

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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)

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


Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
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: _____	Title: _____
Signature:  _____	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Location:	PLU Big Sinks 3-25-30	
Spill Date:	9/20/2023	
Area 1		
Approximate Area =	20358.00	sq. ft.
Average Saturation (or depth) of spill =	3.00	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	135.97	bbls
Area 2		
Approximate Area =	4237.00	sq. ft.
Average Saturation (or depth) of spill =	1.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	46.89	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	182.86	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =	0.00	bbls
Total Produced Water =	45.00	bbls



March 18, 2024

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan and Variance Request
PLU Big Sinks 3-25-30
Incident Number NAPP2327751376
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document assessment and delineation activities completed to date and propose remedial actions to address impacted soil identified at the PLU Big Sinks 3-25-30 (Site). The purpose of the Site assessment and delineation activities was to determine the presence or absence of impacted soil resulting from a release of produced water at the Site. The following *Work Plan* proposes to excavate impacted soil and requests a variance for confirmation soil sampling frequency.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 3, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.15314°, -103.86766°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 20, 2023, internal corrosion on a main produced water pipeline caused the release of approximately 182.86 barrels (bbls) of produced water onto the surface of the well pad and into the adjacent pasture area. A vacuum truck was dispatched and recovered 45 bbls of released fluids. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email and submitted a Notification of Release (NOR) on an Initial C-141 Application (C-141) on October 4, 2023. The release was assigned Incident Number NAPP2327751376.

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 below.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. In August 2023, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE file number C-04757) was completed approximately 255 feet east of the release utilizing air rotary drilling methods. Soil boring C-04757 was drilled to a depth of 119 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The soil boring was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed groundwater beneath the Site is greater than 119 feet bgs. The

XTO Energy, Inc.
Remediation Work Plan and Variance Request
PLU Big Sinks 3-25-30

borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 1,763 feet southwest of the Site. The Site is greater than 200 feet from any 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 to 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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applied to the top 4 feet of pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES

On October 13, 2023, Ensolum personnel conducted Site assessment activities to evaluate the release extent based on information provided in the C-141 and visual observations. Twelve delineation soil samples (SS01 through SS12) were collected within the release at a depth of 0.5 feet bgs. All 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. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. A photographic log of the Site assessment is included in Appendix B.

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 under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico and Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents 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. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celsius required for shipment and long-term storage but are considered by the laboratory to have been received in acceptable condition.

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DELINEATION SOIL SAMPLING ACTIVITIES

On November 15 and December 11, 2023, Ensolum returned to the Site to conduct delineation and activities. Twelve boreholes (BH01 through BH12) were advanced utilizing a hand auger to investigate the extent of the release. The boreholes were advanced to depths ranging from 1-foot to 3 feet bgs. Discrete delineation soil samples (BH01 through BH12) were collected within each borehole at the terminal depths ranging from 1-foot to 3 feet bgs. Delineation soil samples BH01 through BH12 and were advanced in the vicinity of delineation soil samples SS01 through SS12, respectively. In addition, delineation soil samples SS13 through SS32 were collected 1 to 2 feet from the edge of the release along the edge of the release extent. The delineation soil samples were handled and analyzed following the same procedures as described above. The borehole soil sample locations are depicted on figure 2. Field screening results and observations for all boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation soil samples indicated concentrations of benzene, BTEX, TPH-GRO/TPH-DRO, and TPH were all compliant with the Closure Criteria. Delineation soil samples SS01/BH01 through SS12/BH12 collected within the release extent contained soil with chloride concentrations exceeding the Closure Criteria and/or reclamation requirement applied in the top 4 feet. The elevated chloride concentrations at the surface ranged from 1,430 mg/kg in SS11 to 29,600 mg/kg in SS02. The elevated chloride concentrations at the terminal depth of the boreholes, ranging from 1-foot to 3 feet bgs ranged from 272 mg/kg in BH11 to 5,360 mg/kg in BH09. Lateral delineation soil samples SS13 through SS32, collected 1 to 2 feet from the edge of the release extent, indicated all COCs were compliant with the Closure Criteria and reclamation requirement and successfully define the lateral extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

XTO proposes to remove chloride-impacted and waste containing soil identified at the Site. An estimated 3,800 cubic yards of soil will be removed, and the proposed excavation extent is depicted on Figure 3. Although the release has not been fully vertically delineated to the strictest Closure Criteria due to auger refusal, COC concentrations were decreasing with depth. XTO anticipates a maximum depth of excavation of 4 feet bgs. In addition, the lateral extent of the release has been fully defined by delineation soil samples SS13 through SS32. Following the removal of impacted and waste-containing soil, confirmation soil samples will be collected along the floors and sidewalls of the final excavation extent.

Due to the estimated size of the excavation, XTO requests a variance for sampling frequency of all confirmation samples. XTO proposes five-point composite samples be collected at a sampling frequency of 500 square feet. The proposed sampling frequency would reduce the total amount of samples from approximately 194 samples (200 square-foot frequency) to approximately 52 samples. The quantity of samples is unlikely to reduce the ability to identify residual contaminants, especially since the reclamation requirement is being applied in the top 4 feet. No sensitive receptors will be impacted. Most of the soil in the root zone (top 4 feet) will be removed, eliminating potential impairment to vegetation. Wildlife and humans are not generally affected by chloride concentrations in soil through touch or ingestion, especially at near 600 mg/kg levels and at depths that will be overlain by clean imported fill material. As such, this variance request appears to be equally protective of human health, the environment, and groundwater.

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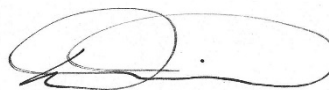
The proposed collection of sidewall confirmation soil samples will serve as horizontal definition of the release. The proposed collection of floor confirmation soil samples will serve as vertical definition of the release. The soil samples will be handled and analyzed for COCs as described above and submitted to Cardinal for laboratory analysis. The excavated soil will be transferred to a New Mexico approved landfill facility for disposal. The excavation will be backfilled and recontoured to match pre-existing Site conditions and the pasture area will be reseeded with a BLM-approved seed mixture.

XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such, XTO requests approval of this *Work Plan* with variances by NMOCD. XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD. If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Tracy Hillard
Staff Engineer



Daniel R. Moir, PG
Senior Managing Geologist

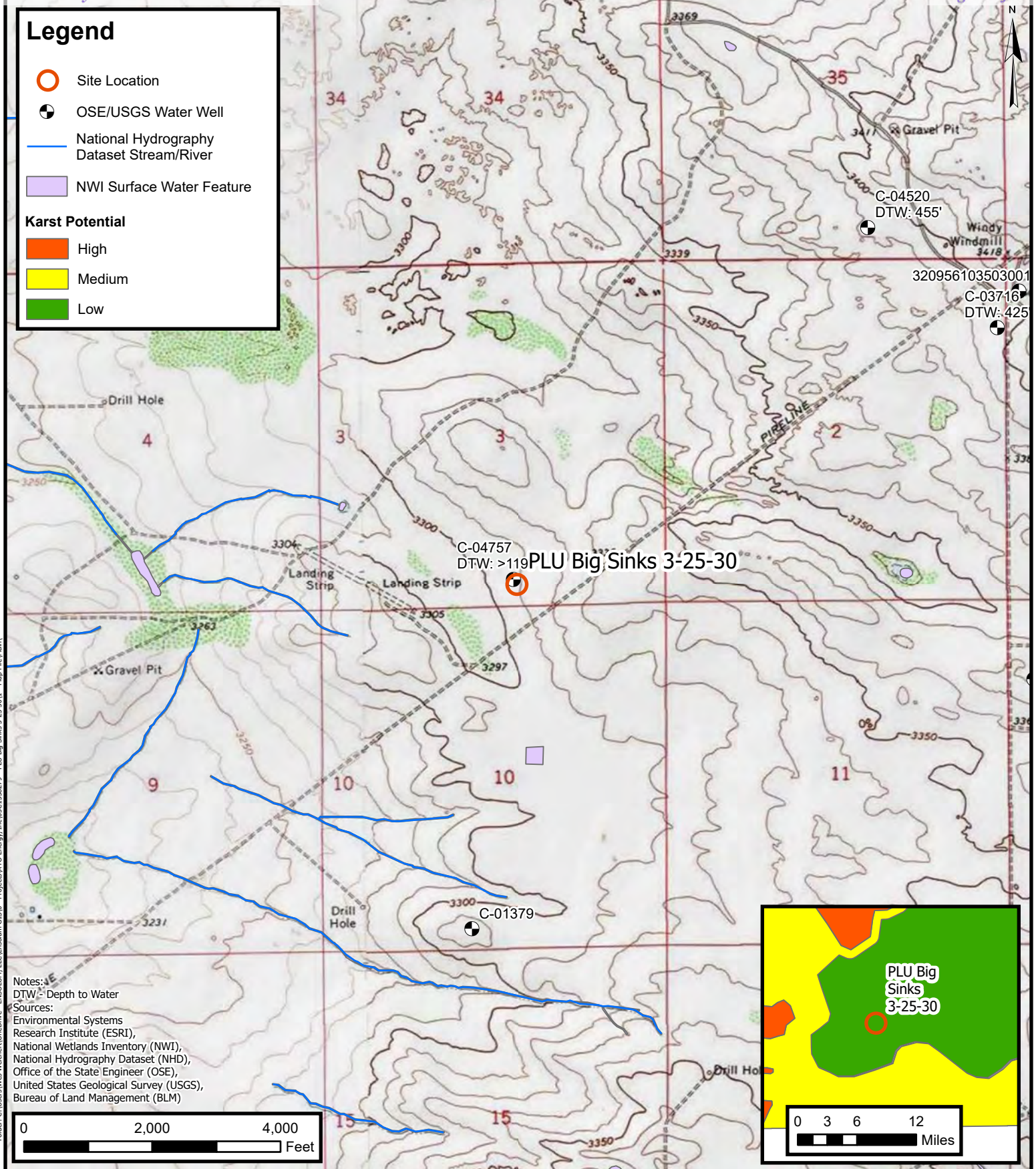
cc: Amy Ruth, XTO
Amanda Garcia, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Proposed Excavation Extent
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation



