



December 23, 2024

**New Mexico Oil Conservation Division**

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

**Re: Closure 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 this *Closure Request* to document excavation and soil sampling activities performed at the PLU Big Sinks 3-25-30 (Site). The purpose of excavation and soil sampling activities, conducted in accordance with an approved *Remediation Work Plan (Work Plan)*, was to address impacts to soil resulting from a release of produced water at the Site. XTO is submitting this *Closure Request*, describing excavation activities that have occurred and requesting no further remediation for Incident Number nAPP2327751376.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit O, Section 03, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.15314°, -103.86766°; Figure 1) 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.

Ensolum conducted Site assessment and delineation activities and presented the results in a *Work Plan*. The *Work Plan* was submitted on March 14, 2024, and approved by the NMOCD on March 29, 2024. The *Work Plan* proposed excavation of impacted and waste-containing soil identified during delineation activities. Delineation sample locations are depicted on Figure 2.

XTO Energy, Inc  
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## SITE CHARACTERIZATION AND CLOSURE CRITERIA

As documented in the approved *Work Plan*, 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: 2,000 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.

## EXCAVATION SOIL SAMPLING ACTIVITIES

Ensolum personnel were onsite from September 11, 2024 through November 15, 2024 to excavate impacted soil according to the approved *Work Plan*. Excavation activities were performed by use of heavy equipment. To direct excavation activities, soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Once field screening indicated impacted soil was adequately removed, 5-point composite soil samples were collected every 500 square feet, in accordance with the sampling variance approved in the *Work Plan*, from the floor and sidewall of the excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS20, FS22 through FS48, and FS50 through FS87 were collected from the floor of the excavation at a depth of 4 feet bgs. Confirmation soil samples FS21 and FS49 were collected from the floor of the excavation at a depth of 5 feet bgs and as such, the sidewalls of those isolated depths were incorporated into each composite soil sample. Confirmation soil samples SW01 through SW31 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The confirmation soil sample locations were mapped utilizing a handheld global positioning system (GPS) unit and are depicted on Figure 3.

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, for analysis of the following 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 Standard Method SM4500. Initial laboratory analytical results for excavation floor samples FS21 and FS49 indicated chloride concentrations exceeded the Closure Criteria. These sample locations were excavated further.

The final excavation extent measured approximately 34,575 square feet. A total of approximately 5,122 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and disposed of at Owl Landfill Service, LLC in Jal, New Mexico. The final excavation was fenced off pending backfill activities.

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## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all final excavation floor and sidewall samples indicated COC concentrations were compliant with the Closure Criteria. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix C.

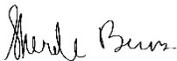
## CLOSURE REQUEST

Excavation activities were conducted at the Site as indicated in the *Work Plan* to address the September 2023 release of produced water. Laboratory analytical results for the final excavation soil samples collected indicate all COC concentrations were compliant with the Closure Criteria and reclamation requirement, where applicable. Based on the soil sample laboratory analytical results, no further remediation is required. The excavation will be backfilled with material purchased locally and the Site recontoured to match pre-existing site conditions. Pasture areas will be reseeded with an approved BLM seed mixture and monitored for vegetation regrowth.

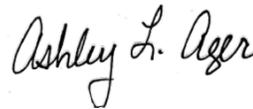
Excavation of soil has mitigated impacts exceeding the Closure Criteria and reclamation requirement at the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2327751376.

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

Sincerely,  
**Ensolum, LLC**



Sherele Brooks  
Staff Scientist



Ashley L. Ager, M.S., P.G.  
Principal

cc: Colton Brown, XTO  
Kaylan Dirkx, XTO  
BLM

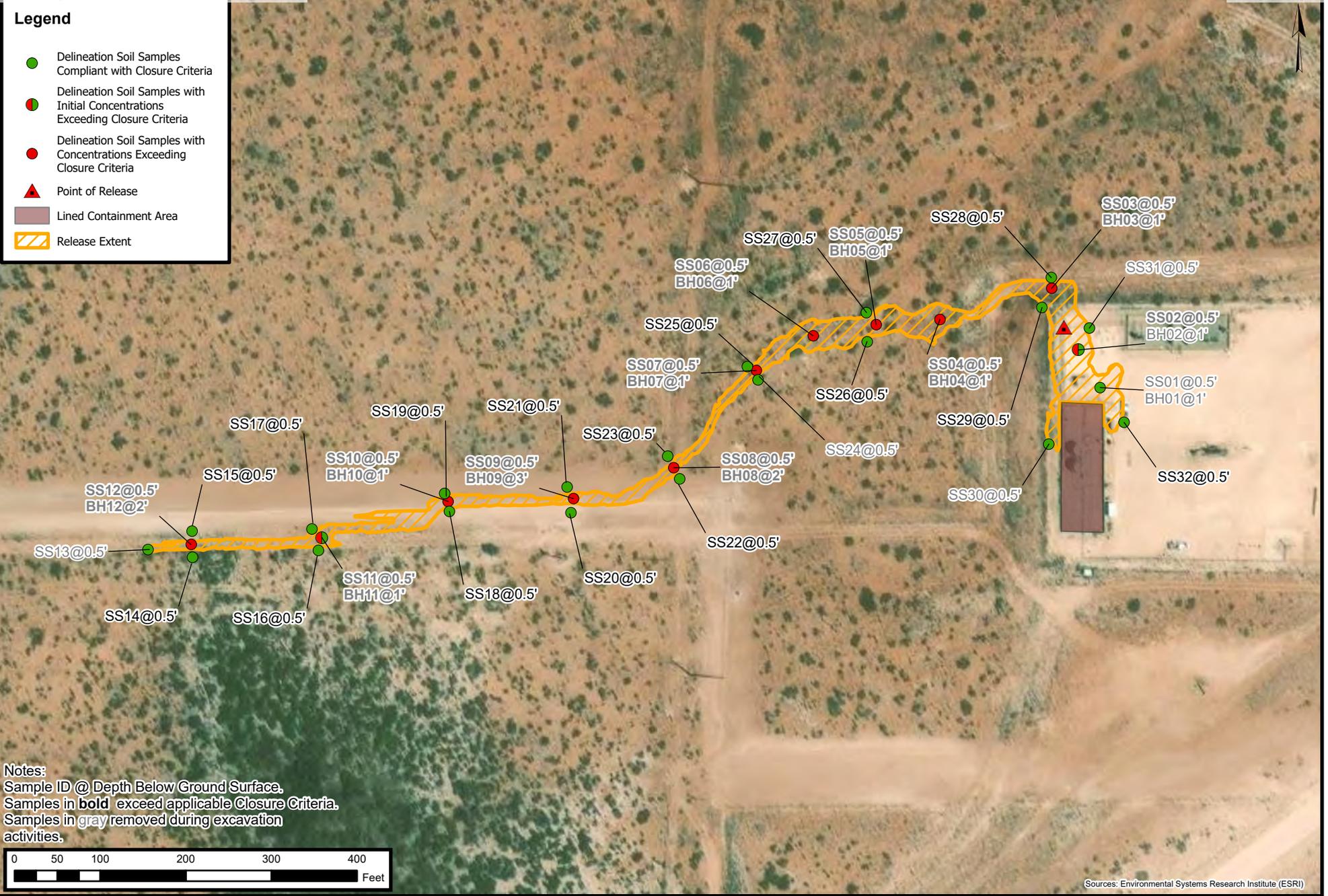
Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Delineation Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Table 1 Soil Sample Analytical Results
- Appendix A Photographic Log
- Appendix B Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix C March 18, 2024 Remediation Work Plan



FIGURES





Folder: C:\Users\Wes.Welton\OneDrive - ENSOLUM, LLC\Ensolum GIS - Project\XTO Energy, Inc\03158279 - PLU Big Sinks 3-25-301 - Map Rev\Map1



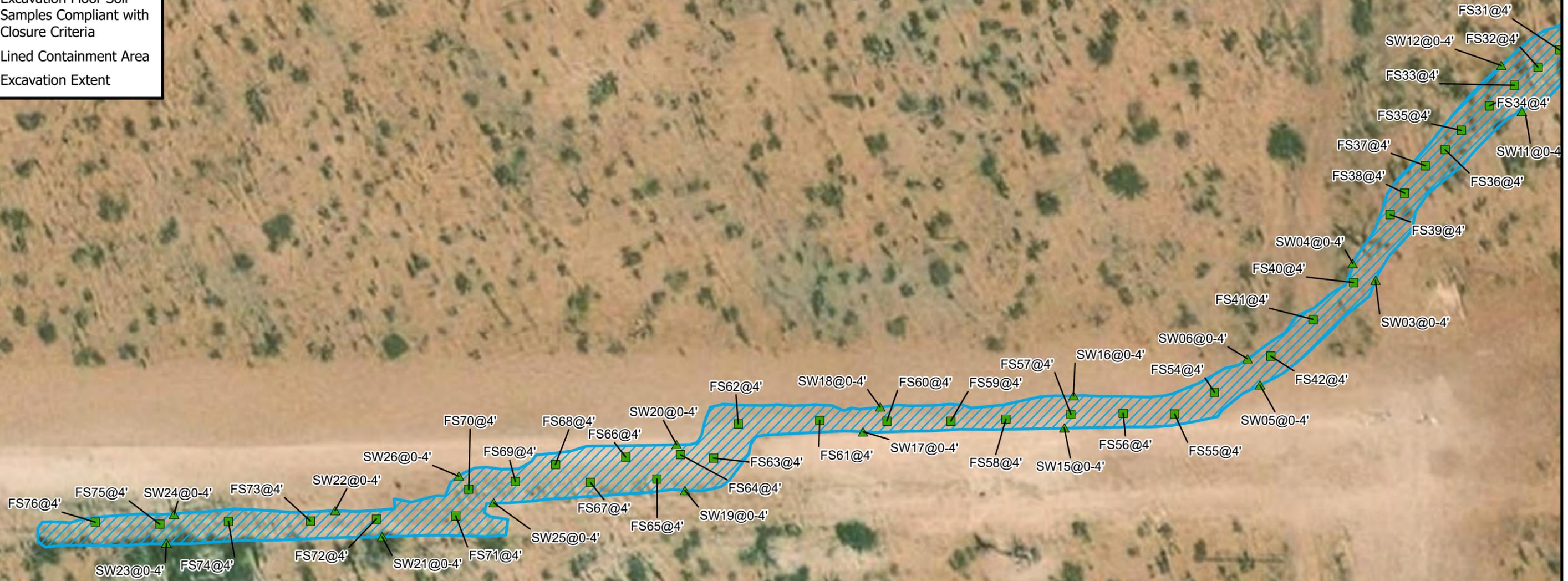
### Delineation Soil Sample Locations

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

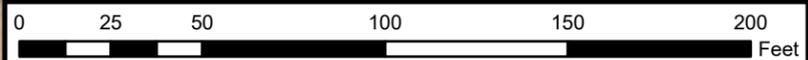
**FIGURE**  
**2**

**Legend**

- Excavation Sidewall Soil Samples Compliant with Closure Criteria
- Excavation Floor Soil Samples Compliant with Closure Criteria
- Lined Containment Area
- Excavation Extent



