented on lithologic/soil sampling logs, which are included in Appendix B. The borehole BH01 was backfilled with the soil removed and XTO repaired the tear in the liner. Four additional assessment soil samples (SS01 through SS04) were collected around the lined containment at a depth of 0.5 feet bgs to confirm the lateral extent of the release. The release extent/containment and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil sample BH01 at 0.5 feet bgs indicated that GRO plus DRO concentrations exceeded the Closure Criteria. Laboratory analytical results for delineation soil sample BH01A collected at 1-foot bgs and lateral delineation soil samples SS01 through SS04 indicated COCs concentrations were compliant with the Site Closure Criteria and the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

DEFERRAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment and surface pipelines within the lined containment preventing the removal of impacted soil. The impacted soil is limited to the area immediately beneath the lined containment, where remediation would require a major facility deconstruction. The impacted soil remaining in place is delineated vertically by delineation soil sample BH01A collected at 1-foot bgs, and laterally delineated by delineation soil samples SS01 through SS04. A maximum of 40 cubic yards of TPH-impacted soil remains in place beneath the liner assuming a maximum 1-foot depth based on the delineation soil samples listed above, that were compliant with the Closure Criteria.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 100 feet bgs, the release was contained laterally by the lined containment, and the impacted soil remaining in place is limited to the area immediately beneath the liner. The liner has been repaired by XTO and will limit future vertical migration of residual impacts.

Based on the presence of active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2222044186 until final reclamation of the well pad or major construction, whichever comes first.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Anita Thapalia, P.G.
Project Geologist