FIGURES



Site Receptor Map

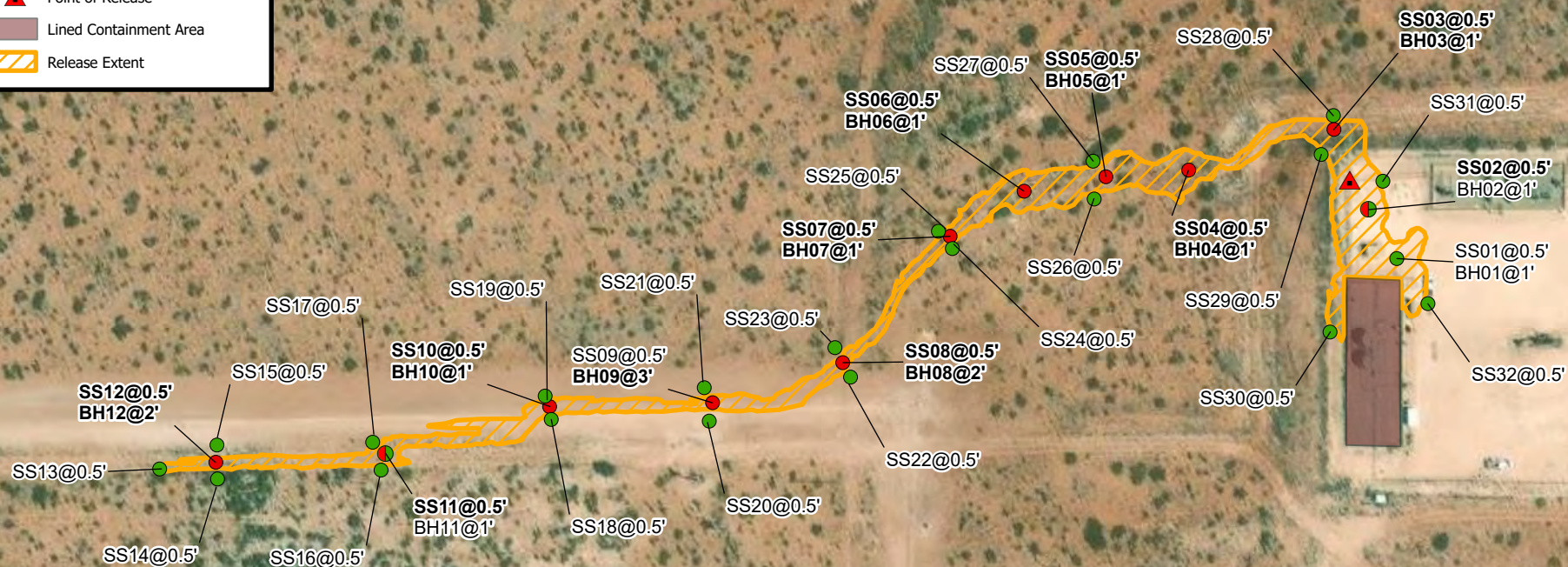
XTO Energy, Inc
PLU Big Sinks 3-25-30
Incident Number: nAPP2327751376
Unit O, Section 3, T25S, R30E
Eddy Co, New Mexico, United States

FIGURE

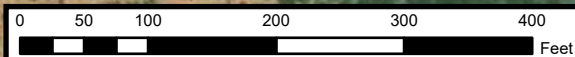
1

Legend

- Delineation Soil Samples Compliant with Closure Criteria
- Delineation Soil Samples with Initial Concentrations Exceeding Closure Criteria
- Delineation Soil Samples with Concentrations Exceeding Closure Criteria
- ▲ Point of Release
- Lined Containment Area
- Release Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable Closure Criteria.



Sources: Environmental Systems Research Institute (ESRI)

**Delineation Soil Sample Locations**

XTO Energy, Inc
 PLU Big Sinks 3-25-30
 Incident Number: nAPP2327751376
 Unit O, Section 3, T25S, R30E
 Eddy Co, New Mexico, United States

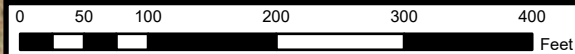
FIGURE
2

Legend

- Delineation Soil Samples Compliant with Closure Criteria
- Delineation Soil Samples with Initial Concentrations Exceeding Closure Criteria
- Delineation Soil Samples with Concentrations Exceeding Closure Criteria
- Lined Containment Area
- Proposed Excavation Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable Closure Criteria.



Sources: Environmental Systems Research Institute (ESRI)

**Proposed Excavation Area**

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FIGURE
3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 3-25-30
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										
SS01	10/13/2023	0.5	<0.00199	<0.00398	<49.6	81.6	<49.6	81.6	81.6	18,400
BH01	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,600
SS02	10/13/2023	0.5	<0.00200	<0.00399	98.7	271	<50.5	370	370	29,600
BH02	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,480
SS03	10/13/2023	0.5	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	16,100
BH03	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,600
SS04	10/13/2023	0.5	<0.00198	<0.00396	<50.1	<50.1	<50.1	<50.1	<50.1	7,430
BH04	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
SS05	10/13/2023	0.5	<0.00201	<0.00402	<49.5	<49.5	<49.5	<49.5	<49.5	11,800
BH05	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,720
SS06	10/13/2023	0.5	<0.00200	<0.00401	<49.7	<49.7	<49.7	<49.7	<49.7	8,440
BH06	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,680
SS07	10/13/2023	0.5	<0.00200	<0.00399	<50.3	<50.3	<50.3	<50.3	<50.3	19,600
BH07	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,160
SS08	10/13/2023	0.5	<0.00198	<0.00396	<50.4	<50.4	<50.4	<50.4	<50.4	26,800
BH08	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,880
SS09	10/13/2023	0.5	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	380
BH09	03/11/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,360
SS10	10/13/2023	0.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	5,250
BH10	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,720
SS11	10/13/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,430
BH11	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SS12	10/13/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	5,260
BH12	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,200
SS13	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS14	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
SS15	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS16	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS17	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
SS18	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS19	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 3-25-30
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
SS20	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS21	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SS22	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS23	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS24	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS25	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS26	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS27	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS28	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS29	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS30	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS31	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS32	03/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224

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 I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon


NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

Referenced Well Records

 ENSOLUM								Sample Name: C-04757 (BH01)		Date: 8/2/2023	
								Site Name: PLU CVX JV BS #016H			
								Incident Number: NAB1519556419			
								Job Number: 03C1558238			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Air Rotary	
Coordinates: 32.152842, -103.866772								Hole Diameter: 5"		Total Depth: 119' bgs	
Comments: No field screenings.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	CCHE	0'-20' CALICHE GRAVEL, light brown/white, coarse grained, poorly sorted with sub-angular to sub-rounded grains, dry.			
						10					
						20	SP	20'-70' SAND with trace caliche, medium brown, medium grained with small grained caliche, poorly sorted, sub-rounded.			
						30		Injected water and foaming agent @ 25'.			
						40					
						50					
						60					
						70	GM	70'-90' GRAVEL conglomerate with sand, small gravel w medium grained sand, grains include quartzite and chert, poorly sorted, sub-angular grains, ~30% sand.			
						80		20% sand.			
						90	SP	90'-115' SAND, medium brown/orange, medium grained, poorly sorted.			
						100					
						110					
							SP-SM	115' SAND with silt, red, medium to fine grained, poorly sorted.			
						120					
						TD		Total Depth @ 119' bgs.			



APPENDIX B

Photographic Log

**Photographic Log**

XTO Energy, Inc.

PLU Big Sinks 3-25-30

Incident Number nAPP2327751376



Photograph: 1 Date: 10/13/2024
Description: Site assessment activities, release area.
View: Southwest



Photograph: 2 Date: 10/13/2024
Description: Site assessment activities, release area.
View: South



Photograph: 3 Date: 10/13/2024
Description: Site assessment activities, release area.
View: West



Photograph: 4 Date: 10/13/2024
Description: Site assessment activities, release area.
View: Southwest

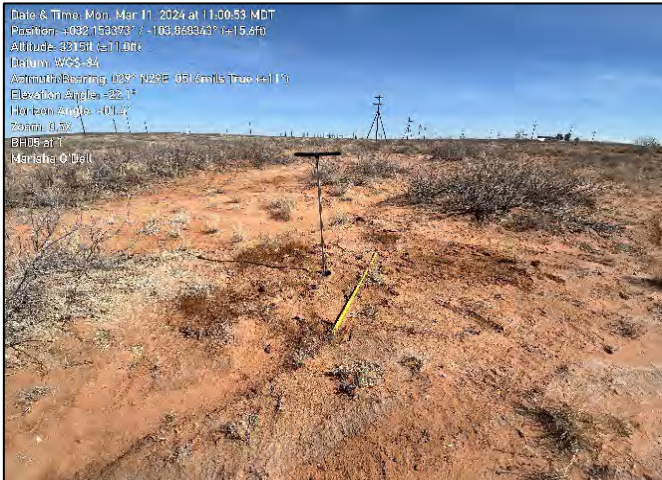
**Photographic Log**

XTO Energy, Inc.