**Notes:**  
 Sample ID @ Depth Below Ground Surface.  
 Samples in **bold** exceed applicable Closure Criteria.  
 Samples in *gray* removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI)



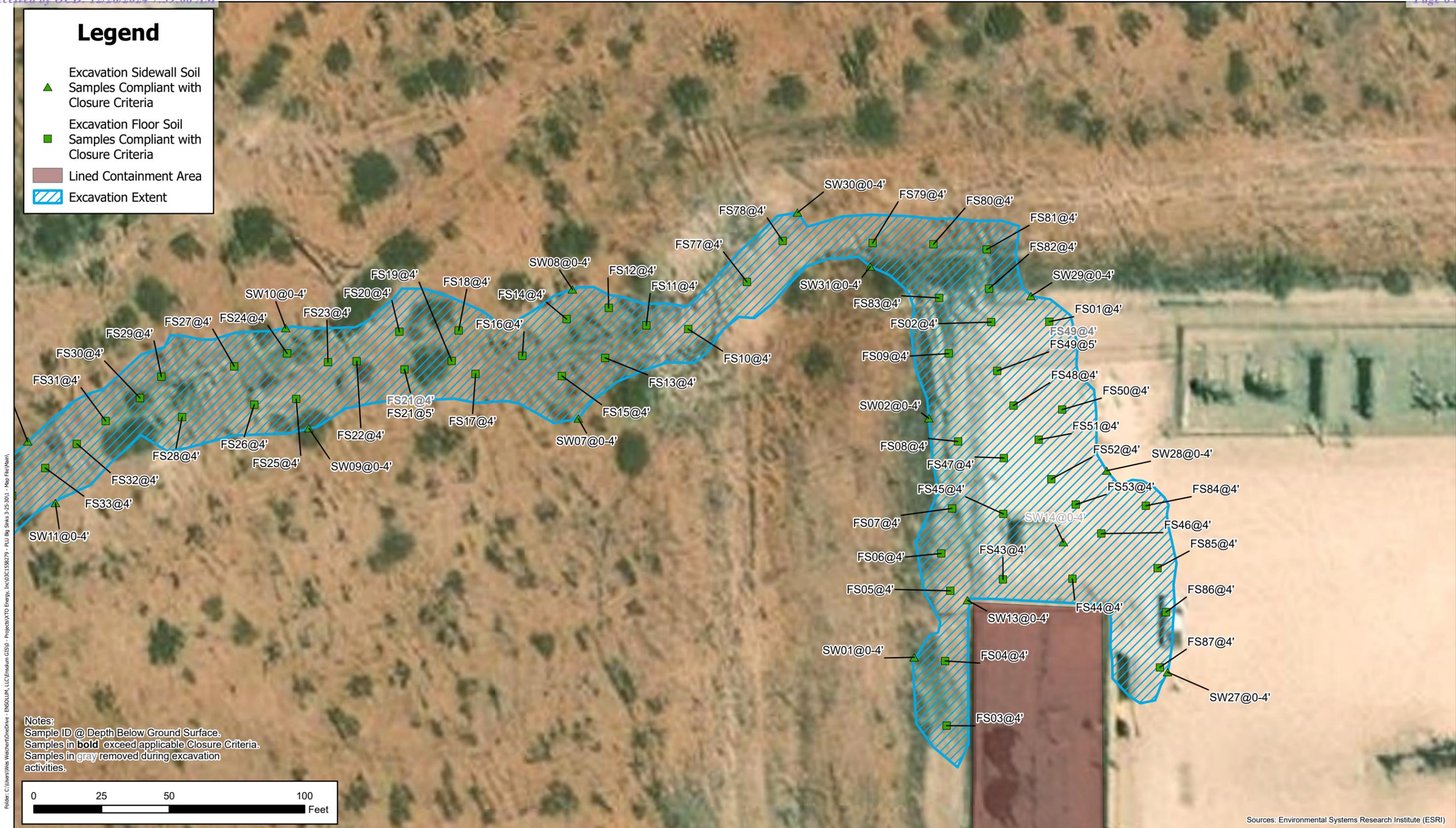
### Excavation Soil Sample Locations

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**FIGURE 3a**

# Legend

- ▲ Excavation Sidewall Soil Samples Compliant with Closure Criteria
- Excavation Floor Soil Samples Compliant with Closure Criteria
- Lined Containment Area
- ▨ Excavation Extent



## Excavation Soil Sample Locations

XTO Energy, Inc  
 PLU Big Sinks 3-25-30  
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**FIGURE  
 3b**





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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Delineation Soil Samples</b>										
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	<b>29,600</b>
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	<b>26,800</b>
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  
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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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
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
<b>Confirmation Soil Samples</b>										
FS01	09/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,640
FS02	09/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,600
FS03	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,680
FS04	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,760
FS05	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,640
FS06	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,240
FS07	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,440
FS08	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,130
FS09	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,400
FS10	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,100
FS11	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,130
FS12	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,160
FS13	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,120
FS14	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
FS15	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,440
FS16	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,720



**TABLE 1  
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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
FS17	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,400
FS18	09/25/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
FS19	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,200
FS20	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16,400
<del>FS21</del>	<del>10/01/2024</del>	<del>4</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>27,600</del>
FS21	10/18/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,120
FS22	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,800
FS23	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,400
FS24	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,640
FS25	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,800
FS26	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,000
FS27	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,000
FS28	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,860
FS29	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,130
FS30	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,130
FS31	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,260
FS32	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,800
FS33	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,130
FS34	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,800
FS35	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,530
FS36	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,300
FS37	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,500
FS38	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,000
FS39	10/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,060
FS40	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,600
FS41	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,330
FS42	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,000
FS43	10/09/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,100
FS44	10/09/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,700
FS45	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,400
FS46	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,920
FS47	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,200



**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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
FS48	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	17,400
FS49	<del>10/10/2024</del>	4	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>22,600</del>
FS49	10/17/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,800
FS50	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,400
FS51	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,400
FS52	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,500
FS53	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,880
FS54	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,200
FS55	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,400
FS56	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
FS57	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,530
FS58	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,860
FS59	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,060
FS60	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,100
FS61	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,060
FS62	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,060
FS63	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,200
FS64	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
FS65	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,000
FS66	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,120
FS67	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,300
FS68	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,330
FS69	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,800
FS70	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,520
FS71	10/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,040
FS72	10/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	736
FS73	10/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
FS74	10/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,320
FS75	10/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,280
FS76	10/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	960
FS77	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,960
FS78	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,680



**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
FS79	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
FS80	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,470
FS81	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
FS82	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,760
FS83	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,760
FS84	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	880
FS85	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,280
FS86	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,230
FS87	11/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SW01	09/18/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW02	09/23/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SW03	10/08/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SW04	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SW05	10/08/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SW06	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW07	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SW08	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SW09	10/29/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
SW10	10/29/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SW11	10/29/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SW12	10/17/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
SW13	10/09/2024	0-4	<0.050	<0.300	<10.0	47	22.9	47	69.9	7,600
SW14	10/09/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,930
SW15	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW16	10/16/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW17	10/24/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
SW18	10/16/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW19	10/23/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SW20	10/23/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48
SW21	10/21/2024	0-4	<0.050	<0.300	<20.0	<10.0	<10.0	<10.0	<10.0	320
SW22	10/16/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW23	10/18/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32



**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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
SW24	10/18/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32
SW25	10/22/2024	0-4	<0.050	<0.300	<20.0	<10.0	<10.0	<10.0	<10.0	240
SW26	10/18/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
SW27	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
SW28	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80
SW29	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SW30	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96
SW31	11/15/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256

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  
Photographic Log

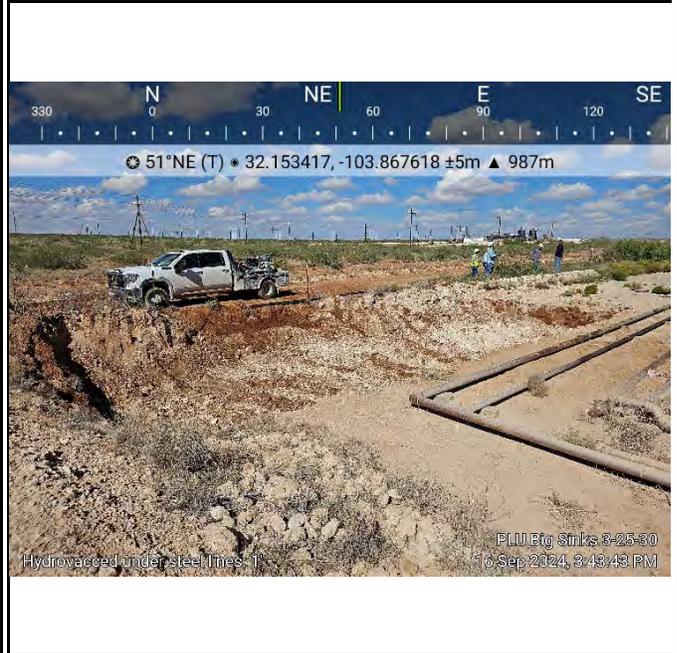
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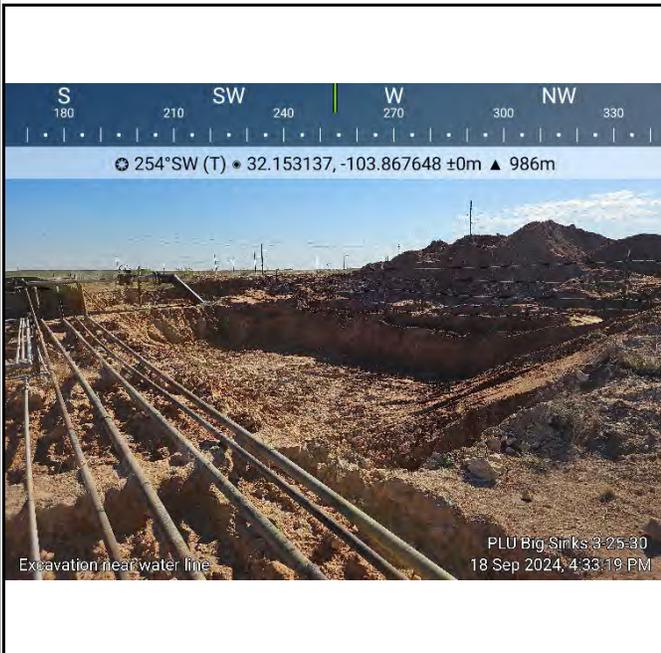
**Photographic Log**  
XTO Energy, Inc  
PLU Big Sinks 3-25-30  
Incident Number: nAPP2327751376