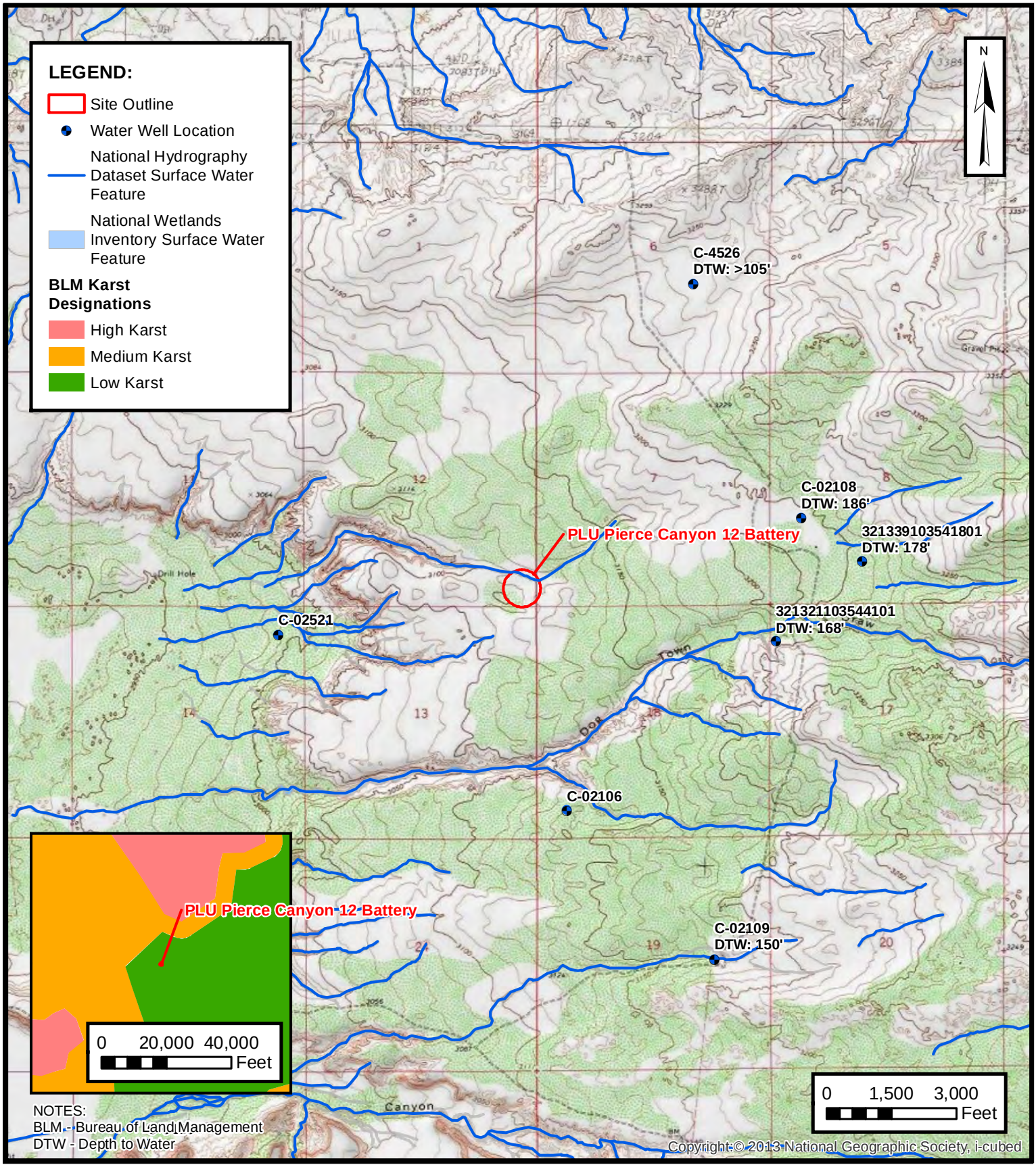
Ashley L. Ager, P.G.
Program Director

cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

ENSOLUM

FIGURES



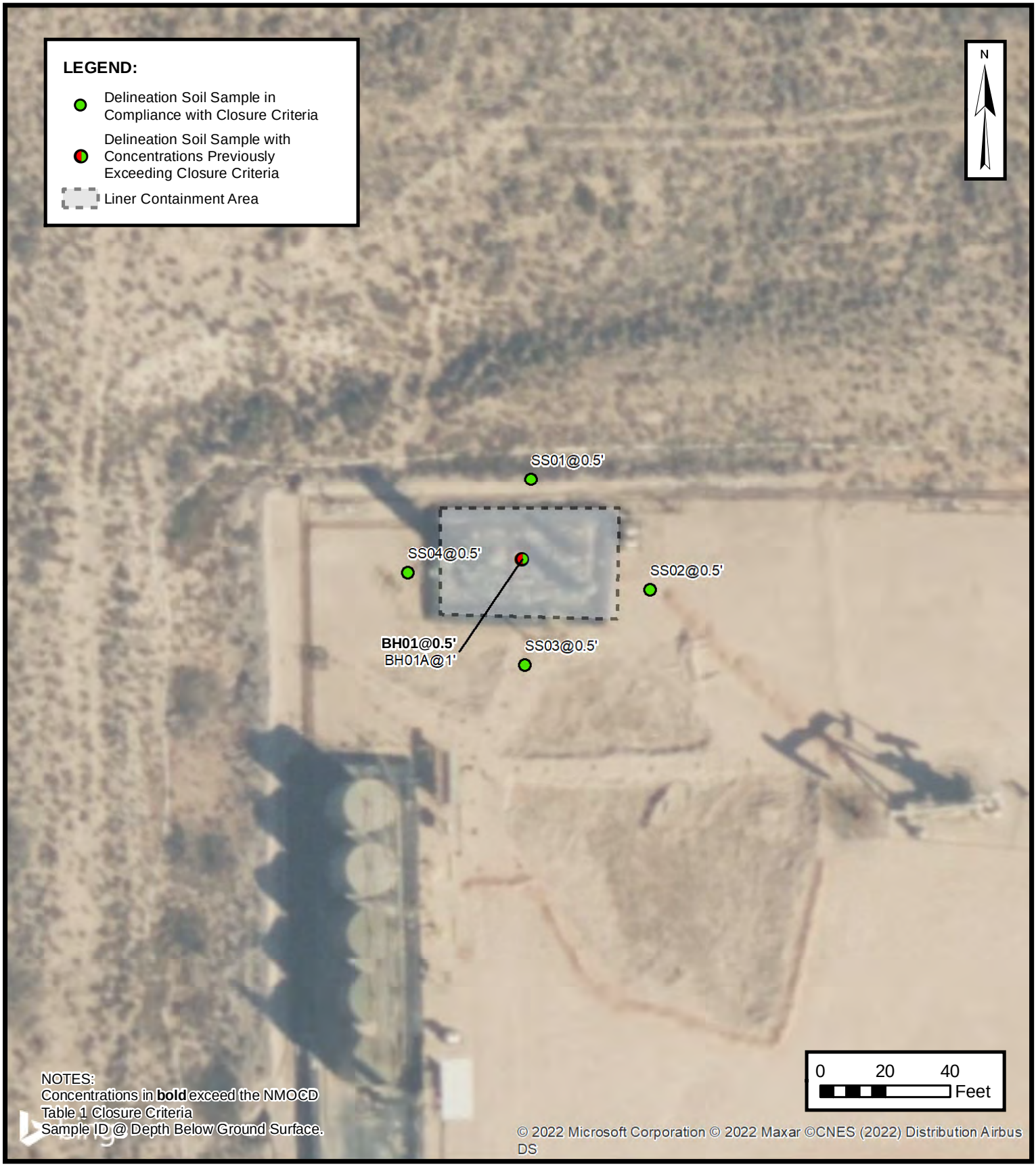
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
PLU PIERCE CANYON 12 BATTERY
NAPP2222044186
Unit P, Sec 12, T24S, R29E
Eddy County, New Mexico