PLU Big Sinks 3-25-30

Incident Number nAPP2327751376

Date & Time: Mon, Mar 11, 2024 at 11:00:53 MDT
 Position: +032.153373° / -103.849343° (+15.6ft)
 Altitude: 3309ft (+11.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 025° N43E 0.66mils True (+11°)
 Elevation Angle: +22.1°
 Horizon Angle: +00.0°
 Zoom: 0.5x
 BH05 at 1'
 Marisha O'Dell



Photograph: 5 Date: 3/11/2024
 Description: BH05 Delineation by Hand Auger
 View: Northeast

Date & Time: Mon, Mar 11, 2024 at 12:19:01 MDT
 Position: +032.152818° / -103.849485° (+15.6ft)
 Altitude: 3309ft (+11.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 043° N43E 0.766mils True (+10°)
 Elevation Angle: +21.4°
 Horizon Angle: +00.0°
 Zoom: 0.5x
 BH09 at 1'
 Marisha O'Dell



Photograph: 6 Date: 3/11/2024
 Description: BH09 Delineation by Hand Auger
 View: Northeast

Date & Time: Mon, Mar 11, 2024 at 12:44:38 MDT
 Position: +032.152702° / -103.870418° (+15.6ft)
 Altitude: 3314ft (+11.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 031° N31E 0.551mils True (+12°)
 Elevation Angle: +23.6°
 Horizon Angle: +00.0°
 Zoom: 0.5x
 BH11 at 1'
 Marisha O'Dell



Photograph: 7 Date: 3/11/2024
 Description: BH11 Delineation by Hand Auger
 View: Northeast

Date & Time: Mon, Mar 11, 2024 at 13:24:10 MDT
 Position: +032.152622° / -103.849485° (+15.6ft)
 Altitude: 3309ft (+11.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 100° S00E 1.00mils True (+12°)
 Elevation Angle: +20.0°
 Horizon Angle: +00.0°
 Zoom: 0.5x
 BH12 at 2'
 Marisha O'Dell





Photograph: 8 Date: 3/11/2024
 Description: BH12 Delineation by Hand Auger
 View: Southeast





APPENDIX C


Lithologic Soil Sampling Logs


 ENSOLUM		Sample Name: BH01		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153193, -103.867498			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	24,018	15.7	Y	SS01	0.5	0	CCHE (fill)	0-1', CALICHE, moist, off white, compacted fill material.
M	6,300	0.0	Y	BH01	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


 ENSOLUM								Sample Name: BH02		Date: 3/11/2024	
								Site Name: PLU Big Sinks 3-25-30			
								Incident Number: NAPP2327751376			
								Job Number: 03C1558279			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153315, -103.867579								Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	30,122	1.2	Y	SS02	0.5	0	CCHE (fill)	0-1', CALICHE, moist, off white, compacted fill material.			
M	4,945	0	Y	BH02	1	1	TD	Auger Refusal @ 1' bgs.			
						2					
						3					
						4					
						5					
						6					
						7					
						8					
						9					
						10					
						11					
						12					


 ENSOLUM		Sample Name: BH03		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153513, -103.867678			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	18,026	2.8	N	SS03	0.5	0	SP	0-1', SAND, reddish brown, very fine to fine grained, poorly graded, dry, no odor.
D	4,189	0	N	BH03	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


 ENSOLUM		Sample Name: BH04		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153513, -103.867678			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	24,018	251	N	SS04	0.5	0	SP	0-1', SAND, reddish brown, very fine to fine grained, poorly graded, dry, no odor.
D	3,114	0	N	BH04	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


 ENSOLUM		Sample Name: BH05		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153403, -103.868342			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	26,639	148	N	SS05	0.5	0	SP	0-1', SAND, reddish brown, very fine to fine grained, poorly graded, dry, no odor.
D	5,365	0	N	BH05	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


 ENSOLUM		Sample Name: BH06		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153369, -103.868580			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	11,754	82.6	N	SS06	0.5	0	SP	0-1', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	2,358	0	N	BH06	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		


 ENSOLUM		Sample Name: BH07		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.153260, -103.868796			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	19,768	18.6	N	SS07	0.5	0	SP	0-1', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	5,813	0	N	BH07	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 ENSOLUM		Sample Name: BH08		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.152950, -103.869111			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		Total Depth: 2'			
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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	24,018	1,6	N	SS08	0.5	0	SP	0-2', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	1,355	0	N		1	1		
D	3,349	0	N	BH08	2	2		
							TD	Auger Refusal @ 2' bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 ENSOLUM		Sample Name: BH09		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.152855, -103.869491			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		Total Depth: 3'			
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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW	0-3', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	498.2	153.2	N	SS09	0.5	1		
D	2,901	0	N		1	2		
D	5,365	0	N		2	3		
D	6,356	0	N	BH09	3	4		
						5	TD	Auger Refusal @ 3' bgs.
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 ENSOLUM		Sample Name: BH10		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.152850, -103.869964			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		Total Depth: 2'			
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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	230	230	N	SS10	0.5	0	SP	0-2', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	2,716	0	N		1	1		
D	6,356	0	N	BH10	2	2		
							TD	Auger Refusal @ 2' bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 ENSOLUM		Sample Name: BH11		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.152738, -103.870442			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	301.4	301.4	N	SS11	0.5	0	SP	0-1', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	409	0	N	BH11	1	1	TD	Auger Refusal @ 1' bgs.
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

 ENSOLUM		Sample Name: BH12		Date: 3/11/2024				
		Site Name: PLU Big Sinks 3-25-30						
		Incident Number: NAPP2327751376						
		Job Number: 03C1558279						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.152721, -103.870936			Logged By: M. O'Dell		Method: Hand Auger			
			Hole Diameter: 4"		Total Depth: 2'			
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. All chloride measurements made with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP	0-2', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.
D	8,164	334	N	SS12	0.5			
D	4,631	0	N		1	1		
D	4,267	0	N	BH12	2	2		
							TD	Auger Refusal @ 2' bgs.
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 13, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU BIG SINKS 3-25-30

Enclosed are the results of analyses for samples received by the laboratory on 03/12/24 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 11 1' (H241234-01)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29	
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21	
Total BTX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 12 2' (H241234-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2200	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 96.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 01 @ 1' (H241234-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6600	16.0	03/13/2024	ND	432	108	400	0.00	QM-07, QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 02 @ 1' (H241234-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4480	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 95.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 03 @ 1' (H241234-05)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3600	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 04 @ 1' (H241234-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2960	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 05 @ 1' (H241234-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2720	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 06 @ 1' (H241234-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2680	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 07 @ 1' (H241234-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4160	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 08 @ 2' (H241234-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 09 @ 3' (H241234-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5360	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 10 @ 2' (H241234-12)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4720	16.0	03/13/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	211	105	200	0.355	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	210	105	200	0.421	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

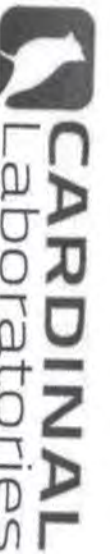
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

1 of 2

Company Name: Ensolum, LLC

Project Manager: Ben Beill

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: (989) 854 - 0852 Fax #:

Project #: 0361558279 Project Owner:

Project Name: PLU Big Sinks 3-25-30

Project Location: 32.15314, -103.80716

Sampler Name: M.O'Dell

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: XTO Energy

Attn: Amy Ruth

Address: 3104 FA Greene St.

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

FOR LAB USE ONLY

MATRIX

PRESERV

SAMPLING

Lab I.D. Sample I.D.

Depth (feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

Chlorides

TPH

BTEX

NAD

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Relinquished By:

Received By:

Verbal Result: ☐ Yes ☒ No Add'l Phone #:

All Results are emailed. Please provide Email address:

Relinquished By:

Received By:

REMARKS: Incident #: NAPP23277513710

cost center: 1140131001

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition

CHECKED BY:

Turnaround Time:

Standard

Bacteria (only)

Sample Condition

Observed Temp. °C

Sampler - UPS - Bus - Other:

Corrected Temp. °C

Cool Intact

Yes

Thermometer ID

Rush

Cool Intact

Observed Temp. °C

Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to cely.keene@cardinallabsnm.com

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ENSOLUM, LLC Project Manager: Ben Bellini Address: 3122 National Parks Hwy City: Carlsbad State: NM Zip: 88220 Phone #: 989-854-0852 Fax #: Project #: 03C1558279 Project Owner: Project Name: PLU B19 SINKS 3-25-30 Project Location: 32.15314, -103.80766 Sampler Name: M. O'Dell FOR LAB USE ONLY				BILL TO P.O. #: Company: XTO Energy Attn: Amy Ruth Address: 3104 E. Greent City: Carlsbad State: NM Zip: 88220 Phone #: Fax #:			
Lab I.D. Sample I.D.		(G) RAB OR (C) OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :		MATRIX PRESERV ACID/BASE: ICE / COOL OTHER :		SAMPLING DATE TIME	
12 BH10 @ 2' Y 11 BH09 @ 3' Y 10 BH08 @ 2' Y 9 BH07 @ 1' Y 8 BH06 @ 1' Y 7 BH05 @ 1' Y 6 BH04 @ 1' Y 5 BH03 @ 1' Y 4 BH02 @ 1' Y 3 BH01 @ 1' Y		G 1 X X X X X X X X X		X X X X X X X X X X		3/11/24 9:25 9:45 10:05 10:15 10:35 11:05 11:25 11:45 12:10 12:30	
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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

March 13, 2024

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU BIG SINKS 3-25-30

Enclosed are the results of analyses for samples received by the laboratory on 03/12/24 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 13 0.5' (H241235-01)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29	
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/13/2024	ND	228	114	200	0.652	QM-07
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 14 0.5' (H241235-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	03/13/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 15 0.5' (H241235-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 16 0.5' (H241235-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 17 0.5' (H241235-05)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 18 0.5' (H241235-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 19 0.5' (H241235-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 20 0.5' (H241235-08)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.19	110	2.00	5.29		
Toluene*	<0.050	0.050	03/12/2024	ND	2.17	108	2.00	5.47		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.12	106	2.00	5.21		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.18	103	6.00	5.21		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 21 0.5' (H241235-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 22 0.5' (H241235-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 23 0.5' (H241235-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 24 0.5' (H241235-12)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEx	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 25 0.5' (H241235-13)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 95.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 26 0.5' (H241235-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920		
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974		
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00		
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12		
Total BTEX	<0.300	0.300	03/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 85.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 27 0.5' (H241235-15)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 95.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 28 0.5' (H241235-16)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 29 0.5' (H241235-17)