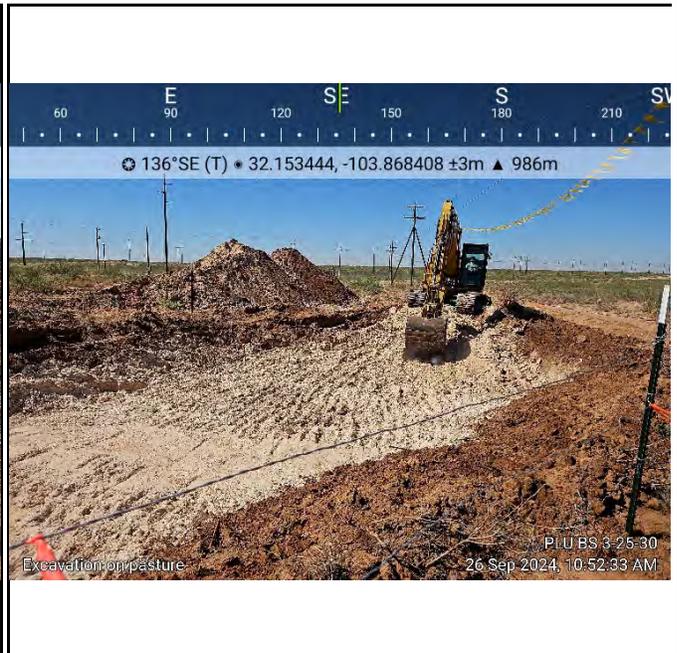
Photograph 1 Date:09/13/2024  
Description:Excavation activities in pasture.  
View: West



Photograph 2 Date: 09/16/2024  
Description: Excavation activities on north side of pad.  
View: Northeast



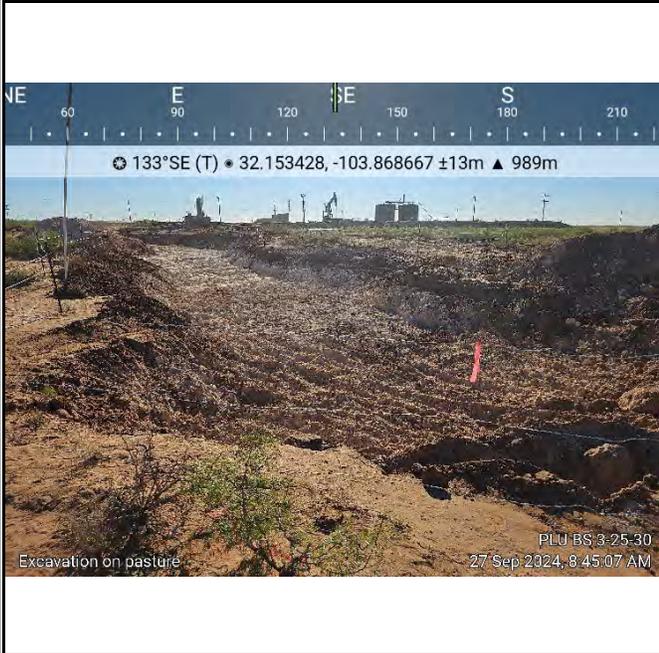
Photograph 3 Date: 09/18/2024  
Description:Excavation activities on west side of pad.  
View: West



Photograph 4 Date: 09/26/2024  
Description: Excavation activities in pasture.  
View: Southeast



**Photographic Log**  
XTO Energy, Inc  
PLU Big Sinks 3-25-30  
Incident Number: nAPP2327751376



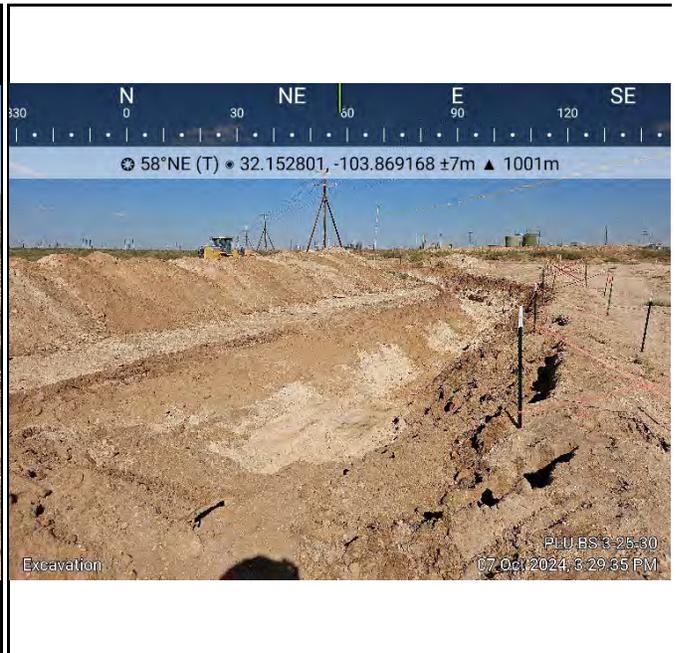
Photograph 5 Date: 09/27/2024  
Description: Excavation activities in pasture.  
View: Southeast



Photograph 6 Date: 10/03/2024  
Description: Excavation activities in pasture.  
View: West



Photograph 7 Date: 10/04/2024  
Description: Final excavation extent on pad.  
View: West



Photograph 8 Date: 10/07/2024  
Description: Excavation activities in ROW.  
View: Northeast



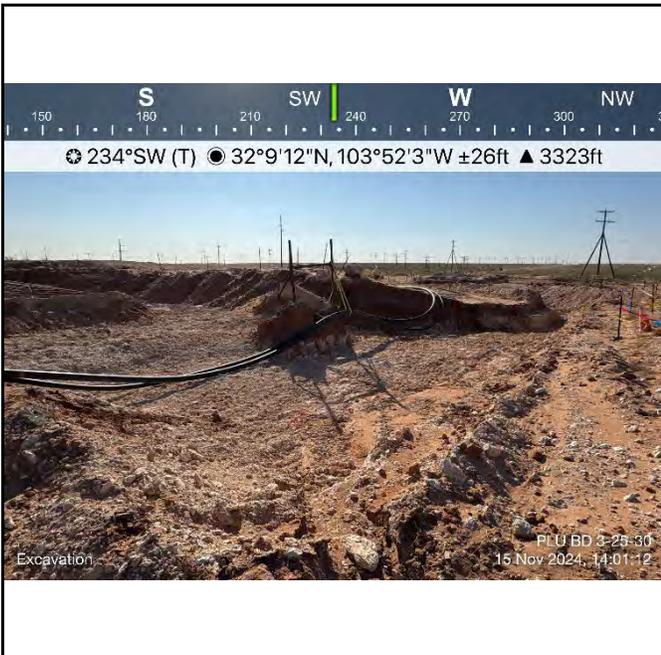
**Photographic Log**  
XTO Energy, Inc  
PLU Big Sinks 3-25-30  
Incident Number: nAPP2327751376



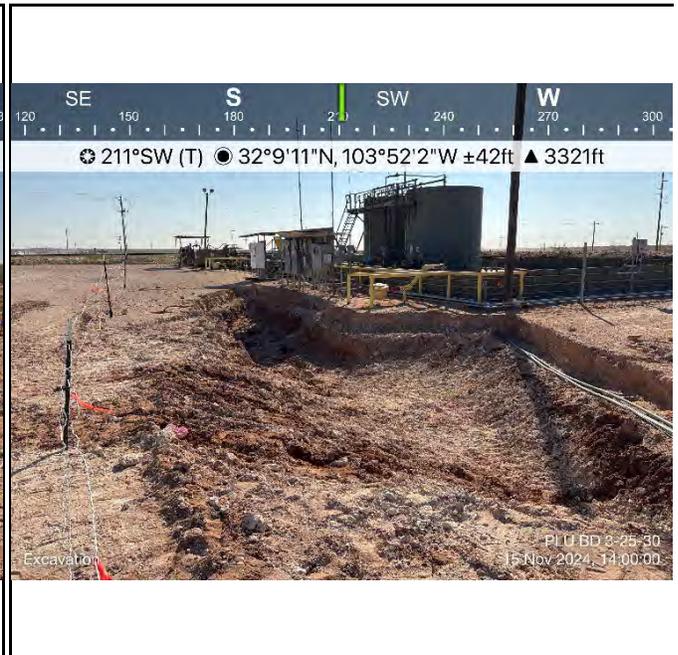
Photograph 9 Date: 10/18/2024  
Description: Excavation activities in ROW.  
View: West



Photograph 10 Date: 10/21/2024  
Description: Excavation activities in ROW.  
View: West



Photograph 11 Date: 11/15/2024  
Description: Final excavation extent in pasture.  
View: Southwest



Photograph 12 Date: 11/15/2024  
Description: Final excavation extent on pad.  
View: Southwest



## APPENDIX B

### Laboratory Analytical Reports & Chain of Custody Documentation

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

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September 20, 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 09/19/24 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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 "Mike Snyder".