FIGURE

1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

PRELIMINARY SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU PIERCE CANYON 12 BATTERY
NAPP2222044186
Unit G, Sec 6, T24S, R30E
Eddy County, New Mexico

FIGURE

2

ENSOLUM

TABLES

ENSOLUM

TABLE I
SOIL SAMPLE ANALYTICAL RESULTS
PLU Pierce Canyon 12 Battery
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
BH01	08/31/2022	0.5	<0.00199	<0.00398	<50.0	1,020	<50.0	**1,020**	1,020	17.7
BH01A	08/31/2022	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	25.1
SS01	08/31/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	209
SS02	08/31/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	20.2
SS03	08/31/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	46.9
SS04	08/31/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	33.7

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code

ENSOLUM

APPENDIX A

Referenced Well Records

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321321103544101

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321321103544101 24S.30E.18.22144

Eddy County, New Mexico
Latitude 32°13'21", Longitude 103°54'41" NAD27
Land-surface elevation 3,192 feet above NAVD88
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1983-02-01		D	62610		3022.15	NGVD29	1	Z		
1983-02-01		D	62611		3023.80	NAVD88	1	Z		
1983-02-01		D	72019	168.20			1	Z		
1987-10-15		D	62610		3021.73	NGVD29	1	S		
1987-10-15		D	62611		3023.38	NAVD88	1	S		
1987-10-15		D	72019	168.62			1	S		
1992-11-04		D	62610		3022.03	NGVD29	1	S		
1992-11-04		D	62611		3023.68	NAVD88	1	S		
1992-11-04		D	72019	168.32			1	S		
1998-01-27		D	62610		3022.27	NGVD29	1	S		
1998-01-27		D	62611		3023.92	NAVD88	1	S		
1998-01-27		D	72019	168.08			1	S		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day

Section	Code	Description
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (MW-1)	n/a	C-4526

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	14'	42.15"	N
	LONGITUDE	103°	55'	6.20"	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE
NW NE Sec. 06 T24S R30E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
05/14/2021	05/14/2021	temporary well material	105	n/a

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

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	105	±6.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

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

FILE NO.	C-4526	POD NO.	1	TRN NO.	692109
LOCATION	Exp1	24S.30E.6.414		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	SAND, poorly graded, fine-very grained, Reddish-brown, dry	Y ✓ N	
4	12	8	CALICHE, poorly-mod. consolidated, tan-off white, dry	Y ✓ N	
12	19	7	SAND, poorly graded, fine-very grained, some caliche gravel, Tan ,dry	Y ✓ N	
19	24	5	SAND, poorly graded, fine-very grained, some caliche gravel, Light- Brown, dry	Y ✓ N	
24	72	48	SAND, poorly graded, fine-very grained, Reddish Brown, moist	Y ✓ N	
72	92	20	SAND, poorly graded, fine-very grained, some silt, Reddish Brown, moist	Y ✓ N	
92	102	10	SILTY SAND, poorly graded, fine-very grained, Reddish Brown, moist	Y ✓ N	
102	105	3	SILTY SAND, poorly graded, fine-very grained, Reddish Brown, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge, Carmelo Trevino, Cameron Pruitt

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 06/09/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4526	POD NO. 1	TRN NO. 692109
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

OSE DIT JUN 10 2021 PM2:47

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

	Sample Name: BH01	Date: 8/31/2022
	Site Name: PLU Pierce Canyon 12 Battery	
	Incident Number: NAPP2222044186	
	Job Number: 03E1558099	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Chris Brown	Method: Hand Auger
Coordinates: 32.225698, -103.930547	Hole Diameter: 3.5"	Total Depth: 1'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively.
Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE (fill)	0-0.5', CALICHE w/ fine sand, moist, tan, some small sub-round gravel, no stain, no odor, fill.
M	<112	2.2	N	BH01	0.5		SP	0.5'-1', SAND, moist, reddish brown, poorly graded, fine grain, trace silt, no stain, no odor.
M	<112	2.0	N	BH01A	1	1		

Total Depth at 1' bgs.

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU Pierce Canyon 12 Battery
Incident Number: NAPP2222044186

Photograph 1 Date: 8/31/2022

Description: Liner containment area

Photograph 2 Date: 8/31/2022

Description: Liner containment area

Photograph 3 Date: 8/31/2022

Description: Delineation activities: BH01

Photograph 4 Date: 8/31/2022

Description: Liner patch: BH01

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2873-1
Laboratory Sample Delivery Group: 03E1558094
Client Project/Site: PLU PIERCE CANYON 12
Revision: 1

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Ben Belill

JKramer

Authorized for release by:
9/29/2022 12:12:18 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Laboratory Job ID: 890-2873-1
SDG: 03E1558094

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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.