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 30 0.5' (H241235-18)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 31 0.5' (H241235-19)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/13/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/12/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/12/2024	ND					

Surrogate: 1-Chlorooctane 96.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
BEN BELILL
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 03/12/2024
Reported: 03/13/2024
Project Name: PLU BIG SINKS 3-25-30
Project Number: 03C1558279
Project Location: XTO 32.15314,-103.86766

Sampling Date: 03/11/2024
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 32 0.5' (H241235-20)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/12/2024	ND	2.14	107	2.00	0.920	
Toluene*	<0.050	0.050	03/12/2024	ND	2.13	107	2.00	0.974	
Ethylbenzene*	<0.050	0.050	03/12/2024	ND	2.07	104	2.00	1.00	
Total Xylenes*	<0.150	0.150	03/12/2024	ND	6.29	105	6.00	1.12	
Total BTEX	<0.300	0.300	03/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	03/13/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/13/2024	ND	228	114	200	0.652	
DRO >C10-C28*	<10.0	10.0	03/13/2024	ND	216	108	200	0.357	
EXT DRO >C28-C36	<10.0	10.0	03/13/2024	ND					

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

[illegible]



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

Company Name: Ensolum, LLC

BILL TO

ANALYSIS REQUEST

Project Manager: Ben Beill

P.O. #:

Address: 3122 National Parks Hwy

Company: XTO Energy

City: Carlsbad

Attn: Amy Ruth

Phone #: 989-854-0852 Fax #:

Address: 3104 E. Greene St.

Project #: 03G1558279 Project Owner:

City: Carlsbad

Project Name: PLU Big Sinks 3-25-30

State: NM Zip: 88220

Project Location: 32.15314, -103.80706

Phone #:

Sampler Name: M. O'Dell

Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Depth (feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

Chlorides
TPH
BTEX

11	SS23	0.5'	1	X	3/11/24	14:00	X	X	X										
12	SS24		1		14:05														
13	SS25				14:10														
14	SS26				14:20														
15	SS27				14:25														
16	SS28				14:30														
17	SS29				14:35														
18	SS30				14:40														
19	SS31				14:50														
20	SS32				15:00														

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Relinquished By:

Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

bbeill@ensolum.com, model@ensolum.com

Relinquished By:

Received By:

REMARKS: Incident #: NAPP232716 1376

Cost center: 1140131001

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition

CHECKED BY:

Turnaround Time:

Standard

Bacteria (only) Sample Condition

Sampler - UPS - Bus - Other:

Corrected Temp. °C

Yes ☐ No ☐

Yes ☐ No ☐

Thermometer ID

Rush

Yes ☐ No ☐

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



Environment Testing

1

2

3

4

5

6

7

8

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill

Ensolum

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Generated 10/20/2023 10:54:06 AM

JOB DESCRIPTION

PLU BIG SINKS 3-25-30

SDG NUMBER 03C1558279

JOB NUMBER

890-5458-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

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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Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Laboratory Job ID: 890-5458-1
SDG: 03C1558279

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
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: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Job ID: 890-5458-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5458-1

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

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

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

Receipt

The samples were received on 10/13/2023 3:53 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-5458-1), SS02 (890-5458-2), SS03 (890-5458-3), SS04 (890-5458-4), SS05 (890-5458-5), SS06 (890-5458-6), SS07 (890-5458-7), SS08 (890-5458-8), SS09 (890-5458-9), SS010 (890-5458-10), SS011 (890-5458-11) and SS012 (890-5458-12).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-64905 and analytical batch 880-64848 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-5458-1), SS02 (890-5458-2), SS05 (890-5458-5) and SS08 (890-5458-8). 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: (CCV 880-64848/31), (CCV 880-64848/47) and (CCV 880-64848/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-64907 and analytical batch 880-64930 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS09 (890-5458-9), SS010 (890-5458-10), SS011 (890-5458-11), SS012 (890-5458-12), (890-5458-A-9-B MS) and (890-5458-A-9-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-64930/31) and (CCV 880-64930/47). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-64907 and analytical batch 880-64930 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The laboratory control sample duplicate (LCSD) for preparation batch 880-64907 and analytical batch 880-64930 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28). Since only an acceptable LCS is

Case Narrative

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Job ID: 890-5458-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

required per the method, the data has been qualified and reported.

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 880-64945 and analytical batch 880-64999 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS01

Lab Sample ID: 890-5458-1

Date Collected: 10/13/23 12:05

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/18/23 14:36	10/19/23 12:31	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 12:31	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 12:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/18/23 14:36	10/19/23 12:31	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 12:31	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/18/23 14:36	10/19/23 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	10/18/23 14:36	10/19/23 12:31	1
1,4-Difluorobenzene (Surr)	94		70 - 130	10/18/23 14:36	10/19/23 12:31	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			10/19/23 12:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	81.6		49.6	mg/Kg			10/18/23 02:54	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		10/17/23 15:26	10/18/23 02:54	1
Diesel Range Organics (Over C10-C28)	81.6		49.6	mg/Kg		10/17/23 15:26	10/18/23 02:54	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		10/17/23 15:26	10/18/23 02:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	136	S1+	70 - 130	10/17/23 15:26	10/18/23 02:54	1
o-Terphenyl	115		70 - 130	10/17/23 15:26	10/18/23 02:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18400		100	mg/Kg			10/18/23 14:49	20

Client Sample ID: SS02

Lab Sample ID: 890-5458-2

Date Collected: 10/13/23 12:10

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/19/23 23:38	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 23:38	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 23:38	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/19/23 13:06	10/19/23 23:38	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 23:38	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/19/23 13:06	10/19/23 23:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130	10/19/23 13:06	10/19/23 23:38	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS02

Lab Sample ID: 890-5458-2

Date Collected: 10/13/23 12:10

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	106		70 - 130	10/19/23 13:06	10/19/23 23:38	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			10/19/23 23:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	370		50.5	mg/Kg			10/18/23 03:17	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	98.7		50.5	mg/Kg		10/17/23 15:26	10/18/23 03:17	1
Diesel Range Organics (Over C10-C28)	271		50.5	mg/Kg		10/17/23 15:26	10/18/23 03:17	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		10/17/23 15:26	10/18/23 03:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	131	S1+	70 - 130			10/17/23 15:26	10/18/23 03:17	1
o-Terphenyl	108		70 - 130			10/17/23 15:26	10/18/23 03:17	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29600		248	mg/Kg			10/18/23 15:06	50

Client Sample ID: SS03

Lab Sample ID: 890-5458-3

Date Collected: 10/13/23 10:45

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/19/23 23:59	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/19/23 13:06	10/19/23 23:59	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/19/23 13:06	10/19/23 23:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/19/23 13:06	10/19/23 23:59	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/19/23 13:06	10/19/23 23:59	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/19/23 13:06	10/19/23 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	10/19/23 13:06	10/19/23 23:59	1
1,4-Difluorobenzene (Surr)	92		70 - 130	10/19/23 13:06	10/19/23 23:59	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			10/19/23 23:59	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			10/18/23 03:40	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS03

Lab Sample ID: 890-5458-3

Date Collected: 10/13/23 10:45

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/17/23 15:26	10/18/23 03:40	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		10/17/23 15:26	10/18/23 03:40	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		10/17/23 15:26	10/18/23 03:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130			10/17/23 15:26	10/18/23 03:40	1
o-Terphenyl	84		70 - 130			10/17/23 15:26	10/18/23 03:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16100		99.8	mg/Kg			10/18/23 15:12	20

Client Sample ID: SS04

Lab Sample ID: 890-5458-4

Date Collected: 10/13/23 10:50

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/20/23 00:19	1
Toluene	<0.00198	U	0.00198	mg/Kg		10/19/23 13:06	10/20/23 00:19	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/19/23 13:06	10/20/23 00:19	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/19/23 13:06	10/20/23 00:19	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/19/23 13:06	10/20/23 00:19	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/19/23 13:06	10/20/23 00:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			10/19/23 13:06	10/20/23 00:19	1
1,4-Difluorobenzene (Surr)	75		70 - 130			10/19/23 13:06	10/20/23 00:19	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			10/20/23 00:19	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			10/18/23 04:03	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		10/17/23 15:26	10/18/23 04:03	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		10/17/23 15:26	10/18/23 04:03	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		10/17/23 15:26	10/18/23 04:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			10/17/23 15:26	10/18/23 04:03	1
o-Terphenyl	105		70 - 130			10/17/23 15:26	10/18/23 04:03	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS04

Lab Sample ID: 890-5458-4

Date Collected: 10/13/23 10:50

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7430		50.4	mg/Kg			10/18/23 15:17	10

Client Sample ID: SS05

Lab Sample ID: 890-5458-5

Date Collected: 10/13/23 10:55

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/20/23 00:40	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/19/23 13:06	10/20/23 00:40	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/19/23 13:06	10/20/23 00:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/19/23 13:06	10/20/23 00:40	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/19/23 13:06	10/20/23 00:40	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/19/23 13:06	10/20/23 00:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			10/19/23 13:06	10/20/23 00:40	1
1,4-Difluorobenzene (Surr)	79		70 - 130			10/19/23 13:06	10/20/23 00:40	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			10/20/23 00:40	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			10/18/23 04:26	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		10/17/23 15:26	10/18/23 04:26	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5	mg/Kg		10/17/23 15:26	10/18/23 04:26	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		10/17/23 15:26	10/18/23 04:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130			10/17/23 15:26	10/18/23 04:26	1
o-Terphenyl	111		70 - 130			10/17/23 15:26	10/18/23 04:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11800		99.6	mg/Kg			10/18/23 15:23	20