Mike Snyder For 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:	09/19/2024	Sampling Date:	09/16/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 01 4' (H245698-01)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	09/20/2024	ND	400	100	400	7.69	

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	09/19/2024	ND	198	99.2	200	0.771	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	200	100	200	0.725	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 90.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Mike Snyder For 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:	09/19/2024	Sampling Date:	09/16/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 02 4' (H245698-02)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	09/20/2024	ND	400	100	400	7.69	

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	09/19/2024	ND	198	99.2	200	0.771	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	200	100	200	0.725	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 03 4' (H245698-03)**

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	09/19/2024	ND	2.08	104	2.00	3.82		
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5680	16.0	09/20/2024	ND	400	100	400	7.69		

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	09/19/2024	ND	198	99.2	200	0.771		
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	200	100	200	0.725		
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND						

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 04 4' (H245698-04)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5760	16.0	09/20/2024	ND	400	100	400	7.69	

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	09/19/2024	ND	198	99.2	200	0.771	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	200	100	200	0.725	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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\*=Accredited Analyte

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 05 4' (H245698-05)**

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	09/19/2024	ND	2.08	104	2.00	3.82		
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4640	16.0	09/20/2024	ND	400	100	400	7.69		

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	09/19/2024	ND	198	99.2	200	0.771		
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	200	100	200	0.725		
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND						

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 06 4' (H245698-06)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4240</b>	16.0	09/20/2024	ND	400	100	400	7.69	

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	09/19/2024	ND	208	104	200	0.426	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	196	97.8	200	0.735	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 92.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 07 4' (H245698-07)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	09/20/2024	ND	400	100	400	7.69	

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	09/19/2024	ND	208	104	200	0.426	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	196	97.8	200	0.735	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 93.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Mike Snyder For 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:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 01 0-4' (H245698-08)**

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	09/19/2024	ND	2.08	104	2.00	3.82	
Toluene*	<0.050	0.050	09/19/2024	ND	2.00	99.8	2.00	3.35	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.03	102	2.00	3.58	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	6.08	101	6.00	3.39	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	192	16.0	09/20/2024	ND	400	100	400	3.92	

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	09/19/2024	ND	208	104	200	0.426	
DRO >C10-C28*	<10.0	10.0	09/19/2024	ND	196	97.8	200	0.735	
EXT DRO >C28-C36	<10.0	10.0	09/19/2024	ND					

Surrogate: 1-Chlorooctane 93.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

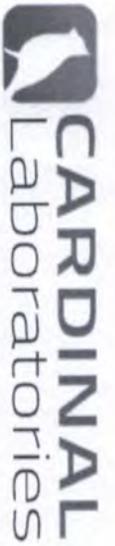
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM zip: 88220  
 Phone #: 989 854 0852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLCU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Sattilana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E. Greene St  
 City: Carlsbad  
 State: NM zip: 88220  
 Phone #:   
 Fax #:   
 MATRIX:  GROUNDWATER  WASTEWATER  SOIL  OIL  SLUDGE  OTHER:   
 PRESERV:  ACID/BASE:  ICE / COOL  OTHER:   
 SAMPLING: DATE TIME

Lab I.D.	Sample I.D.	Depth (feet)	FOR LAB USE ONLY		PRESERV		SAMPLING		ANALYSIS	REMARKS
			(G)RAB OR (C)OMP.	# CONTAINERS	DATE	TIME				
HP45698	FS01	4'	C	1	9/16/24	1451	X	Chlorides		
	FS02	1'	C	1	9/16/24	1453	X	BTEX		
	FS03	1'	C	1	9/18/24	1435	X	TPH		
	FS04	1'	C	1	9/18/24	1440				
	FS05	1'	C	1	1544					
	FS06	1'	C	1	1544					
	FS07	4'	C	1	1546					
	SW01	0-4'	C	1	9/18/24	1523				

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Relinquished By: *[Signature]* Date: 9-19-24 Received By: *[Signature]* Date: 9-19-24  
 Relinquished By: *[Signature]* Date: 9-13-15 Received By: *[Signature]* Date: 9-13-15  
 Turnaround Time: 24 hr Standard  Bacteria (only)  Cool Intact  Observed Temp. °C  Corrected Temp. °C

Delivered By: (Circle One)  UPS  Bus  Other:   
 Observed Temp. °C: 1.7 Corrected Temp. °C: 1.1  
 Sample Condition:  Cool  Intact  Yes  No  Yes  No  
 CHECKED BY: *[Signature]*  
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: *[Email]*  
 REMARKS: cost center: 1140131001  
 Incident ID: nAPP2327751376  
 Turnaround Time: 24 hr Standard  Bacteria (only)  Cool Intact  Observed Temp. °C  Corrected Temp. °C



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

---

September 27, 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 09/26/24 13:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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.

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:	09/26/2024	Sampling Date:	09/23/2024
Reported:	09/27/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 02 0-4' (H245846-01)**

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	09/26/2024	ND	1.88	94.1	2.00	0.721	
Toluene*	<0.050	0.050	09/26/2024	ND	1.86	93.2	2.00	0.208	
Ethylbenzene*	<0.050	0.050	09/26/2024	ND	1.94	97.1	2.00	0.234	
Total Xylenes*	<0.150	0.150	09/26/2024	ND	5.80	96.6	6.00	0.193	
Total BTEX	<0.300	0.300	09/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/27/2024	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	09/27/2024	ND	206	103	200	0.499	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	216	108	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 90.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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\*=Accredited Analyte

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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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/27/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 08 4' (H245846-02)**

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	09/26/2024	ND	1.88	94.1	2.00	0.721	
Toluene*	<0.050	0.050	09/26/2024	ND	1.86	93.2	2.00	0.208	
Ethylbenzene*	<0.050	0.050	09/26/2024	ND	1.94	97.1	2.00	0.234	
Total Xylenes*	<0.150	0.150	09/26/2024	ND	5.80	96.6	6.00	0.193	
Total BTEX	<0.300	0.300	09/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8130	16.0	09/27/2024	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	09/27/2024	ND	206	103	200	0.499	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	216	108	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 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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**Analytical Results For:**

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

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/27/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 09 4' (H245846-03)**

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	09/26/2024	ND	1.88	94.1	2.00	0.721	
Toluene*	<0.050	0.050	09/26/2024	ND	1.86	93.2	2.00	0.208	
Ethylbenzene*	<0.050	0.050	09/26/2024	ND	1.94	97.1	2.00	0.234	
Total Xylenes*	<0.150	0.150	09/26/2024	ND	5.80	96.6	6.00	0.193	
Total BTEX	<0.300	0.300	09/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8400	16.0	09/27/2024	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	09/27/2024	ND	206	103	200	0.499	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	216	108	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 89.7 % 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

- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Beill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM zip: 88220  
 Phone #: 9898540852 Fax #:  
 Project #: 03C1558279 Project Owner:  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #: Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green st  
 City: Carlsbad State: NM zip: 88220  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	DATE	TIME	chlorides	BTEX	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
1745846	SW02	0-4'	C	1	X	X	X	X	X	X	9/23/24	1035	X	X	X	
2	FS08	4'	C	1	X	X	X	X	X	X	9/25/24	932	X	X	X	
3	FS09	4'	C	1	X	X	X	X	X	X	9/25/24	935	X	X	X	

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Relinquished By: *[Signature]*  
 Date: 9-26-24  
 Time: 1348  
 Received By: *[Signature]*  
 Date: *[Signature]*  
 Time: *[Signature]*

Delivered By: (Circle One) Observed Temp. °C: 2.5  
 Corrected Temp. °C: 1.9  
 Sample Condition: Cool Intact Yes [X] No [ ]  
 CHECKED BY: (Initials) *[Signature]*  
 Turaround Time: 24 hr Standard Rush [X]  
 Thermometer ID #113 Correction Factor: *[Signature]*  
 Bacteria (only) Sample Condition: Cool Intact Yes [X] No [ ]  
 Observed Temp. °C: Corrected Temp. °C:

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



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September 30, 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 09/26/24 13:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 10 4' (H245847-01)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11100	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.2 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 11 4' (H245847-02)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6130	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 12 4' (H245847-03)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4160	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 111 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 13 4' (H245847-04)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>7120</b>	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 14 4' (H245847-05)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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\*=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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 15 4' (H245847-06)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	09/27/2024	ND	432	108	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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\*=Accredited Analyte

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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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 16 4' (H245847-07)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	4720	16.0	09/27/2024	ND	400	100	400	0.00	QM-07

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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 17 4' (H245847-08)**

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	09/27/2024	ND	2.12	106	2.00	0.672		
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68		
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60		
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66		
Total BTEX	<0.300	0.300	09/27/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 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	8400	16.0	09/27/2024	ND	400	100	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	09/27/2024	ND	220	110	200	0.850		
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35		
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND						

Surrogate: 1-Chlorooctane 115 % 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:	09/26/2024	Sampling Date:	09/25/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 18 4' (H245847-09)**

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	09/27/2024	ND	2.12	106	2.00	0.672	
Toluene*	<0.050	0.050	09/27/2024	ND	2.31	116	2.00	5.68	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.47	123	2.00	6.60	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.36	123	6.00	5.66	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	4800	16.0	09/27/2024	ND	400	100	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	09/27/2024	ND	220	110	200	0.850	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	231	116	200	1.35	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Notes and Definitions

- S-05 The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC  
Project Manager: Ben Bellill  
Address: 3122 National Parks Hwy  
City: Carlsbad  
State: NM Zip: 88220  
Phone #: 9898540852 Fax #:   
Project #: 03C1558279 Project Owner:   
Project Name: PLU Big Sinks 3-25-30  
Project Location: 32.15314,-103.86766  
Sampler Name: Uriel Santillana

P.O. #:   
Company: XTO Energy  
Attn: Amy Ruth  
Address: 3104 E Green st  
City: Carlsbad  
State: NM Zip: 88220  
Phone #:   
Fax #:

**BILL TO** ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)GRAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Analysis
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
H245847	FS10	4'	C	1			X					9/25/24	1105	Chlorides
	FS11												1107	
	FS12												1109	
	FS13												1112	
	FS14												1114	
	FS15												1117	
	FS16												1119	
	FS17												1121	
	FS18												1123	

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Relinquished By: [Signature] Date: 9-26-24 Received By: [Signature] Date: 9/25/24  
Relinquished By: [Signature] Date: 9/25/24 Received By: [Signature] Date: 9/25/24

Delivered By: (Circle One) Observed Temp. °C: 29.5 Sample Condition: Cool Intact [X] Bacteria (only) Sample Condition: [X]  
Sampler - UPS - Bus - Other: Corrected Temp. °C: 1.9 Cool Intact [X] Bacteria (only) Sample Condition: [X]  
Thermometer ID: #449 #140 Correction Factor: 0.5°C Cool Intact [X] Bacteria (only) Sample Condition: [X]

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



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October 04, 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 10/03/24 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/04/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 19 4' (H246023-01)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 67.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.0 % 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: 10/03/2024  
 Reported: 10/04/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/01/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 20 4' (H246023-02)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16400	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.3 % 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:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/04/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 21 4' (H246023-03)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	27600	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 83.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.2 % 49.1-148

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\*=Accredited Analyte

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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: 10/03/2024  
 Reported: 10/04/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/02/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 22 4' (H246023-04)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10800	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 97.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.2 % 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: 10/03/2024  
 Reported: 10/04/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/02/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 23 4' (H246023-05)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13400	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 98.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.0 % 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: 10/03/2024  
 Reported: 10/04/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/02/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 24 4' (H246023-06)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6640	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 94.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.2 % 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:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/04/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 25 4' (H246023-07)**

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	10/03/2024	ND	2.06	103	2.00	1.79	
Toluene*	<0.050	0.050	10/03/2024	ND	2.13	107	2.00	0.446	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.15	107	2.00	1.04	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.56	109	6.00	0.937	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11800	16.0	10/04/2024	ND	432	108	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	10/03/2024	ND	212	106	200	0.754	
DRO >C10-C28*	<10.0	10.0	10/03/2024	ND	209	104	200	1.09	
EXT DRO >C28-C36	<10.0	10.0	10/03/2024	ND					

Surrogate: 1-Chlorooctane 98.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bell  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 989-854-0852 Fax #: \_\_\_\_\_  
 Project #: DSCSS8279 Project Owner: \_\_\_\_\_  
 Project Name: PLU BS 3-25-30  
 Project Location: \_\_\_\_\_  
 Sampler Name: Shawn Brooks  
 P.O. #: \_\_\_\_\_  
 Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green St  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #: 575-887-9329  
 Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
H2410023	ES19	4	C	1		X						10/17/19	1240	X BTEX
	ES20											10/17/19	1745	X TPH
	ES21											10/26/19	1750	X Chloride
	ES22											11/27/19	1421	
	ES23											11/29	1429	
	ES24											11:19		
	ES25													

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Relinquished By: Shawn Brooks Date: 12/24 Time: 1:40  
 Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Verbal Result:  Yes  No  Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: bbell@ensolum.com, vtranason@ensolum.com

Delivered By: (Circle One) UPS Observed Temp.: 1.7 Sample Condition: Good Checked By: SR  
 Corrected Temp.: 1.1 Cool Intact:  Yes  No  
 Bacteria (only) Sample Condition:  Cool Intact  Observed Temp.: 1.1  
 Corrected Temp.: 1.1

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



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October 10, 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 10/08/24 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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, flowing style.