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: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Job ID: 890-2873-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2873-1

REVISION

The report being provided is a revision of the original report sent on 9/12/2022. The report (revision 1) is being revised due to Per client email BH01 and BH01A are switched, revised report needed.

Report revision history

Receipt
The samples were received on 9/1/2022 9:21 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

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-33652/2-A) and (LCSD 880-33652/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-33646/2-A) and (LCSD 880-33646/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33646 and analytical batch 880-33680 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: (890-2933-A-1-B MS) and (890-2933-A-1-C MSD). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-34416 and analytical batch 880-34433 were outside control limits. Sample matrix interference and/or non-homogeneity are 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: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: BH01A
Date Collected: 08/31/22 12:00
Date Received: 09/01/22 09:21
Sample Depth: 1

Lab Sample ID: 890-2873-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 18:35	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 18:35	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 18:35	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/09/22 12:42	09/10/22 18:35	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 18:35	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/09/22 12:42	09/10/22 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*09/09/22 12:42*	*09/10/22 18:35*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*09/09/22 12:42*	*09/10/22 18:35*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/12/22 10:05	1

Method: 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			09/06/22 12:59	1

Method: 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		09/02/22 11:29	09/04/22 04:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/02/22 11:29	09/04/22 04:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/02/22 11:29	09/04/22 04:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*09/02/22 11:29*	*09/04/22 04:36*	*1*
o-Terphenyl	*107*		*70 - 130*	*09/02/22 11:29*	*09/04/22 04:36*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.1**		5.00		mg/Kg			09/09/22 08:39	1

Client Sample ID: BH01
Date Collected: 08/31/22 12:15
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 19:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:01*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: BH01
Date Collected: 08/31/22 12:15
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/12/22 10:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1020**		50.0		mg/Kg			09/06/22 12:59	1

Method: 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		09/02/22 11:29	09/04/22 04:57	1
Diesel Range Organics (Over C10-C28)	**1020**		50.0		mg/Kg		09/02/22 11:29	09/04/22 04:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/02/22 11:29	09/04/22 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*09/02/22 11:29*	*09/04/22 04:57*	*1*
o-Terphenyl	*106*		*70 - 130*	*09/02/22 11:29*	*09/04/22 04:57*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.7**		5.02		mg/Kg			09/09/22 08:43	1

Client Sample ID: SS01
Date Collected: 08/31/22 13:00
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 19:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 19:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 19:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/09/22 12:42	09/10/22 19:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 19:28	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/09/22 12:42	09/10/22 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:28*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:28*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/12/22 10:05	1

Method: 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			09/06/22 12:59	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: SS01
Date Collected: 08/31/22 13:00
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-3
Matrix: Solid

Method: 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		09/02/22 11:29	09/04/22 05:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/02/22 11:29	09/04/22 05:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/02/22 11:29	09/04/22 05:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*09/02/22 11:29*	*09/04/22 05:18*	*1*
o-Terphenyl	*116*		*70 - 130*	*09/02/22 11:29*	*09/04/22 05:18*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**209**		4.95		mg/Kg			09/09/22 08:48	1

Client Sample ID: SS02
Date Collected: 08/31/22 13:10
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:54	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:54	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 19:54	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 19:54	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:54*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/09/22 12:42*	*09/10/22 19:54*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/12/22 10:05	1

Method: 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			09/06/22 12:59	1

Method: 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		09/02/22 13:37	09/03/22 02:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/02/22 13:37	09/03/22 02:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/02/22 13:37	09/03/22 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:03*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:03*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: SS02
Date Collected: 08/31/22 13:10
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.2		4.97		mg/Kg			09/09/22 03:11	1

Client Sample ID: SS03
Date Collected: 08/31/22 13:20
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 20:20	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 20:20	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 20:20	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 20:20	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/09/22 12:42	09/10/22 20:20	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/09/22 12:42	09/10/22 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/09/22 12:42*	*09/10/22 20:20*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*09/09/22 12:42*	*09/10/22 20:20*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/12/22 10:05	1

Method: 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			09/06/22 12:59	1

Method: 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		09/02/22 13:37	09/03/22 02:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/02/22 13:37	09/03/22 02:24	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/02/22 13:37	09/03/22 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:24*	*1*
o-Terphenyl	*112*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.9		4.98		mg/Kg			09/09/22 03:15	1

Client Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: SS04
Date Collected: 08/31/22 13:30
Date Received: 09/01/22 09:21
Sample Depth: .5