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS06

Lab Sample ID: 890-5458-6

Date Collected: 10/13/23 11:00

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/20/23 01:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:00	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/19/23 13:06	10/20/23 01:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:00	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/19/23 13:06	10/20/23 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	10/19/23 13:06	10/20/23 01:00	1
1,4-Difluorobenzene (Surr)	80		70 - 130	10/19/23 13:06	10/20/23 01:00	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			10/20/23 01:00	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			10/18/23 04:48	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		10/17/23 15:26	10/18/23 04:48	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		10/17/23 15:26	10/18/23 04:48	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		10/17/23 15:26	10/18/23 04:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	129		70 - 130	10/17/23 15:26	10/18/23 04:48	1
o-Terphenyl	108		70 - 130	10/17/23 15:26	10/18/23 04:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8440		49.5	mg/Kg			10/18/23 15:40	10

Client Sample ID: SS07

Lab Sample ID: 890-5458-7

Date Collected: 10/13/23 11:05

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/19/23 13:06	10/20/23 01:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:21	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/19/23 13:06	10/20/23 01:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/20/23 01:21	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/19/23 13:06	10/20/23 01:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	10/19/23 13:06	10/20/23 01:21	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS07

Lab Sample ID: 890-5458-7

Date Collected: 10/13/23 11:05

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	79		70 - 130	10/19/23 13:06	10/20/23 01:21	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			10/20/23 01:21	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			10/18/23 05:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		10/17/23 15:26	10/18/23 05:09	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		10/17/23 15:26	10/18/23 05:09	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		10/17/23 15:26	10/18/23 05:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130			10/17/23 15:26	10/18/23 05:09	1
o-Terphenyl	108		70 - 130			10/17/23 15:26	10/18/23 05:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19600		99.2	mg/Kg			10/18/23 15:45	20

Client Sample ID: SS08

Lab Sample ID: 890-5458-8

Date Collected: 10/13/23 11:10

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/18/23 14:36	10/19/23 17:25	1
Toluene	0.00357		0.00198	mg/Kg		10/18/23 14:36	10/19/23 17:25	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		10/18/23 14:36	10/19/23 17:25	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		10/18/23 14:36	10/19/23 17:25	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		10/18/23 14:36	10/19/23 17:25	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		10/18/23 14:36	10/19/23 17:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130			10/18/23 14:36	10/19/23 17:25	1
1,4-Difluorobenzene (Surr)	100		70 - 130			10/18/23 14:36	10/19/23 17:25	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			10/19/23 17:25	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			10/18/23 05:31	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS08

Lab Sample ID: 890-5458-8

Date Collected: 10/13/23 11:10

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/17/23 15:26	10/18/23 05:31	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		10/17/23 15:26	10/18/23 05:31	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		10/17/23 15:26	10/18/23 05:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	142	S1+	70 - 130			10/17/23 15:26	10/18/23 05:31	1
o-Terphenyl	121		70 - 130			10/17/23 15:26	10/18/23 05:31	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	26800		249	mg/Kg			10/18/23 15:51	50

Client Sample ID: SS09

Lab Sample ID: 890-5458-9

Date Collected: 10/13/23 12:15

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/18/23 14:36	10/19/23 17:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 17:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 17:45	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/18/23 14:36	10/19/23 17:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 17:45	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/18/23 14:36	10/19/23 17:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130			10/18/23 14:36	10/19/23 17:45	1
1,4-Difluorobenzene (Surr)	103		70 - 130			10/18/23 14:36	10/19/23 17:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/19/23 17:45	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			10/18/23 21:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		10/17/23 16:16	10/18/23 21:09	1
Diesel Range Organics (Over C10-C28)	<49.6	U F1 *+	49.6	mg/Kg		10/17/23 16:16	10/18/23 21:09	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		10/17/23 16:16	10/18/23 21:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	163	S1+	70 - 130			10/17/23 16:16	10/18/23 21:09	1
o-Terphenyl	136	S1+	70 - 130			10/17/23 16:16	10/18/23 21:09	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS09

Lab Sample ID: 890-5458-9

Date Collected: 10/13/23 12:15

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380		5.00	mg/Kg			10/18/23 15:57	1

Client Sample ID: SS010

Lab Sample ID: 890-5458-10

Date Collected: 10/13/23 12:20

Matrix: Solid

Date Received: 10/13/23 15:53

Sample Depth: .05'

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		10/18/23 14:36	10/19/23 18:06	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:06	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/18/23 14:36	10/19/23 18:06	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:06	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/18/23 14:36	10/19/23 18:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130			10/18/23 14:36	10/19/23 18:06	1
1,4-Difluorobenzene (Surr)	100		70 - 130			10/18/23 14:36	10/19/23 18:06	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			10/19/23 18:06	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			10/18/23 22:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		10/17/23 16:16	10/18/23 22:13	1
Diesel Range Organics (Over C10-C28)	<50.5	U *	50.5	mg/Kg		10/17/23 16:16	10/18/23 22:13	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		10/17/23 16:16	10/18/23 22:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	154	S1+	70 - 130			10/17/23 16:16	10/18/23 22:13	1
o-Terphenyl	126		70 - 130			10/17/23 16:16	10/18/23 22:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5250		49.7	mg/Kg			10/18/23 16:02	10

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS011
Date Collected: 10/13/23 12:25
Date Received: 10/13/23 15:53
Sample Depth: .05'

Lab Sample ID: 890-5458-11
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
Toluene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/18/23 14:36	10/19/23 18:26	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	101		70 - 130			10/18/23 14:36	10/19/23 18:26	1	
1,4-Difluorobenzene (Surr)	107		70 - 130			10/18/23 14:36	10/19/23 18:26	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			10/19/23 18:26	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			10/18/23 22:34	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		10/17/23 16:16	10/18/23 22:34	1	
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		10/17/23 16:16	10/18/23 22:34	1	
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/17/23 16:16	10/18/23 22:34	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	145	S1+	70 - 130			10/17/23 16:16	10/18/23 22:34	1	
o-Terphenyl	121		70 - 130			10/17/23 16:16	10/18/23 22:34	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	1430	F1	25.0	mg/Kg			10/18/23 16:08	5	

Client Sample ID: SS012
Date Collected: 10/13/23 12:30
Date Received: 10/13/23 15:53
Sample Depth: .05'

Lab Sample ID: 890-5458-12
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		10/18/23 14:36	10/19/23 18:47	1	
Toluene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 18:47	1	
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 18:47	1	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/18/23 14:36	10/19/23 18:47	1	
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/18/23 14:36	10/19/23 18:47	1	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/18/23 14:36	10/19/23 18:47	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		70 - 130			10/18/23 14:36	10/19/23 18:47	1	

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Client Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS012
Date Collected: 10/13/23 12:30
Date Received: 10/13/23 15:53
Sample Depth: .05'

Lab Sample ID: 890-5458-12
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	101		70 - 130			10/18/23 14:36	10/19/23 18:47	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			10/19/23 18:47	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			10/18/23 22:55	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		10/17/23 16:16	10/18/23 22:55	1	
Diesel Range Organics (Over C10-C28)	<49.6	U *+	49.6	mg/Kg		10/17/23 16:16	10/18/23 22:55	1	
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		10/17/23 16:16	10/18/23 22:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	139	S1+	70 - 130			10/17/23 16:16	10/18/23 22:55	1	
o-Terphenyl	116		70 - 130			10/17/23 16:16	10/18/23 22:55	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	5260		49.8	mg/Kg			10/18/23 16:25	10	

Surrogate Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-5458-1	SS01	94	94
890-5458-1 MS	SS01	102	96
890-5458-1 MSD	SS01	100	89
890-5458-2	SS02	92	106
890-5458-3	SS03	86	92
890-5458-4	SS04	95	75
890-5458-5	SS05	99	79
890-5458-6	SS06	97	80
890-5458-7	SS07	98	79
890-5458-8	SS08	89	100
890-5458-9	SS09	85	103
890-5458-10	SS010	97	100
890-5458-11	SS011	101	107
890-5458-12	SS012	97	101
890-5473-A-1-E MS	Matrix Spike	123	104
890-5473-A-1-F MSD	Matrix Spike Duplicate	125	115
LCS 880-64991/1-A	Lab Control Sample	114	108
LCS 880-65043/1-A	Lab Control Sample	126	102
LCSD 880-64991/2-A	Lab Control Sample Dup	114	107
LCSD 880-65043/2-A	Lab Control Sample Dup	127	109
MB 880-64991/5-A	Method Blank	108	122
MB 880-64998/5-A	Method Blank	77	91
MB 880-65043/5-A	Method Blank	80	86
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)
880-34522-A-3-D MS	Matrix Spike	127	96
880-34522-A-3-E MSD	Matrix Spike Duplicate	126	94
890-5458-1	SS01	136 S1+	115
890-5458-2	SS02	131 S1+	108
890-5458-3	SS03	101	84
890-5458-4	SS04	127	105
890-5458-5	SS05	133 S1+	111
890-5458-6	SS06	129	108
890-5458-7	SS07	127	108
890-5458-8	SS08	142 S1+	121
890-5458-9	SS09	163 S1+	136 S1+
890-5458-9 MS	SS09	153 S1+	111
890-5458-9 MSD	SS09	155 S1+	109
890-5458-10	SS010	154 S1+	126
890-5458-11	SS011	145 S1+	121
890-5458-12	SS012	139 S1+	116

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Surrogate Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
LCS 880-64905/2-A	Lab Control Sample	95	89
LCS 880-64907/2-A	Lab Control Sample	115	109
LCSD 880-64905/3-A	Lab Control Sample Dup	87	86
LCSD 880-64907/3-A	Lab Control Sample Dup	115	106
MB 880-64905/1-A	Method Blank	171 S1+	147 S1+
MB 880-64907/1-A	Method Blank	194 S1+	164 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-64991/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 65026						Prep Batch: 64991		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/18/23 14:36	10/19/23 12:02	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			10/18/23 14:36	10/19/23 12:02	1
1,4-Difluorobenzene (Surr)	122		70 - 130			10/18/23 14:36	10/19/23 12:02	1