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:	10/08/2024	Sampling Date:	10/03/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 26 4' (H246101-01)**

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	10/09/2024	ND	2.18	109	2.00	2.62	
Toluene*	<0.050	0.050	10/09/2024	ND	2.28	114	2.00	2.51	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.33	117	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.06	118	6.00	1.21	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 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	10000	16.0	10/09/2024	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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 27 4' (H246101-02)**

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	10/09/2024	ND	2.18	109	2.00	2.62	
Toluene*	<0.050	0.050	10/09/2024	ND	2.28	114	2.00	2.51	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.33	117	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.06	118	6.00	1.21	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 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	13000	16.0	10/09/2024	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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 89.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.5 % 49.1-148

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\*=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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 28 4' (H246101-03)**

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	10/09/2024	ND	2.18	109	2.00	2.62	
Toluene*	<0.050	0.050	10/09/2024	ND	2.28	114	2.00	2.51	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.33	117	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.06	118	6.00	1.21	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 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	7860	16.0	10/09/2024	ND	432	108	400	7.14	QM-07

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 93.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.8 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 29 4' (H246101-04)**

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	10/09/2024	ND	2.18	109	2.00	2.62	
Toluene*	<0.050	0.050	10/09/2024	ND	2.28	114	2.00	2.51	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.33	117	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.06	118	6.00	1.21	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	8130	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 93.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.2 % 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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 30 4' (H246101-05)**

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	10/09/2024	ND	2.18	109	2.00	2.62	
Toluene*	<0.050	0.050	10/09/2024	ND	2.28	114	2.00	2.51	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.33	117	2.00	2.11	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	7.06	118	6.00	1.21	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 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	8130	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 86.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.1 % 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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 31 4' (H246101-06)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	8260	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 92.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.6 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 32 4' (H246101-07)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	13800	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.1 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/03/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 33 4' (H246101-08)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	8130	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 88.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.5 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 34 4' (H246101-09)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	6800	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.9 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 35 4' (H246101-10)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	6530	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 87.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.7 % 49.1-148

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**Analytical Results For:**

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

Received: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 36 4' (H246101-11)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	6300	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 86.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.6 % 49.1-148

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\*=Accredited Analyte

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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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 37 4' (H246101-12)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	10500	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 78.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.5 % 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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 38 4' (H246101-13)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	10000	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 89.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.4 % 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: 10/08/2024  
 Reported: 10/10/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/04/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 39 4' (H246101-14)**

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	10/09/2024	ND	2.16	108	2.00	1.67	
Toluene*	<0.050	0.050	10/09/2024	ND	2.18	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	10/09/2024	ND	2.19	110	2.00	1.64	
Total Xylenes*	<0.150	0.150	10/09/2024	ND	6.52	109	6.00	1.38	
Total BTEX	<0.300	0.300	10/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	7060	16.0	10/09/2024	ND	432	108	400	7.14	

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	10/09/2024	ND	214	107	200	2.69	
DRO >C10-C28*	<10.0	10.0	10/09/2024	ND	202	101	200	5.89	
EXT DRO >C28-C36	<10.0	10.0	10/09/2024	ND					

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Bebill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 575-881-0852 Fax #: 575-881-0852  
 Project #: OCS15587799 Project Owner: PUV BS 3-25-30  
 Project Name: PUV BS 3-25-30  
 Project Location: Shovel Books  
 Sampler Name: Shovel Books  
 FOR LAB USE ONLY  
 P.O. #: Company: KTD Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green St  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 575-881-7329  
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERVY		DATE	TIME	TESTS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL			
H44101	FS26	4'	C	1			X				X	11:14	11:14	X BTEX	
	FS27		C	1			X				X	11:16	11:16	X TPH	
	FS28		C	1			X				X	11:21	11:21	X Chloride	
	FS29		C	1			X				X	11:23	11:23		
	FS30		C	1			X				X	12:08	12:08		
	FS31		C	1			X				X	12:51	12:51		
	FS32		C	1			X				X	12:54	12:54		
	FS33		C	1			X				X	12:57	12:57		

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Relinquished By: Shovel Books Date: 12/25/24 Received By: Spedrigney  
 Relinquished By: Shovel Books Date: 12/25/24 Received By: Spedrigney

Delivered By: (Circle One) UPS Observed Temp. °C: 2.0 Sample Condition: Intact CHECKED BY: SR  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: -2.0 Cool Intact:  Yes  No  
 Turnaround Time: 48hr Standard:  Bacteria (only)  Cool Intact:  Yes  No  
 Thermometer ID: 4432 Corrected Factor: 0.5 Corrected Temp. °C: 2.0

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



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**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 #: 0301559279 Project Owner:   
 Project Name: PU BS 3-25-30  
 Project Location:   
 Sampler Name: Shirley Brooks  
 P.O. #:   
 Company: XTD Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green St.  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #: 575-287-7324  
 Fax #:   
 PRESERV:  ACID/BASE:   
 ICE / COOL OTHER:   
 MATRIX:  SOIL  OIL  SLUDGE  OTHER:   
 GROUNDWATER WASTEWATER

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:				
<u>H4401</u>	<u>FS34</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:25</u>	<u>BTEX</u>
<u>9</u>	<u>FS35</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:26</u>	<u>TPH</u>
<u>10</u>	<u>FS36</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:31</u>	<u>Chloride</u>
<u>11</u>	<u>FS37</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:33</u>	
<u>13</u>	<u>FS38</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:35</u>	
<u>14</u>	<u>FS39</u>	<u>4'</u>	<u>CA</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>10/17/24</u>	<u>11:37</u>	

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Relinquished By: Shirley Brooks Date: 10/17/24 Time: 1410  
 Received By: Spodriguey Date: 12/26/24 Time: 1410  
 Verbal Result:  Yes  No  Add'l Phone #:   
 All Results are emailed. Please provide Email address: bellini@ensolum.com, thomas@ensolum.com  
 REMARKS: bellini@ensolum.com, thomas@ensolum.com

Delivered By: (Circle One)  UPS - Bus - Other:   
 Observed Temp. °C: 2.0 Sample Condition:  Cool Intact  No  No  No  No   
 Corrected Temp. °C: -2.0 CHECKED BY: SP Turnaround Time: 4hrs Standard:  Bacteria (only) Sample Condition:  Cool Intact  No  No  No  No   
 Thermometer ID: 1148 Corrected Temp. °C: -2.0 Observed Temp. °C: 2.0 Corrected Temp. °C: -2.0



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

December 18, 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 10/10/24 14:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
--	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS43 4'	H246167-01	Soil	09-Oct-24 14:07	10-Oct-24 14:25
FS44 4'	H246167-02	Soil	09-Oct-24 14:11	10-Oct-24 14:25
SW13 0-4'	H246167-03	Soil	09-Oct-24 14:52	10-Oct-24 14:25
SW14 0-4'	H246167-04	Soil	09-Oct-24 14:59	10-Oct-24 14:25

10/14/24 - BTEX was batched as a water instead of a soil reporting mg/L instead of mg/kg. This is the revised report with the correct units reported for BTEX and will replace the one sent one 10/ 11/24.

12/18/24 - Client changed the sample depths on -03 and -04 (see COC). This is the 2nd revision of the report and will replace the one sent on 10/14/24.

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
--	--	------------------------------

**FS43 4'  
H246167-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>6100</b>		16.0	mg/kg	4	4101124	HM	11-Oct-24	4500-Cl-B	
-----------------	-------------	--	------	-------	---	---------	----	-----------	-----------	--

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			106 %	77.5-125		4101022	JH	10-Oct-24	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
Surrogate: 1-Chlorooctane			128 %	48.2-134		4101023	MS	10-Oct-24	8015B	
Surrogate: 1-Chlorooctadecane			133 %	49.1-148		4101023	MS	10-Oct-24	8015B	

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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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
--	--	------------------------------

**FS44 4'  
H246167-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>6700</b>		16.0	mg/kg	4	4101124	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101022	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	77.5-125		4101022	JH	10-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	10-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			123 %	48.2-134		4101023	MS	10-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			128 %	49.1-148		4101023	MS	10-Oct-24	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
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**SW13 0-4'  
H246167-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>7600</b>		16.0	mg/kg	4	4101124	HM	11-Oct-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101022	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	77.5-125		4101022	JH	10-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
<b>DRO &gt;C10-C28*</b>	<b>47.0</b>		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>22.9</b>		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			129 %	48.2-134		4101023	MS	11-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			135 %	49.1-148		4101023	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
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**SW14 0-4'  
H246167-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>8930</b>		16.0	mg/kg	4	4101124	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101022	JH	10-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101022	JH	10-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	77.5-125		4101022	JH	10-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101023	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			129 %	48.2-134		4101023	MS	11-Oct-24	8015B	
----------------------------------	--	--	-------	----------	--	---------	----	-----------	-------	--

<i>Surrogate: 1-Chlorooctadecane</i>			135 %	49.1-148		4101023	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
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**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4101124 - 1:4 DI Water</b>										
<b>Blank (4101124-BLK1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	ND	16.0	mg/kg							
<b>LCS (4101124-BS1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	432	16.0	mg/kg	400		108	80-120			
<b>LCS Dup (4101124-BSD1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	

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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4101022 - Volatiles**

**Blank (4101022-BLK1)**

Prepared & Analyzed: 10-Oct-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0536		mg/kg	0.0500		107	77.5-125			