Lab Sample ID: 890-2873-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 20:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 20:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 20:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/09/22 12:42	09/10/22 20:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/09/22 12:42	09/10/22 20:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/09/22 12:42	09/10/22 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/09/22 12:42*	*09/10/22 20:47*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/09/22 12:42*	*09/10/22 20:47*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/12/22 10:05	1

Method: 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			09/06/22 12:59	1

Method: 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		09/02/22 13:37	09/03/22 02:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/02/22 13:37	09/03/22 02:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/02/22 13:37	09/03/22 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:46*	*1*
o-Terphenyl	*116*		*70 - 130*	*09/02/22 13:37*	*09/03/22 02:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**33.7**		4.98		mg/Kg			09/09/22 03:20	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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)
890-2873-1	BH01A	84	83
890-2873-1 MS	BH01A	93	98
890-2873-1 MSD	BH01A	85	101
890-2873-2	BH01	93	95
890-2873-3	SS01	89	92
890-2873-4	SS02	100	108
890-2873-5	SS03	88	94
890-2873-6	SS04	88	99
LCS 880-34108/1-A	Lab Control Sample	89	102
LCSD 880-34108/2-A	Lab Control Sample Dup	92	102
MB 880-34108/5-A	Method Blank	62 S1-	91

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)
880-18785-A-1-E MS	Matrix Spike	90	78
880-18785-A-1-F MSD	Matrix Spike Duplicate	90	77
890-2870-A-1-D MS	Matrix Spike	85	74
890-2870-A-1-E MSD	Matrix Spike Duplicate	86	75
890-2873-1	BH01A	106	107
890-2873-2	BH01	113	106
890-2873-3	SS01	118	116
890-2873-4	SS02	92	91
890-2873-5	SS03	114	112
890-2873-6	SS04	117	116
890-2933-A-1-B MS	Matrix Spike	73	66 S1-
890-2933-A-1-C MSD	Matrix Spike Duplicate	78	68 S1-
LCS 880-33646/2-A	Lab Control Sample	150 S1+	151 S1+
LCS 880-33652/2-A	Lab Control Sample	141 S1+	144 S1+
LCS 880-34416/2-A	Lab Control Sample	96	98
LCSD 880-33646/3-A	Lab Control Sample Dup	147 S1+	152 S1+
LCSD 880-33652/3-A	Lab Control Sample Dup	144 S1+	146 S1+
LCSD 880-34416/3-A	Lab Control Sample Dup	81	82
MB 880-33646/1-A	Method Blank	116	121
MB 880-33652/1-A	Method Blank	110	115
MB 880-34416/1-A	Method Blank	109	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-34108/5-A
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34108

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 18:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 18:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 18:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/09/22 12:42	09/10/22 18:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/09/22 12:42	09/10/22 18:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/09/22 12:42	09/10/22 18:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*09/09/22 12:42*	*09/10/22 18:08*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/09/22 12:42*	*09/10/22 18:08*	*1*

Lab Sample ID: LCS 880-34108/1-A
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34108

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1052		mg/Kg		105	70 - 130		
Toluene			0.100	0.1014		mg/Kg		101	70 - 130		
Ethylbenzene			0.100	0.09875		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.2025		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.1001		mg/Kg		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-34108/2-A
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34108

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1002		mg/Kg		100	70 - 130	5	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	6	35
Ethylbenzene			0.100	0.08911		mg/Kg		89	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.1817		mg/Kg		91	70 - 130	11	35
o-Xylene			0.100	0.09305		mg/Kg		93	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-2873-1 MS
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: BH01A
Prep Type: Total/NA
Prep Batch: 34108

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0996	0.08819		mg/Kg		89	70 - 130		
Toluene	<0.00201	U	0.0996	0.08582		mg/Kg		86	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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

Lab Sample ID: 890-2873-1 MS
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: BH01A
Prep Type: Total/NA
Prep Batch: 34108

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0996	0.08214		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1681		mg/Kg		84	70 - 130
o-Xylene	<0.00201	U	0.0996	0.08247		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2873-1 MSD
Matrix: Solid
Analysis Batch: 34150

Client Sample ID: BH01A
Prep Type: Total/NA
Prep Batch: 34108

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.09043		mg/Kg		91	70 - 130	3	35
Toluene	<0.00201	U	0.0998	0.08837		mg/Kg		89	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0998	0.08669		mg/Kg		87	70 - 130	5	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1765		mg/Kg		88	70 - 130	5	35
o-Xylene	<0.00201	U	0.0998	0.08671		mg/Kg		87	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-33646/1-A
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33646

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		09/02/22 11:29	09/03/22 20:31	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/02/22 11:29	09/03/22 20:31	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/02/22 11:29	09/03/22 20:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*09/02/22 11:29*	*09/03/22 20:31*	*1*
o-Terphenyl	*121*		*70 - 130*	*09/02/22 11:29*	*09/03/22 20:31*	*1*