Lab Sample ID: LCS 880-64991/1-A						Client Sample ID: Lab Control Sample		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 65026						Prep Batch: 64991		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	0.100	0.1101		mg/Kg		110	70 - 130	
Toluene	0.100	0.08923		mg/Kg		89	70 - 130	
Ethylbenzene	0.100	0.09020		mg/Kg		90	70 - 130	
m-Xylene & p-Xylene	0.200	0.1871		mg/Kg		94	70 - 130	
o-Xylene	0.100	0.08953		mg/Kg		90	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	114		70 - 130					
1,4-Difluorobenzene (Surr)	108		70 - 130					

Lab Sample ID: LCSD 880-64991/2-A					Client Sample ID: Lab Control Sample Dup						
Matrix: Solid					Prep Type: Total/NA						
Analysis Batch: 65026					Prep Batch: 64991						
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD		
							Limits	RPD	Limit		
Benzene	0.100	0.1134		mg/Kg		113	70 - 130	3	35		
Toluene	0.100	0.09004		mg/Kg		90	70 - 130	1	35		
Ethylbenzene	0.100	0.09659		mg/Kg		97	70 - 130	7	35		
m-Xylene & p-Xylene	0.200	0.1952		mg/Kg		98	70 - 130	4	35		
o-Xylene	0.100	0.09421		mg/Kg		94	70 - 130	5	35		
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	114		70 - 130								
1,4-Difluorobenzene (Surr)	107		70 - 130								

Lab Sample ID: 890-5458-1 MS						Client Sample ID: SS01			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 65026						Prep Batch: 64991			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0998	0.09773		mg/Kg		98	70 - 130
Toluene	<0.00199	U	0.0998	0.07998		mg/Kg		80	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: 890-5458-1 MS

Matrix: Solid

Analysis Batch: 65026

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 64991

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0998	0.07660		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1598		mg/Kg		80	70 - 130
o-Xylene	<0.00199	U	0.0998	0.08526		mg/Kg		85	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 890-5458-1 MSD

Matrix: Solid

Analysis Batch: 65026

Client Sample ID: SS01

Prep Type: Total/NA

Prep Batch: 64991

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0996	0.09229		mg/Kg		93	70 - 130	6	35
Toluene	<0.00199	U	0.0996	0.07966		mg/Kg		80	70 - 130	0	35
Ethylbenzene	<0.00199	U	0.0996	0.07767		mg/Kg		78	70 - 130	1	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1612		mg/Kg		81	70 - 130	1	35
o-Xylene	<0.00199	U	0.0996	0.08214		mg/Kg		82	70 - 130	4	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: MB 880-64998/5-A

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 64998

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/23 15:14	10/19/23 11:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/23 15:14	10/19/23 11:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/23 15:14	10/19/23 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/18/23 15:14	10/19/23 11:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/23 15:14	10/19/23 11:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/18/23 15:14	10/19/23 11:37	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130	10/18/23 15:14	10/19/23 11:37	1
1,4-Difluorobenzene (Surr)	91		70 - 130	10/18/23 15:14	10/19/23 11:37	1

Lab Sample ID: MB 880-65043/5-A

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 65043

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 22:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 22:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 22:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/19/23 13:06	10/19/23 22:15	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: MB 880-65043/5-A

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 65043

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/19/23 13:06	10/19/23 22:15	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/19/23 13:06	10/19/23 22:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130	10/19/23 13:06	10/19/23 22:15	1
1,4-Difluorobenzene (Surr)	86		70 - 130	10/19/23 13:06	10/19/23 22:15	1

Lab Sample ID: LCS 880-65043/1-A

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 65043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09647		mg/Kg		96	70 - 130
Toluene	0.100	0.09660		mg/Kg		97	70 - 130
Ethylbenzene	0.100	0.1011		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2215		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1225		mg/Kg		123	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-65043/2-A

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 65043

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1038		mg/Kg		104	70 - 130	7	35
Toluene	0.100	0.1051		mg/Kg		105	70 - 130	8	35
Ethylbenzene	0.100	0.1105		mg/Kg		110	70 - 130	9	35
m-Xylene & p-Xylene	0.200	0.2397		mg/Kg		120	70 - 130	8	35
o-Xylene	0.100	0.1260		mg/Kg		126	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	127		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-5473-A-1-E MS

Matrix: Solid

Analysis Batch: 65025

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 65043

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.09411		mg/Kg		94	70 - 130
Toluene	<0.00200	U	0.0996	0.09123		mg/Kg		92	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.09820		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2086		mg/Kg		105	70 - 130
o-Xylene	<0.00200	U	0.0996	0.1075		mg/Kg		108	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: 890-5473-A-1-E MS
Matrix: Solid
Analysis Batch: 65025

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65043

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	123		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-5473-A-1-F MSD
Matrix: Solid
Analysis Batch: 65025

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65043

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09236		mg/Kg		92	70 - 130	2	35
Toluene	<0.00200	U	0.100	0.08705		mg/Kg		87	70 - 130	5	35
Ethylbenzene	<0.00200	U	0.100	0.09523		mg/Kg		95	70 - 130	3	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2005		mg/Kg		100	70 - 130	4	35
o-Xylene	<0.00200	U	0.100	0.1035		mg/Kg		103	70 - 130	4	35
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	125		70 - 130								
1,4-Difluorobenzene (Surr)	115		70 - 130								

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

Lab Sample ID: MB 880-64905/1-A
Matrix: Solid
Analysis Batch: 64848

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64905

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		10/17/23 15:26	10/17/23 20:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/17/23 15:26	10/17/23 20:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/17/23 15:26	10/17/23 20:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	171	S1+	70 - 130			10/17/23 15:26	10/17/23 20:10	1
o-Terphenyl	147	S1+	70 - 130			10/17/23 15:26	10/17/23 20:10	1

Lab Sample ID: LCS 880-64905/2-A
Matrix: Solid
Analysis Batch: 64848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1073		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	964.6		mg/Kg		96	70 - 130
Surrogate	%Recovery	Qualifier	Limits				
1-Chlorooctane	95		70 - 130				
o-Terphenyl	89		70 - 130				

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: LCSD 880-64905/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 64848				Prep Batch: 64905							
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1033		mg/Kg		103	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	926.6		mg/Kg		93	70 - 130	4	20
LCSD LCSD											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	87		70 - 130								
o-Terphenyl	86		70 - 130								

Lab Sample ID: 880-34522-A-3-D MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 64848				Prep Batch: 64905							
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	994	959.3		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	58.0		994	1151		mg/Kg		110	70 - 130		
MS MS											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	127		70 - 130								
o-Terphenyl	96		70 - 130								

Lab Sample ID: 880-34522-A-3-E MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 64848				Prep Batch: 64905							
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	<50.5	U	994	939.8		mg/Kg		91	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	58.0		994	1133		mg/Kg		108	70 - 130	2	20
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	126		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: MB 880-64907/1-A				Client Sample ID: Method Blank							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 64930				Prep Batch: 64907							
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		10/17/23 16:16	10/18/23 20:05	1			
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/17/23 16:16	10/18/23 20:05	1			
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/17/23 16:16	10/18/23 20:05	1			

QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: MB 880-64907/1-A

Matrix: Solid

Analysis Batch: 64930

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 64907

	MB	MB								
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil	Fac			
1-Chlorooctane	194	S1+	70 - 130	10/17/23 16:16	10/18/23 20:05	1				
o-Terphenyl	164	S1+	70 - 130	10/17/23 16:16	10/18/23 20:05	1				

Lab Sample ID: LCS 880-64907/2-A

Matrix: Solid

Analysis Batch: 64930

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 64907

			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	791.7		mg/Kg		79	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1239		mg/Kg		124	70 - 130		
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	115		70 - 130								
o-Terphenyl	109		70 - 130								

Lab Sample ID: LCSD 880-64907/3-A

Matrix: Solid

Analysis Batch: 64930

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 64907

			Spike	LCSD	LCSD				%Rec		RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10			1000	894.2		mg/Kg		89	70 - 130	12	20	
Diesel Range Organics (Over C10-C28)			1000	1391	*+	mg/Kg		139	70 - 130	12	20	
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	115		70 - 130									
o-Terphenyl	106		70 - 130									

Lab Sample ID: 890-5458-9 MS

Matrix: Solid

Analysis Batch: 64930

Client Sample ID: SS09

Prep Type: Total/NA

Prep Batch: 64907

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	1208		mg/Kg		118	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.6	U F1 *+	1010	1656	F1	mg/Kg		162	70 - 130		
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	153	S1+	70 - 130								
o-Terphenyl	111		70 - 130								

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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

Lab Sample ID: 890-5458-9 MSD

Matrix: Solid

Analysis Batch: 64930

Client Sample ID: SS09

Prep Type: Total/NA

Prep Batch: 64907

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	1269		mg/Kg		124	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.6	U F1 *+	1010	1662	F1	mg/Kg		162	70 - 130	0	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	155	S1+	70 - 130								
o-Terphenyl	109		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-64945/1-A

Matrix: Solid

Analysis Batch: 64999

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	<5.00	U	5.00	mg/Kg			10/18/23 14:32	1

Lab Sample ID: LCS 880-64945/2-A

Matrix: Solid

Analysis Batch: 64999

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike		LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier					
Chloride	250	246.7			mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-64945/3-A

Matrix: Solid

Analysis Batch: 64999

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

			Spike	LCS	LCS				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	247.2		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-5458-1 MS

Matrix: Solid

Analysis Batch: 64999

Client Sample ID: SS01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	18400		5000	23390		mg/Kg		99	90 - 110