**LCS (4101022-BS1)**

Prepared & Analyzed: 10-Oct-24

Benzene	1.89	0.050	mg/kg	2.00		94.4	80.8-112			
Toluene	1.95	0.050	mg/kg	2.00		97.6	78.7-114			
Ethylbenzene	1.97	0.050	mg/kg	2.00		98.4	70.9-120			
m,p-Xylene	3.95	0.100	mg/kg	4.00		98.7	76.9-119			
o-Xylene	1.92	0.050	mg/kg	2.00		96.0	71.7-120			
Total Xylenes	5.87	0.150	mg/kg	6.00		97.8	75.6-119			
Surrogate: 4-Bromofluorobenzene (PID)	0.0525		mg/kg	0.0500		105	77.5-125			

**LCS Dup (4101022-BSD1)**

Prepared & Analyzed: 10-Oct-24

Benzene	2.06	0.050	mg/kg	2.00		103	80.8-112	8.97	8.26	QR-04
Toluene	2.13	0.050	mg/kg	2.00		107	78.7-114	8.90	9.03	
Ethylbenzene	2.16	0.050	mg/kg	2.00		108	70.9-120	9.33	11.9	
m,p-Xylene	4.33	0.100	mg/kg	4.00		108	76.9-119	9.29	11	
o-Xylene	2.11	0.050	mg/kg	2.00		106	71.7-120	9.58	15	
Total Xylenes	6.45	0.150	mg/kg	6.00		107	75.6-119	9.38	12.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.0527		mg/kg	0.0500		105	77.5-125			

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:19
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**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4101023 - General Prep - Organics**

<b>Blank (4101023-BLK1)</b>				Prepared & Analyzed: 10-Oct-24						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	58.7		mg/kg	50.0		117	48.2-134			
Surrogate: 1-Chlorooctadecane	58.2		mg/kg	50.0		116	49.1-148			

<b>LCS (4101023-BS1)</b>				Prepared & Analyzed: 10-Oct-24						
GRO C6-C10	217	10.0	mg/kg	200		109	66.4-123			
DRO >C10-C28	220	10.0	mg/kg	200		110	66.5-118			
Total TPH C6-C28	437	10.0	mg/kg	400		109	77.6-123			
Surrogate: 1-Chlorooctane	61.5		mg/kg	50.0		123	48.2-134			
Surrogate: 1-Chlorooctadecane	59.7		mg/kg	50.0		119	49.1-148			

<b>LCS Dup (4101023-BSD1)</b>				Prepared & Analyzed: 10-Oct-24						
GRO C6-C10	216	10.0	mg/kg	200		108	66.4-123	0.705	17.7	
DRO >C10-C28	220	10.0	mg/kg	200		110	66.5-118	0.0322	21	
Total TPH C6-C28	436	10.0	mg/kg	400		109	77.6-123	0.333	18.5	
Surrogate: 1-Chlorooctane	60.4		mg/kg	50.0		121	48.2-134			
Surrogate: 1-Chlorooctadecane	58.0		mg/kg	50.0		116	49.1-148			

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Notes and Definitions

- QR-04            The RPD for the BS/BSD was outside of historical limits.
- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green st  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
HAHNER	FS43	4'	C	1			X					10/9/24	1407	Chloride
	FS44	4'	C	1			X					1411	1452	BTEX
	SW13	*BX-4'	C	1			X					1459	1459	TPH
	SW14	*BX-4'	C	1			X							

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Relinquished By: *[Signature]*  
 Date: 12/24/24  
 Received By: *[Signature]*  
 Date: 12/25/24

Delivered By: (Circle One)  UPS  Bus  Other:  
 Observed Temp.: -9.9°C  
 Corrected Temp.: -9.5°C  
 Sample Condition:  Intact  Cool  Yes  No

Turnaround Time:  Standard  Rush  
 Bacteria (only) Sample Condition:  Yes  No  
 Incident Number: nAPP2327751376  
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: Usantillana@ensolum.com  
 Bbellill@ensolum.com tmorrissey@ensolum.com  
 REMARKS: Cost center: 1140131001  
 Incident Number: nAPP2327751376

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

yo. 12/12/24



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

December 18, 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 10/10/24 14:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 40 4'	H246168-01	Soil	08-Oct-24 10:41	10-Oct-24 14:25
FS 41 4'	H246168-02	Soil	08-Oct-24 10:43	10-Oct-24 14:25
FS 42 4'	H246168-03	Soil	08-Oct-24 10:45	10-Oct-24 14:25
SW 03 0-4'	H246168-04	Soil	08-Oct-24 11:50	10-Oct-24 14:25
SW 05 0-4'	H246168-05	Soil	08-Oct-24 11:56	10-Oct-24 14:25

12/18/24 - Client changed the depths of -04 and -05 (see COC). This is the revised report and will replace the one sent on 10/14/24.

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**FS 40 4'**  
**H246168-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>7600</b>		16.0	mg/kg	4	4101125	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

Surrogate: 1-Chlorooctane			89.4 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			98.0 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**FS 41 4'**  
**H246168-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>7330</b>		16.0	mg/kg	4	4101125	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			95.1 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			104 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**FS 42 4'**  
**H246168-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>6000</b>		16.0	mg/kg	4	4101125	HM	11-Oct-24	4500-CI-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

<i>Surrogate: 1-Chlorooctane</i>			113 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			125 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**SW 03 0-4'  
H246168-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	48.0		16.0	mg/kg	4	4101125	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

Surrogate: 1-Chlorooctane			99.8 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			110 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**SW 05 0-4'  
H246168-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	80.0		16.0	mg/kg	4	4101125	HM	11-Oct-24	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Toluene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	4101029	JH	11-Oct-24	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	4101029	JH	11-Oct-24	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	77.5-125		4101029	JH	11-Oct-24	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	4101104	MS	11-Oct-24	8015B	

Surrogate: 1-Chlorooctane			114 %	48.2-134		4101104	MS	11-Oct-24	8015B	
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Surrogate: 1-Chlorooctadecane			127 %	49.1-148		4101104	MS	11-Oct-24	8015B	
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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4101125 - 1:4 DI Water</b>										
<b>Blank (4101125-BLK1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	ND	16.0	mg/kg							
<b>LCS (4101125-BS1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	416	16.0	mg/kg	400		104	80-120			
<b>LCS Dup (4101125-BSD1)</b>										
Prepared & Analyzed: 11-Oct-24										
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	

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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4101029 - Volatiles**

**Blank (4101029-BLK1)**

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0530		mg/kg	0.0500		106	77.5-125			

**LCS (4101029-BS1)**

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	1.99	0.050	mg/kg	2.00		99.3	80.8-112			
Toluene	2.06	0.050	mg/kg	2.00		103	78.7-114			
Ethylbenzene	2.09	0.050	mg/kg	2.00		105	70.9-120			
m,p-Xylene	4.21	0.100	mg/kg	4.00		105	76.9-119			
o-Xylene	2.05	0.050	mg/kg	2.00		102	71.7-120			
Total Xylenes	6.26	0.150	mg/kg	6.00		104	75.6-119			
Surrogate: 4-Bromofluorobenzene (PID)	0.0527		mg/kg	0.0500		105	77.5-125			

**LCS Dup (4101029-BSD1)**

Prepared: 10-Oct-24 Analyzed: 11-Oct-24

Benzene	1.94	0.050	mg/kg	2.00		97.1	80.8-112	2.22	8.26	
Toluene	1.98	0.050	mg/kg	2.00		99.1	78.7-114	3.77	9.03	
Ethylbenzene	2.01	0.050	mg/kg	2.00		100	70.9-120	4.27	11.9	
m,p-Xylene	4.00	0.100	mg/kg	4.00		100	76.9-119	4.97	11	
o-Xylene	1.94	0.050	mg/kg	2.00		97.1	71.7-120	5.34	15	
Total Xylenes	5.95	0.150	mg/kg	6.00		99.1	75.6-119	5.09	12.2	
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	77.5-125			

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM 3122 NATIONAL PARKS HWY CARLSBAD NM, 88220	Project: PLU BIG SINKS 3-25-30 Project Number: 03C1558279 Project Manager: BEN BELILL Fax To:	Reported: 18-Dec-24 15:23
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**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4101104 - General Prep - Organics**

<b>Blank (4101104-BLK1)</b>				Prepared & Analyzed: 11-Oct-24						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
<i>Surrogate: 1-Chlorooctane</i>	51.6		mg/kg	50.0		103	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	58.4		mg/kg	50.0		117	49.1-148			
<b>LCS (4101104-BS1)</b>				Prepared & Analyzed: 11-Oct-24						
GRO C6-C10	184	10.0	mg/kg	200		92.1	66.4-123			
DRO >C10-C28	182	10.0	mg/kg	200		91.2	66.5-118			
Total TPH C6-C28	367	10.0	mg/kg	400		91.7	77.6-123			
<i>Surrogate: 1-Chlorooctane</i>	54.6		mg/kg	50.0		109	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	57.7		mg/kg	50.0		115	49.1-148			
<b>LCS Dup (4101104-BSD1)</b>				Prepared & Analyzed: 11-Oct-24						
GRO C6-C10	179	10.0	mg/kg	200		89.4	66.4-123	3.03	17.7	
DRO >C10-C28	179	10.0	mg/kg	200		89.7	66.5-118	1.63	21	
Total TPH C6-C28	358	10.0	mg/kg	400		89.6	77.6-123	2.33	18.5	
<i>Surrogate: 1-Chlorooctane</i>	58.0		mg/kg	50.0		116	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	62.8		mg/kg	50.0		126	49.1-148			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1-1

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sample Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green st  
 City: Carlsbad State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
1	FS40	4'		2			X				10/8/24	1041	Chlorides
2	FS41	4'		1			X					1043	TPH
3	FS42	4'		1			X					1045	BTEX
4	5W03	4'		1			X					1150	
5	5W05	4'		1			X					1156	

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Relinquished By: *[Signature]* Date: 10/08/24  
 Received By: *[Signature]* Date: 11/25  
 Incident Number: nAPP2327751376  
 All Results are emailed. Please provide Email address: *[Emails]*  
 REMARKS: *[Handwritten notes]*

Delivered By: (Circle One)  UPS - Bus - Other:   
 Observed Temp. °C: -1.9  
 Corrected Temp. °C: -2.5  
 Sample Condition:  Cool  Intact  
 CHECKED BY: *[Signature]*  
 Turnaround Time: *[Handwritten]* Standard  Rush   
 Bacteria (only)  Sample Condition  Observed Temp. °C  Corrected Temp. °C



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October 14, 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 10/11/24 9:42.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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.