Lab Sample ID: LCS 880-33646/2-A
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	867.1		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	989.5		mg/Kg		99	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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

Lab Sample ID: LCS 880-33646/2-A
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33646

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	150	S1+	70 - 130
o-Terphenyl	151	S1+	70 - 130

Lab Sample ID: LCSD 880-33646/3-A
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33646

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1054		mg/Kg		105	70 - 130	19	20
Diesel Range Organics (Over C10-C28)			1000	1053		mg/Kg		105	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	147	S1+	70 - 130
o-Terphenyl	152	S1+	70 - 130

Lab Sample ID: 890-2870-A-1-D MS
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33646

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	570.6	F1	mg/Kg		55	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	840.3		mg/Kg		82	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	74		70 - 130

Lab Sample ID: 890-2870-A-1-E MSD
Matrix: Solid
Analysis Batch: 33680

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33646

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	613.1	F1	mg/Kg		59	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	847.6		mg/Kg		83	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	75		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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

Lab Sample ID: MB 880-33652/1-A
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33652

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		09/02/22 13:37	09/02/22 19:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/02/22 13:37	09/02/22 19:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/02/22 13:37	09/02/22 19:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*09/02/22 13:37*	*09/02/22 19:12*	*1*
o-Terphenyl	*115*		*70 - 130*	*09/02/22 13:37*	*09/02/22 19:12*	*1*

Lab Sample ID: LCS 880-33652/2-A
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33652

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	897.3		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	906.9		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*141*	*S1+*	*70 - 130*
o-Terphenyl	*144*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-33652/3-A
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33652

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	916.7		mg/Kg		92	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	923.6		mg/Kg		92	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*144*	*S1+*	*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Lab Sample ID: 880-18785-A-1-E MS
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	898.3		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	847.2		mg/Kg		85	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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

Lab Sample ID: 880-18785-A-1-E MS
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33652

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: 880-18785-A-1-F MSD
Matrix: Solid
Analysis Batch: 33584

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	889.0		mg/Kg		87	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	842.9		mg/Kg		84	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: MB 880-34416/1-A
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34416

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		09/13/22 15:30	09/14/22 09:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/22 15:30	09/14/22 09:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/22 15:30	09/14/22 09:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	09/13/22 15:30	09/14/22 09:53	1
o-Terphenyl	111		70 - 130	09/13/22 15:30	09/14/22 09:53	1

Lab Sample ID: LCS 880-34416/2-A
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34416

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1035		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1127		mg/Kg		113	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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

Lab Sample ID: LCSD 880-34416/3-A
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34416

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	879.7		mg/Kg		88	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	920.3		mg/Kg		92	70 - 130	20	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: 890-2933-A-1-B MS
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	781.2		mg/Kg		78	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	996	640.2	F1	mg/Kg		63	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*73*		*70 - 130*
o-Terphenyl	*66*	*S1-*	*70 - 130*

Lab Sample ID: 890-2933-A-1-C MSD
Matrix: Solid
Analysis Batch: 34433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	829.0		mg/Kg		83	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	662.5	F1	mg/Kg		65	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*68*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33691/1-A
Matrix: Solid
Analysis Batch: 33933

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			09/09/22 02:38	1

QC Sample Results

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-33691/2-A
Matrix: Solid
Analysis Batch: 33933

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	240.6		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-33691/3-A
Matrix: Solid
Analysis Batch: 33933

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	241.4		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-2874-A-3-C MS
Matrix: Solid
Analysis Batch: 33933

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	541		251	769.3		mg/Kg		91	90 - 110		

Lab Sample ID: 890-2874-A-3-D MSD
Matrix: Solid
Analysis Batch: 33933

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	541		251	768.7		mg/Kg		91	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

GC VOA

Prep Batch: 34108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	5035	
890-2873-2	BH01	Total/NA	Solid	5035	
890-2873-3	SS01	Total/NA	Solid	5035	
890-2873-4	SS02	Total/NA	Solid	5035	
890-2873-5	SS03	Total/NA	Solid	5035	
890-2873-6	SS04	Total/NA	Solid	5035	
MB 880-34108/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-34108/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-34108/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2873-1 MS	BH01A	Total/NA	Solid	5035	
890-2873-1 MSD	BH01A	Total/NA	Solid	5035	

Analysis Batch: 34150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	8021B	34108
890-2873-2	BH01	Total/NA	Solid	8021B	34108
890-2873-3	SS01	Total/NA	Solid	8021B	34108
890-2873-4	SS02	Total/NA	Solid	8021B	34108
890-2873-5	SS03	Total/NA	Solid	8021B	34108
890-2873-6	SS04	Total/NA	Solid	8021B	34108
MB 880-34108/5-A	Method Blank	Total/NA	Solid	8021B	34108
LCS 880-34108/1-A	Lab Control Sample	Total/NA	Solid	8021B	34108
LCSD 880-34108/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	34108
890-2873-1 MS	BH01A	Total/NA	Solid	8021B	34108
890-2873-1 MSD	BH01A	Total/NA	Solid	8021B	34108