Lab Sample ID: 890-5458-1 MSD

Matrix: Solid

Analysis Batch: 64999

Client Sample ID: SS01

Prep Type: Soluble

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	18400		5000	23400		mg/Kg		99	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5458-11 MS											Client Sample ID: SS011		
Matrix: Solid											Prep Type: Soluble		
Analysis Batch: 64999													
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits				
Chloride	1430	F1	1250	2499	F1	mg/Kg		86	90 - 110				

Lab Sample ID: 890-5458-11 MSD											Client Sample ID: SS011		
Matrix: Solid											Prep Type: Soluble		
Analysis Batch: 64999													
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	RPD Limit	
Chloride	1430	F1	1250	2505	F1	mg/Kg		86	90 - 110		0	20	

QC Association Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

GC VOA

Prep Batch: 64991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	5035	
890-5458-8	SS08	Total/NA	Solid	5035	
890-5458-9	SS09	Total/NA	Solid	5035	
890-5458-10	SS010	Total/NA	Solid	5035	
890-5458-11	SS011	Total/NA	Solid	5035	
890-5458-12	SS012	Total/NA	Solid	5035	
MB 880-64991/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-64991/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-64991/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5458-1 MS	SS01	Total/NA	Solid	5035	
890-5458-1 MSD	SS01	Total/NA	Solid	5035	

Prep Batch: 64998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-64998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 65025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-2	SS02	Total/NA	Solid	8021B	65043
890-5458-3	SS03	Total/NA	Solid	8021B	65043
890-5458-4	SS04	Total/NA	Solid	8021B	65043
890-5458-5	SS05	Total/NA	Solid	8021B	65043
890-5458-6	SS06	Total/NA	Solid	8021B	65043
890-5458-7	SS07	Total/NA	Solid	8021B	65043
MB 880-64998/5-A	Method Blank	Total/NA	Solid	8021B	64998
MB 880-65043/5-A	Method Blank	Total/NA	Solid	8021B	65043
LCS 880-65043/1-A	Lab Control Sample	Total/NA	Solid	8021B	65043
LCSD 880-65043/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	65043
890-5473-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	65043
890-5473-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	65043

Analysis Batch: 65026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	8021B	64991
890-5458-8	SS08	Total/NA	Solid	8021B	64991
890-5458-9	SS09	Total/NA	Solid	8021B	64991
890-5458-10	SS010	Total/NA	Solid	8021B	64991
890-5458-11	SS011	Total/NA	Solid	8021B	64991
890-5458-12	SS012	Total/NA	Solid	8021B	64991
MB 880-64991/5-A	Method Blank	Total/NA	Solid	8021B	64991
LCS 880-64991/1-A	Lab Control Sample	Total/NA	Solid	8021B	64991
LCSD 880-64991/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	64991
890-5458-1 MS	SS01	Total/NA	Solid	8021B	64991
890-5458-1 MSD	SS01	Total/NA	Solid	8021B	64991

Prep Batch: 65043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-2	SS02	Total/NA	Solid	5035	
890-5458-3	SS03	Total/NA	Solid	5035	
890-5458-4	SS04	Total/NA	Solid	5035	
890-5458-5	SS05	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

GC VOA (Continued)

Prep Batch: 65043 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-6	SS06	Total/NA	Solid	5035	
890-5458-7	SS07	Total/NA	Solid	5035	
MB 880-65043/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-65043/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-65043/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5473-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-5473-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 65198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	Total BTEX	
890-5458-2	SS02	Total/NA	Solid	Total BTEX	
890-5458-3	SS03	Total/NA	Solid	Total BTEX	
890-5458-4	SS04	Total/NA	Solid	Total BTEX	
890-5458-5	SS05	Total/NA	Solid	Total BTEX	
890-5458-6	SS06	Total/NA	Solid	Total BTEX	
890-5458-7	SS07	Total/NA	Solid	Total BTEX	
890-5458-8	SS08	Total/NA	Solid	Total BTEX	
890-5458-9	SS09	Total/NA	Solid	Total BTEX	
890-5458-10	SS010	Total/NA	Solid	Total BTEX	
890-5458-11	SS011	Total/NA	Solid	Total BTEX	
890-5458-12	SS012	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 64848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	8015B NM	64905
890-5458-2	SS02	Total/NA	Solid	8015B NM	64905
890-5458-3	SS03	Total/NA	Solid	8015B NM	64905
890-5458-4	SS04	Total/NA	Solid	8015B NM	64905
890-5458-5	SS05	Total/NA	Solid	8015B NM	64905
890-5458-6	SS06	Total/NA	Solid	8015B NM	64905
890-5458-7	SS07	Total/NA	Solid	8015B NM	64905
890-5458-8	SS08	Total/NA	Solid	8015B NM	64905
MB 880-64905/1-A	Method Blank	Total/NA	Solid	8015B NM	64905
LCS 880-64905/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64905
LCSD 880-64905/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64905
880-34522-A-3-D MS	Matrix Spike	Total/NA	Solid	8015B NM	64905
880-34522-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	64905

Prep Batch: 64905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	8015NM Prep	
890-5458-2	SS02	Total/NA	Solid	8015NM Prep	
890-5458-3	SS03	Total/NA	Solid	8015NM Prep	
890-5458-4	SS04	Total/NA	Solid	8015NM Prep	
890-5458-5	SS05	Total/NA	Solid	8015NM Prep	
890-5458-6	SS06	Total/NA	Solid	8015NM Prep	
890-5458-7	SS07	Total/NA	Solid	8015NM Prep	
890-5458-8	SS08	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

GC Semi VOA (Continued)

Prep Batch: 64905 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-64905/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64905/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64905/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-34522-A-3-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-34522-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 64907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-9	SS09	Total/NA	Solid	8015NM Prep	
890-5458-10	SS010	Total/NA	Solid	8015NM Prep	
890-5458-11	SS011	Total/NA	Solid	8015NM Prep	
890-5458-12	SS012	Total/NA	Solid	8015NM Prep	
MB 880-64907/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64907/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5458-9 MS	SS09	Total/NA	Solid	8015NM Prep	
890-5458-9 MSD	SS09	Total/NA	Solid	8015NM Prep	

Analysis Batch: 64930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-9	SS09	Total/NA	Solid	8015B NM	64907
890-5458-10	SS010	Total/NA	Solid	8015B NM	64907
890-5458-11	SS011	Total/NA	Solid	8015B NM	64907
890-5458-12	SS012	Total/NA	Solid	8015B NM	64907
MB 880-64907/1-A	Method Blank	Total/NA	Solid	8015B NM	64907
LCS 880-64907/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64907
LCSD 880-64907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64907
890-5458-9 MS	SS09	Total/NA	Solid	8015B NM	64907
890-5458-9 MSD	SS09	Total/NA	Solid	8015B NM	64907

Analysis Batch: 64988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Total/NA	Solid	8015 NM	
890-5458-2	SS02	Total/NA	Solid	8015 NM	
890-5458-3	SS03	Total/NA	Solid	8015 NM	
890-5458-4	SS04	Total/NA	Solid	8015 NM	
890-5458-5	SS05	Total/NA	Solid	8015 NM	
890-5458-6	SS06	Total/NA	Solid	8015 NM	
890-5458-7	SS07	Total/NA	Solid	8015 NM	
890-5458-8	SS08	Total/NA	Solid	8015 NM	
890-5458-9	SS09	Total/NA	Solid	8015 NM	
890-5458-10	SS010	Total/NA	Solid	8015 NM	
890-5458-11	SS011	Total/NA	Solid	8015 NM	
890-5458-12	SS012	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 64945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Soluble	Solid	DI Leach	
890-5458-2	SS02	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

HPLC/IC (Continued)

Leach Batch: 64945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-3	SS03	Soluble	Solid	DI Leach	
890-5458-4	SS04	Soluble	Solid	DI Leach	
890-5458-5	SS05	Soluble	Solid	DI Leach	
890-5458-6	SS06	Soluble	Solid	DI Leach	
890-5458-7	SS07	Soluble	Solid	DI Leach	
890-5458-8	SS08	Soluble	Solid	DI Leach	
890-5458-9	SS09	Soluble	Solid	DI Leach	
890-5458-10	SS010	Soluble	Solid	DI Leach	
890-5458-11	SS011	Soluble	Solid	DI Leach	
890-5458-12	SS012	Soluble	Solid	DI Leach	
MB 880-64945/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64945/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64945/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5458-1 MS	SS01	Soluble	Solid	DI Leach	
890-5458-1 MSD	SS01	Soluble	Solid	DI Leach	
890-5458-11 MS	SS011	Soluble	Solid	DI Leach	
890-5458-11 MSD	SS011	Soluble	Solid	DI Leach	

Analysis Batch: 64999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5458-1	SS01	Soluble	Solid	300.0	64945
890-5458-2	SS02	Soluble	Solid	300.0	64945
890-5458-3	SS03	Soluble	Solid	300.0	64945
890-5458-4	SS04	Soluble	Solid	300.0	64945
890-5458-5	SS05	Soluble	Solid	300.0	64945
890-5458-6	SS06	Soluble	Solid	300.0	64945
890-5458-7	SS07	Soluble	Solid	300.0	64945
890-5458-8	SS08	Soluble	Solid	300.0	64945
890-5458-9	SS09	Soluble	Solid	300.0	64945
890-5458-10	SS010	Soluble	Solid	300.0	64945
890-5458-11	SS011	Soluble	Solid	300.0	64945
890-5458-12	SS012	Soluble	Solid	300.0	64945
MB 880-64945/1-A	Method Blank	Soluble	Solid	300.0	64945
LCS 880-64945/2-A	Lab Control Sample	Soluble	Solid	300.0	64945
LCSD 880-64945/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64945
890-5458-1 MS	SS01	Soluble	Solid	300.0	64945
890-5458-1 MSD	SS01	Soluble	Solid	300.0	64945
890-5458-11 MS	SS011	Soluble	Solid	300.0	64945
890-5458-11 MSD	SS011	Soluble	Solid	300.0	64945