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:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 45 4' (H246195-01)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12400	16.0	10/11/2024	ND	432	108	400	0.00	QM-07

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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 74.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.4 % 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: 10/11/2024  
 Reported: 10/14/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 46 4' (H246195-02)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 82.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.1 % 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: 10/11/2024  
 Reported: 10/14/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 47 4' (H246195-03)**

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	10/11/2024	ND	2.04	102	2.00	5.54		
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99		
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30		
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31		
Total BTEX	<0.300	0.300	10/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	18200	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.3 % 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: 10/11/2024  
 Reported: 10/14/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 48 4' (H246195-04)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17400	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 79.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.2 % 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: 10/11/2024  
 Reported: 10/14/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/10/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 49 4' (H246195-05)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	22600	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 87.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.9 % 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:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 50 4' (H246195-06)**

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	10/11/2024	ND	2.04	102	2.00	5.54		
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99		
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30		
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31		
Total BTEX	<0.300	0.300	10/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10400	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.7 % 49.1-148

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\*=Accredited Analyte

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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:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 51 4' (H246195-07)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12400	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 77.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.7 % 49.1-148

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\*=Accredited Analyte

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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:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 52 4' (H246195-08)**

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	10/11/2024	ND	2.04	102	2.00	5.54	
Toluene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.99	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.10	105	2.00	4.30	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.27	104	6.00	4.31	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 86.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.4 % 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:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 53 4' (H246195-09)**

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	10/11/2024	ND	2.08	104	2.00	2.47		
Toluene*	<0.050	0.050	10/11/2024	ND	2.05	102	2.00	3.56		
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.12	106	2.00	4.60		
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.35	106	6.00	4.81		
Total BTEX	<0.300	0.300	10/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	10/11/2024	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	10/11/2024	ND	184	92.1	200	3.03		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	182	91.2	200	1.63		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 83.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.7 % 49.1-148

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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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #: Project Owner:  
 Project #: 03C1558279  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #: Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E Green st  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Analysis
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H246195	FS45	4'	C	1			X				10/10/24	1325	Chloride
	FS46											1345	BTEX
	FS47											1319	TPH
	FS48											1314	
	FS49											1317	
	FS50											1310	
	FS51											1307	
	FS52											1304	
	FS53											1302	

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Relinquished By: [Signature] Date: 10-11-24  
 Received By: [Signature] Date: 10-11-24  
 Relinquished By: [Signature] Date: 10-11-24  
 Received By: [Signature] Date: 10-11-24

Delivered By: (Circle One) Observed Temp. °C: 1.3  
 Corrected Temp. °C: 0.7  
 Sample - UPS - Bus - Other: [ ]  
 Sample Condition: Cool Intact [ ]  
 Checked By: [Signature]  
 Turnaround Time: 24hr Standard [ ]  
 Bacteria (only) Sample Condition: Cool Intact [ ]  
 Incident Number: NAPP2327751376  
 Cost center: 1140131001

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



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October 15, 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 10/11/24 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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.

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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 54 4' (H246221-01)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	13200	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 55 4' (H246221-02)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	9400	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 56 4' (H246221-03)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	9600	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 117 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 57 4' (H246221-04)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	6530	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 58 4' (H246221-05)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	5860	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 59 4' (H246221-06)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	9060	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 60 4' (H246221-07)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	5100	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 61 4' (H246221-08)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	7060	16.0	10/14/2024	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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 114 % 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:	10/11/2024	Sampling Date:	10/11/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 62 4' (H246221-09)**

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	10/14/2024	ND	2.14	107	2.00	2.78	
Toluene*	<0.050	0.050	10/14/2024	ND	2.05	102	2.00	3.34	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.06	103	2.00	3.43	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	6.13	102	6.00	3.53	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	5060	16.0	10/14/2024	ND	400	100	400	3.92	QM-07

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	10/14/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 120 % 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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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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth Colton  
 Address: 3104 E Green st  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:   
 PRESERV:    
 SAMPLING:   
 DATE:   
 TIME:   
 ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	FOR LAB USE ONLY		DATE	TIME	ANALYSIS REQUEST
			(G)RAB OR (C)OMP.	# CONTAINERS			
1040221	F554	4'	<input type="checkbox"/>	1	10/11/24	1235	Chloride
8	F555	↓	<input type="checkbox"/>	1	1124	1124	X
3	F556	↓	<input type="checkbox"/>	1	1123	1123	X
7	F557	↓	<input type="checkbox"/>	1	1122	1122	X
5	F558	↓	<input type="checkbox"/>	1	1109	1109	X
4	F559	↓	<input type="checkbox"/>	1	1107	1107	X
7	F560	↓	<input type="checkbox"/>	1	1105	1105	X
8	F561	↓	<input type="checkbox"/>	1	1103	1103	X
8	F562	↓	<input type="checkbox"/>	1	1101	1101	X

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Relinquished By: UBant Date: 10/11/24 Received By: ABARRAS  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Time: \_\_\_\_\_ Time: \_\_\_\_\_  
 Delivered By: (Circle One) Observed Temp. °C: 10.0 Sample Condition:  Cool  Intact  
 Corrected Temp. °C: 2.0  Yes  No  
 Sampler - UPS - Bus - Other: \_\_\_\_\_

Turnaround Time: 48 hr Standard  Bacteria (only)  Sample Condition:  Cool  Intact  
 Thermometer ID: #413  Yes  No  
 Correction Factor: -0.6  Yes  No  
 Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: Usantillana@ensolum.com  
 Bbellill@ensolum.com tmorrissey@ensolum.com  
 REMARKS: Cost center: 1140131001  
 Incident Number: nAPP2327751376  
 Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalabsm.com



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October 21, 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 10/17/24 14:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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, flowing "C" at the beginning.

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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 63 4' (H246357-01)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	13200	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 64 4' (H246357-02)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	9600	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.9 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 65 4' (H246357-03)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	6000	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 97.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.3 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 66 4' (H246357-04)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	5120	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 67 4' (H246357-05)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	1300	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 68 4' (H246357-06)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	1330	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.1 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 69 4' (H246357-07)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	13800	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 93.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.7 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 70 4' (H246357-08)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	2520	16.0	10/18/2024	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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.8 % 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:	10/17/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 71 4' (H246357-09)**

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	10/18/2024	ND	2.27	113	2.00	1.26	
Toluene*	<0.050	0.050	10/18/2024	ND	2.34	117	2.00	0.285	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	2.36	118	2.00	1.75	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	7.06	118	6.00	1.13	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	3040	16.0	10/18/2024	ND	432	108	400	3.77	QM-07

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	10/18/2024	ND	188	93.9	200	2.34	
DRO >C10-C28*	<10.0	10.0	10/18/2024	ND	191	95.4	200	5.16	
EXT DRO >C28-C36	<10.0	10.0	10/18/2024	ND					

Surrogate: 1-Chlorooctane 96.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-05 The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth Cotton Green  
 Address: 3104 E Green st  
 City: Carlsbad State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	PRESERV		DATE	TIME	ANALYSIS	REMARKS
			ICE / COOL	OTHER				
1	F563	4'	X		10/16/24	1057	Chloride	
2	F564		X		1059		BTEX	
3	F565		X		1114		TPH	
4	F566		X		1115			
5	F567		X		1117			
6	F568		X		1119			
7	F569		X		1120			
8	F570		X		1122			
9	F571		X		1123			

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Relinquished By: *DD* Date: 10/17/24  
 Received By: *[Signature]* Date: 10/17/24  
 Relinquished By: *[Signature]* Date: 10/17/24  
 Received By: *[Signature]* Date: 10/17/24

Observed Temp. °C: 8.4  
 Corrected Temp. °C: 18  
 Sample Condition: Cool Intact  Yes  No

Checked By: *[Signature]*

Turnaround Time: 48 hr Standard  Rush   
 Thermometer ID: #413  
 Correction Factor: .45°C

Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: *usantillana@ensolum.com*  
 Bbellill@ensolum.com tmorrissey@ensolum.com

REMARKS: Cost center: 1140131001  
 Incident Number: nAPP2327751376

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



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

---

October 21, 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 10/18/24 16:44.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/18/2024	Sampling Date:	10/17/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 49 5' (H246397-01)**

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	10/18/2024	ND	1.68	83.9	2.00	23.6	
Toluene*	<0.050	0.050	10/18/2024	ND	1.66	83.2	2.00	21.5	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	1.74	87.0	2.00	18.8	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	5.18	86.4	6.00	18.6	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	9800	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.1 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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:	10/18/2024	Sampling Date:	10/17/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 12 0-4' (H246397-02)**

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	10/18/2024	ND	1.68	83.9	2.00	23.6	
Toluene*	<0.050	0.050	10/18/2024	ND	1.66	83.2	2.00	21.5	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	1.74	87.0	2.00	18.8	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	5.18	86.4	6.00	18.6	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	352	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.4 % 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:	10/18/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 16 0-4' (H246397-03)**

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	10/18/2024	ND	1.68	83.9	2.00	23.6	
Toluene*	<0.050	0.050	10/18/2024	ND	1.66	83.2	2.00	21.5	
Ethylbenzene*	<0.050	0.050	10/18/2024	ND	1.74	87.0	2.00	18.8	
Total Xylenes*	<0.150	0.150	10/18/2024	ND	5.18	86.4	6.00	18.6	
Total BTEX	<0.300	0.300	10/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	112	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.8 % 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:	10/18/2024	Sampling Date:	10/16/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 18 0-4' (H246397-04)**

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	10/19/2024	ND	1.68	83.9	2.00	23.6	
Toluene*	<0.050	0.050	10/19/2024	ND	1.66	83.2	2.00	21.5	
Ethylbenzene*	<0.050	0.050	10/19/2024	ND	1.74	87.0	2.00	18.8	
Total Xylenes*	<0.150	0.150	10/19/2024	ND	5.18	86.4	6.00	18.6	
Total BTEX	<0.300	0.300	10/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	112	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 93.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.1 % 49.1-148

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\*=Accredited Analyte

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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:	10/18/2024	Sampling Date:	10/17/2024
Reported:	10/21/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 22 0-4' (H246397-05)**

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	10/19/2024	ND	1.68	83.9	2.00	23.6	
Toluene*	<0.050	0.050	10/19/2024	ND	1.66	83.2	2.00	21.5	
Ethylbenzene*	<0.050	0.050	10/19/2024	ND	1.74	87.0	2.00	18.8	
Total Xylenes*	<0.150	0.150	10/19/2024	ND	5.18	86.4	6.00	18.6	
Total BTEX	<0.300	0.300	10/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	192	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.3 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager





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---

October 22, 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 10/18/24 16:44.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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.