Analysis Batch: 34260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	Total BTEX	
890-2873-2	BH01	Total/NA	Solid	Total BTEX	
890-2873-3	SS01	Total/NA	Solid	Total BTEX	
890-2873-4	SS02	Total/NA	Solid	Total BTEX	
890-2873-5	SS03	Total/NA	Solid	Total BTEX	
890-2873-6	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 33584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-4	SS02	Total/NA	Solid	8015B NM	33652
890-2873-5	SS03	Total/NA	Solid	8015B NM	33652
890-2873-6	SS04	Total/NA	Solid	8015B NM	33652
MB 880-33652/1-A	Method Blank	Total/NA	Solid	8015B NM	33652
LCS 880-33652/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33652
LCSD 880-33652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33652
880-18785-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	33652
880-18785-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	33652

Prep Batch: 33646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

GC Semi VOA (Continued)

Prep Batch: 33646 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-2	BH01	Total/NA	Solid	8015NM Prep	
890-2873-3	SS01	Total/NA	Solid	8015NM Prep	
MB 880-33646/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33646/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33646/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2870-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2870-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 33652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-4	SS02	Total/NA	Solid	8015NM Prep	
890-2873-5	SS03	Total/NA	Solid	8015NM Prep	
890-2873-6	SS04	Total/NA	Solid	8015NM Prep	
MB 880-33652/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33652/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-18785-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-18785-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	8015B NM	33646
890-2873-2	BH01	Total/NA	Solid	8015B NM	33646
890-2873-3	SS01	Total/NA	Solid	8015B NM	33646
MB 880-33646/1-A	Method Blank	Total/NA	Solid	8015B NM	33646
LCS 880-33646/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33646
LCSD 880-33646/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33646
890-2870-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	33646
890-2870-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	33646

Analysis Batch: 33844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Total/NA	Solid	8015 NM	
890-2873-2	BH01	Total/NA	Solid	8015 NM	
890-2873-3	SS01	Total/NA	Solid	8015 NM	
890-2873-4	SS02	Total/NA	Solid	8015 NM	
890-2873-5	SS03	Total/NA	Solid	8015 NM	
890-2873-6	SS04	Total/NA	Solid	8015 NM	

Prep Batch: 34416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34416/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-34416/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-34416/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2933-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2933-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 34433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-34416/1-A	Method Blank	Total/NA	Solid	8015B NM	34416
LCS 880-34416/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	34416

QC Association Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

GC Semi VOA (Continued)

Analysis Batch: 34433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-34416/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	34416
890-2933-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	34416
890-2933-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	34416

HPLC/IC

Leach Batch: 33691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Soluble	Solid	DI Leach	
890-2873-2	BH01	Soluble	Solid	DI Leach	
890-2873-3	SS01	Soluble	Solid	DI Leach	
890-2873-4	SS02	Soluble	Solid	DI Leach	
890-2873-5	SS03	Soluble	Solid	DI Leach	
890-2873-6	SS04	Soluble	Solid	DI Leach	
MB 880-33691/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33691/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33691/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2874-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2874-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 33933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2873-1	BH01A	Soluble	Solid	300.0	33691
890-2873-2	BH01	Soluble	Solid	300.0	33691
890-2873-3	SS01	Soluble	Solid	300.0	33691
890-2873-4	SS02	Soluble	Solid	300.0	33691
890-2873-5	SS03	Soluble	Solid	300.0	33691
890-2873-6	SS04	Soluble	Solid	300.0	33691
MB 880-33691/1-A	Method Blank	Soluble	Solid	300.0	33691
LCS 880-33691/2-A	Lab Control Sample	Soluble	Solid	300.0	33691
LCSD 880-33691/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33691
890-2874-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	33691
890-2874-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	33691

Lab Chronicle

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: BH01A
Date Collected: 08/31/22 12:00
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-1
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			4.97 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 18:35	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33646	09/02/22 11:29	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33680	09/04/22 04:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 08:39	CH	EET MID

Client Sample ID: BH01
Date Collected: 08/31/22 12:15
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-2
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			5.03 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 19:01	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33646	09/02/22 11:29	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33680	09/04/22 04:57	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 08:43	CH	EET MID

Client Sample ID: SS01
Date Collected: 08/31/22 13:00
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 19:28	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33646	09/02/22 11:29	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33680	09/04/22 05:18	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 08:48	CH	EET MID