Lab Chronicle

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS01
Date Collected: 10/13/23 12:05
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 12:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 02:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 02:54	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	64999	10/18/23 14:49	CH	EET MID

Client Sample ID: SS02
Date Collected: 10/13/23 12:10
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-2
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	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/19/23 23:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 23:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 03:17	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 03:17	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		50	50 mL	50 mL	64999	10/18/23 15:06	CH	EET MID

Client Sample ID: SS03
Date Collected: 10/13/23 10:45
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-3
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	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/19/23 23:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 23:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 03:40	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 03:40	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	64999	10/18/23 15:12	CH	EET MID

Client Sample ID: SS04
Date Collected: 10/13/23 10:50
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-4
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	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/20/23 00:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/20/23 00:19	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS04
Date Collected: 10/13/23 10:50
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-4
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			64988	10/18/23 04:03	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 04:03	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64999	10/18/23 15:17	CH	EET MID

Client Sample ID: SS05
Date Collected: 10/13/23 10:55
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-5
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	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/20/23 00:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/20/23 00:40	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 04:26	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 04:26	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	64999	10/18/23 15:23	CH	EET MID

Client Sample ID: SS06
Date Collected: 10/13/23 11:00
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-6
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			4.99 g	5 mL	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/20/23 01:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/20/23 01:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 04:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 04:48	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64999	10/18/23 15:40	CH	EET MID

Client Sample ID: SS07
Date Collected: 10/13/23 11:05
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	65043	10/19/23 13:06	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65025	10/20/23 01:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/20/23 01:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 05:09	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 05:09	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS07
Date Collected: 10/13/23 11:05
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-7
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	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	64999	10/18/23 15:45	CH	EET MID

Client Sample ID: SS08
Date Collected: 10/13/23 11:10
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 17:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 17:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 05:31	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	64905	10/17/23 15:26	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64848	10/18/23 05:31	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		50	50 mL	50 mL	64999	10/18/23 15:51	CH	EET MID

Client Sample ID: SS09
Date Collected: 10/13/23 12:15
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-9
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	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 17:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 17:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 21:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	64907	10/17/23 16:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64930	10/18/23 21:09	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	64999	10/18/23 15:57	CH	EET MID

Client Sample ID: SS010
Date Collected: 10/13/23 12:20
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-10
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	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 18:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 18:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 22:13	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64907	10/17/23 16:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64930	10/18/23 22:13	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64999	10/18/23 16:02	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Client Sample ID: SS011
Date Collected: 10/13/23 12:25
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-11
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	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 18:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 18:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 22:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	64907	10/17/23 16:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64930	10/18/23 22:34	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	64999	10/18/23 16:08	CH	EET MID

Client Sample ID: SS012
Date Collected: 10/13/23 12:30
Date Received: 10/13/23 15:53

Lab Sample ID: 890-5458-12
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	64991	10/18/23 14:36	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	65026	10/19/23 18:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65198	10/19/23 18:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			64988	10/18/23 22:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	64907	10/17/23 16:16	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64930	10/18/23 22:55	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	64945	10/18/23 10:55	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64999	10/18/23 16:25	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

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: Ensolum
Project/Site: PLU BIG SINKS 3-25-30

Job ID: 890-5458-1
SDG: 03C1558279

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5458-1	SS01	Solid	10/13/23 12:05	10/13/23 15:53	.05'
890-5458-2	SS02	Solid	10/13/23 12:10	10/13/23 15:53	.05'
890-5458-3	SS03	Solid	10/13/23 10:45	10/13/23 15:53	.05'
890-5458-4	SS04	Solid	10/13/23 10:50	10/13/23 15:53	.05'
890-5458-5	SS05	Solid	10/13/23 10:55	10/13/23 15:53	.05'
890-5458-6	SS06	Solid	10/13/23 11:00	10/13/23 15:53	.05'
890-5458-7	SS07	Solid	10/13/23 11:05	10/13/23 15:53	.05'
890-5458-8	SS08	Solid	10/13/23 11:10	10/13/23 15:53	.05'
890-5458-9	SS09	Solid	10/13/23 12:15	10/13/23 15:53	.05'
890-5458-10	SS010	Solid	10/13/23 12:20	10/13/23 15:53	.05'
890-5458-11	SS011	Solid	10/13/23 12:25	10/13/23 15:53	.05'
890-5458-12	SS012	Solid	10/13/23 12:30	10/13/23 15:53	.05'

Chain of Custody



Environment Testing

Xenoco

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) 794-1286

Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No:

www.xenoco.com Page 2 of 2

Project Manager:	Ben Bell	Bill to: (if different)	Garrett Green
Company Name:	EnSolun	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E Greenest
City, State ZIP:	Carlsbad, NM, 88220	City, State ZIP:	Carlsbad, NM, 88220
Phone:	969-854-0852	Email:	bbell@ensolun.com

Project Name:	PLU Bigs nbs 3-25-30	Turn Around	
Project Number:	03CL558279	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	31.1531, -103.96766	Due Date:	
Sampler's Name:	Sarah Welvang	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	
							Yes	No
5501	S	10/13/20	12:05	0.5'	G	2		
5502			12:10					
5503			10:45					
5504			10:50					
5505			10:55					
5506			11:00					
5507			11:05					
5508			11:10					
5509			12:15					
5510			12:20					

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 Ti 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 Ti U

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenoco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenoco 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 Xenoco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.			
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Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>WF</i>	<i>B. Burns</i>	10/13/20

Revised Date: 08/25/2020 Rev. 2020.2

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: _____

Page 2 of 2
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Project Manager:	Ben Bellill	Bill to: (if different)	Garrett Green
Company Name:	Ensdom	Company Name:	XTO Energy
Address:	3122 National Parkswl	Address:	3104 E Greenest
City, State ZIP:	Carlsbad, NM, 88220	City, State ZIP:	Carlsbad, NM, 88220
Phone:	949-854-0882	Email:	B.Bellill@ensdom.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: <input type="text"/>

ANALYSIS REQUEST





Project Name:	PLV BigSinks 3-2530	Turn Around	
Project Number:	03CJSS8299	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	32.15314, -103.96766	Due Date:	
Sampler's Name:	Sarah Welby	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			
SAMPLE RECEIPT		Parameters	
Samples Received Intact:	Temp Blank: Yes No	Wet Ice: Yes No	
Cooler Custody Seals:	Thermometer ID: Yes No	Correction Factor: -0.2	
Sample Custody Seals:	Temperature Reading: Yes No	Corrected Temperature: 1.4	
Total Containers:			1.2

ANALYSIS REQUEST										Preservative Codes
									None: NO	DI Water: H ₂ O
									Cool: Cool	MeOH: Me
									HCL: HC	HNO ₃ : HN
									H ₂ SO ₄ : H ₂	NaOH: Na
									H ₃ PO ₄ : HP	
									NaHSO ₄ : NABIS	
									Na ₂ S ₂ O 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
SS 11	S	10/13/23	12:25	0.5'	G	1	Cost Center 1140131001
SS 12	S	10/13/23	12:30				WMO Incident #10 NAPP 2327751376 WMO Incident #10 WMO Incident #10

Total	200.7 / 6010	200.8 / 6020:	8RCRA	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 Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed			TCLP/SPLP 6010 : 8RCRA S b A s B a B e C d C r C o P b M n M o N i S e A g T l 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 sale to Eurofins Xenco, its affiliates and subcontractors. The client agrees to indemnify Eurofins Xenco, its affiliates and subcontractors against all claims, damages, losses and expenses incurred by the client, if such losses are due to circumstances beyond the control of Eurofins Xenco. 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. These terms will be enforced unless previously negotiated in writing.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/13/15			10/13/15
3						6

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5458-1

SDG Number: 03C1558279

Login Number: 5458

List Number: 1

Creator: Bruns, Shannon

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5458-1

SDG Number: 03C1558279

Login Number: 5458

List Source: Eurofins Midland

List Number: 2

List Creation: 10/17/23 10:23 AM

Creator: Rodriguez, Leticia

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

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

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

QUESTIONS

Action 324437

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	324437
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2327751376
Incident Name	NAPP2327751376 PLU BIG SINKS 3-25-30 @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU BIG SINKS 3-25-30
Date Release Discovered	09/20/2023
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Valve Produced Water Released: 183 BBL Recovered: 45 BBL Lost: 138 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 2

Action 324437

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	324437
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 03/18/2024
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QUESTIONS, Page 3

Action 324437

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:
	5380
	Action Number:
	324437
Action Type:	
[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride	(EPA 300.0 or SM4500 Cl B)	29600
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	370
GRO+DRO	(EPA SW-846 Method 8015M)	370
BTEX	(EPA SW-846 Method 8021B or 8260B)	0.3
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	05/17/2024
On what date will (or did) the final sampling or liner inspection occur	07/16/2024
On what date will (or was) the remediation complete(d)	07/16/2024
What is the estimated surface area (in square feet) that will be reclaimed	25705
What is the estimated volume (in cubic yards) that will be reclaimed	3808
What is the estimated surface area (in square feet) that will be remediated	25705
What is the estimated volume (in cubic yards) that will be remediated	3808

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 324437

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	324437
	Action Type:	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS**Remediation Plan (continued)**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	OWL LANDFILL JAL [fJEG1635837366]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: Alan Romero Title: Regulatory Analyst Email: alan.romero1@exxonmobil.com Date: 03/18/2024
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 5

Action 324437

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 324437
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 324437

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:	5380
	Action Number:	324437
	Action Type:	
	[C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)	

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	320899
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	03/12/2024
What was the (estimated) number of samples that were to be gathered	30
What was the sampling surface area in square feet	6000

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 324437

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 324437
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation Plan approved with the following conditions: The alternative confirmation sampling plan taking confirmation samples no more than 400 square feet is approved. This is the largest variance OCD will grant. Ensure vertical delineation is achieved during the excavation/remediation process. Submit remediation closure report by June 27, 2024.	3/29/2024