Client Sample ID: SS02
Date Collected: 08/31/22 13:10
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-4
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			5.02 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 19:54	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Client Sample ID: SS02
Date Collected: 08/31/22 13:10
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-4
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			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33652	09/02/22 13:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33584	09/03/22 02:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 03:11	CH	EET MID

Client Sample ID: SS03
Date Collected: 08/31/22 13:20
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 20:20	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33652	09/02/22 13:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33584	09/03/22 02:24	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 03:15	CH	EET MID

Client Sample ID: SS04
Date Collected: 08/31/22 13:30
Date Received: 09/01/22 09:21

Lab Sample ID: 890-2873-6
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			4.97 g	5 mL	34108	09/09/22 12:42	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	34150	09/10/22 20:47	MR	EET MID
Total/NA	Analysis	Total BTEX		1			34260	09/12/22 10:05	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33844	09/06/22 12:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33652	09/02/22 13:37	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33584	09/03/22 02:46	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33691	09/03/22 13:12	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33933	09/09/22 03:20	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Ensolum
Project/Site: PLU PIERCE CANYON 12

Job ID: 890-2873-1
SDG: 03E1558094

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2873-1	BH01A	Solid	08/31/22 12:00	09/01/22 09:21	1
890-2873-2	BH01	Solid	08/31/22 12:15	09/01/22 09:21	.5
890-2873-3	SS01	Solid	08/31/22 13:00	09/01/22 09:21	.5
890-2873-4	SS02	Solid	08/31/22 13:10	09/01/22 09:21	.5
890-2873-5	SS03	Solid	08/31/22 13:20	09/01/22 09:21	.5
890-2873-6	SS04	Solid	08/31/22 13:30	09/01/22 09:21	.5

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks	Address:	~~Dr~~ 3104 E Greene St
City, State ZIP:	Carlsbad NM 88220	City, State ZIP:	
Phone:	989-854-0852 Email:		

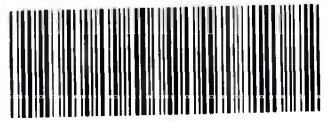
Work Order Comments

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

~~Project Name:~~	PLU Pierce Canyon 12	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558094	Due Date:	
Project Location:	Eddy Co	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	CB		
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:	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: CHC / BTX / TPH
BH01	S	8-31	1200	.5ft	G	1	/ / /
BH01A	S		1215	1ft		1	/ / /
SS01	S		1300	.5ft		1	/ / /
SS02	S		1310	.5ft		1	/ / /
SS03	S		1320	.5ft		1	/ / /
SS04	S		1330	.5ft		1	/ / /

Sample Comments

NAPP2222044186

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		9.1.22 921	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2873-1
SDG Number: 03E1558094

Login Number: 2873
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: Ensolum

Job Number: 890-2873-1
SDG Number: 03E1558094

Login Number: 2873
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/02/22 10:54 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	

ENSOLUM

APPENDIX E

NMOCD Notifications

Foust, Bryan Jacob

From: Green, Garrett J
Sent: Monday, August 1, 2022 1:31 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM
Subject: XTO 48 Hour Liner Inspection Notification - PLU Pierce Canyon 12 Battery - Released on 7/27/22

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU Pierce Canyon 12 Battery released on (7/27/2022), on Thursday, August 4, 2022, at 10am MST. A 24 hour release notification was sent not since the release was less than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.22558,-103.93034)

Thank you,

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

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

From: Green, Garrett J
To: ocd.enviro@state.nm.us; mike.bratcher@state.nm.us; Hamlet, Robert, EMNRD
Cc: Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 8/29/22 - 9/2/22)
Date: Friday, August 26, 2022 3:15:37 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of August 29, 2022.

Monday
- Brushy Draw West 25 / nAPP2216138431
- Big Sinks 2-24-30 / nAPP2219644709 & nAPP2220224382

Tuesday
- Brushy Draw West 25 / nAPP2216138431
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- ADU 816/ NAB1435334641

Wednesday
- Brushy Draw West 25 / nAPP2216138431
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- ADU 816/ NAB1435334641
- PLU Pierce Canyon 12 / nAPP2222044186

Thursday
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- JRU DI2/ nAPP2211654411 & nAPP2208349430

Friday
- PLU 21 BD 123-124 & 104 / nAPP2211651017, nAPP2211151438, nAPP2210942764, & nAPP2209736479
- PLU S Frac Pond / nAPP2211150068

Thank you!

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

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

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 153358

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 153358
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	XTO's deferral requests to complete final remediation during any future major construction/alteration or final plugging/abandonment, whichever occurs first. Ensolum and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The area requested for deferral is "BH01". The area has been delineated and documented in the report. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. This is a Federal site and will require like approval from BLM.	3/3/2023