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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 72 4' (H246398-01)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	736	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 73 4' (H246398-02)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 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
<b>Chloride</b>	<b>448</b>	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 74 4' (H246398-03)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	2320	16.0	10/21/2024	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 75 4' (H246398-04)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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\*=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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 76 4' (H246398-05)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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\*=Accredited Analyte

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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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 21 5' (H246398-06)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	193	96.5	200	0.960	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	189	94.6	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 23 0-4' (H246398-07)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	236	118	200	10.9	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	241	120	200	16.7	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 105 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 24 0-4' (H246398-08)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	236	118	200	10.9	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	241	120	200	16.7	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 109 % 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:	10/18/2024	Sampling Date:	10/18/2024
Reported:	10/22/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 26 0-4' (H246398-09)**

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	10/21/2024	ND	2.04	102	2.00	7.60	
Toluene*	<0.050	0.050	10/21/2024	ND	2.27	114	2.00	0.103	
Ethylbenzene*	<0.050	0.050	10/21/2024	ND	2.40	120	2.00	2.67	
Total Xylenes*	<0.150	0.150	10/21/2024	ND	7.15	119	6.00	3.38	
Total BTEX	<0.300	0.300	10/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KV					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>448</b>	16.0	10/22/2024	ND	416	104	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	10/21/2024	ND	236	118	200	10.9	
DRO >C10-C28*	<10.0	10.0	10/21/2024	ND	241	120	200	16.7	
EXT DRO >C28-C36	<10.0	10.0	10/21/2024	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

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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.
- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1-1

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Colton Brown  
 Address: 3104 E Green st  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:   
 PRESERV:  ICE / COOL

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
A246398	FS72	4'	C	1			X					10/18/24	1057	Chloride
	FS73												1058	BTEX
	FS74												1400	TPH
	FS75												1405	
	FS76	4'											1324	
	FS21	5'											1430	
	SW23	0-4'											1435	
	SW24												1155	
	SW26													

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Relinquished By: *[Signature]* Date: 10/18/24  
 Received By: *[Signature]* Date: 10/18/24  
 Relinquished By: *[Signature]* Date: 10/18/24  
 Received By: *[Signature]* Date: 10/18/24

Delivered By: (Circle One)  UPS  Bus  Other:   
 Observed Temp. °C: 5.8  
 Corrected Temp. °C: 4.6  
 Sample Condition:  Intact  Cool  Yes  No  
 CHECKED BY: *[Signature]*  
 Turnaround Time:  Standard  Rush  
 Thermometer ID #13 #140  
 Correction Factor: 0.3C  
 Bacteria (only)  Sample Condition  Cool  Intact  Yes  No  
 Incident Number: NAPP2327751376  
 Cost center: 1140131001  
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: *[Email]*  
 Remarks: *[Text]*



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

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October 24, 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 10/22/24 13:49.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/22/2024	Sampling Date:	10/21/2024
Reported:	10/24/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 21 0.4' (H246435-01)**

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	10/22/2024	ND	1.89	94.6	2.00	8.23	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	101	2.00	9.70	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.07	104	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.21	103	6.00	11.4	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	<b>320</b>	16.0	10/23/2024	ND	448	112	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*	<20.0	20.0	10/22/2024	ND	203	102	200	3.86	R-07
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	201	101	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.9 % 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:	10/22/2024	Sampling Date:	10/22/2024
Reported:	10/24/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 25 0.4' (H246435-02)**

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	10/22/2024	ND	1.89	94.6	2.00	8.23	
Toluene*	<0.050	0.050	10/22/2024	ND	2.03	101	2.00	9.70	
Ethylbenzene*	<0.050	0.050	10/22/2024	ND	2.07	104	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/22/2024	ND	6.21	103	6.00	11.4	
Total BTEX	<0.300	0.300	10/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	240	16.0	10/23/2024	ND	448	112	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*	<20.0	20.0	10/22/2024	ND	203	102	200	3.86	R-07
DRO >C10-C28*	<10.0	10.0	10/22/2024	ND	201	101	200	4.46	
EXT DRO >C28-C36	<10.0	10.0	10/22/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 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

Notes and Definitions

- S-05 The surrogate recovery is outside of lab established statistical control limits but still within method limits. Data is not adversely affected.
R-07 The Reporting Limit for this analyte has been raised to account for target analyte concentration in the solvent.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Belli  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #: Project Owner:  
 Project #: 03C1558279 Project Owner:  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana

BILL TO				ANALYSIS REQUEST			
P.O. #:	Company:	XTO Energy					
Attn: Colton Brown	Address:	3104 E Green st					
City: Carlsbad	State:	NM	Zip:	88220			
Phone #:	Fax #:						

Lab I.D.	Sample I.D.	Depth (feet)	PRESERV.		SAMPLING		DATE	TIME	ANALYSIS
			ACID/BASE:	ICE / COOL	OTHER :	DATE			
H246485	SW21	0~4'	X	X			10/21/24	1127	Chloride
	SW25	0~4'	X	X			10/22/24	1121	BTEX
			X	X					TPH

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Relinquished By: [Signature] Received By: [Signature]  
 Date: 10/22/24  
 Time: 13:09  
 Relinquished By: [Signature] Received By: [Signature]  
 Date: [Signature]  
 Time: [Signature]

Delivered By: (Circle One) Observed Temp. °C: 48.0  
 Corrected Temp. °C: 4.8  
 Sampler - UPS - Bus - Other: Sample Condition: Cool Intact [X] Yes [ ] No  
 Checked By: (Initials) [Signature]  
 Turnaround Time: Standard [X] Rush [ ]  
 Thermometer ID #1133 #140  
 Corrected Factor: -0.5°C -0.16°C  
 Bacteria (only) Sample Condition: Cool Intact [X] Yes [ ] No  
 Corrected Temp. °C: [ ]



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

---

October 28, 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 10/24/24 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/24/2024	Sampling Date:	10/23/2024
Reported:	10/28/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 19 0-4' (H246487-01)**

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	10/25/2024	ND	2.17	109	2.00	8.20	
Toluene*	<0.050	0.050	10/25/2024	ND	2.14	107	2.00	8.84	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.19	110	2.00	9.04	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	6.53	109	6.00	9.31	
Total BTEX	<0.300	0.300	10/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 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	96.0	16.0	10/25/2024	ND	416	104	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	10/25/2024	ND	204	102	200	7.01	
DRO >C10-C28*	<10.0	10.0	10/25/2024	ND	195	97.5	200	5.44	
EXT DRO >C28-C36	<10.0	10.0	10/25/2024	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 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:	10/24/2024	Sampling Date:	10/23/2024
Reported:	10/28/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 20 0-4' (H246487-02)**

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	10/25/2024	ND	2.17	109	2.00	8.20	
Toluene*	<0.050	0.050	10/25/2024	ND	2.14	107	2.00	8.84	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.19	110	2.00	9.04	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	6.53	109	6.00	9.31	
Total BTEX	<0.300	0.300	10/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	48.0	16.0	10/25/2024	ND	416	104	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	10/25/2024	ND	204	102	200	7.01	
DRO >C10-C28*	<10.0	10.0	10/25/2024	ND	195	97.5	200	5.44	
EXT DRO >C28-C36	<10.0	10.0	10/25/2024	ND					

Surrogate: 1-Chlorooctane 88.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- 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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Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Colton Brown  
 Address: 3104 E Green st  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
H246487	5W19	0-4'	C	1	X	X	X	X	X	X	X	10/23/24	1455	Chloride
	5W20	0-4'	C	1	X	X	X	X	X	X	X	1330	1330	BTEX
														TPH

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Relinquished By: *[Signature]* Date: 12-24-24 Received By: *[Signature]* Date: 12-24-24  
 Relinquished By: *[Signature]* Date: 12-24-24 Received By: *[Signature]* Date: 12-24-24

Delivered By: (Circle One) Observed Temp. °C: -07 Corrected Temp. °C: -1.3 Sample Condition: Cool Intact  Yes  No  
 Sampler - UPS - Bus - Other:  UPS  Bus  Other

Turnaround Time: Standard  Rush  Bacteria (only)  Yes  No  
 Thermometer ID: 4878 #1400 Correction Factor: 0.00°C  Yes  No  
 Incident Number: nAPP2327751376

Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address:   
 Usantillana@ensolum.com kthomason@ensolum.com  
 Bbellill@ensolum.com tmorrissey@ensolum.com  
 REMARKS: Cost center: 1140131001

FORM 5000 R 3.2 (10/07/21)

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



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

---

October 29, 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 10/25/24 12:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/25/2024	Sampling Date:	10/24/2024
Reported:	10/29/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 04 0-4' (H246513-01)**

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	10/25/2024	ND	2.26	113	2.00	9.24	
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05	
Total BTEX	<0.300	0.300	10/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	176	16.0	10/28/2024	ND	400	100	400	7.69	

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	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.8 % 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: 10/25/2024  
 Reported: 10/29/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 06 0-4' (H246513-02)**

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	10/25/2024	ND	2.26	113	2.00	9.24	
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05	
Total BTEX	<0.300	0.300	10/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	192	16.0	10/28/2024	ND	400	100	400	7.69	

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	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 49.1-148

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\*=Accredited Analyte

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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:	10/25/2024	Sampling Date:	10/24/2024
Reported:	10/29/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 15 0-4' (H246513-03)**

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	10/25/2024	ND	2.26	113	2.00	9.24	
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05	
Total BTEX	<0.300	0.300	10/25/2024	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	224	16.0	10/28/2024	ND	400	100	400	7.69	

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	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 98.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 49.1-148

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\*=Accredited Analyte

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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: 10/25/2024  
 Reported: 10/29/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/24/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 17 0-4' (H246513-04)**

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	10/25/2024	ND	2.26	113	2.00	9.24	
Toluene*	<0.050	0.050	10/25/2024	ND	2.26	113	2.00	7.57	
Ethylbenzene*	<0.050	0.050	10/25/2024	ND	2.29	114	2.00	8.22	
Total Xylenes*	<0.150	0.150	10/25/2024	ND	7.08	118	6.00	7.05	
Total BTEX	<0.300	0.300	10/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	368	16.0	10/28/2024	ND	400	100	400	7.69	

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	10/26/2024	ND	203	102	200	2.53	
DRO >C10-C28*	<10.0	10.0	10/26/2024	ND	182	90.9	200	3.24	
EXT DRO >C28-C36	<10.0	10.0	10/26/2024	ND					

Surrogate: 1-Chlorooctane 107 % 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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Notes and Definitions

- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 9898540852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Urrel Santillana  
 P.O. #:   
 Company: XTO Energy  
 Attn: Colton Brown  
 Address: 3104 E Green st  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
HA4US13	SW04	0-4'	C	1			X					10/24/24	1415	Chloride
	SW06						X						1257	BTEX
	SW15						X						1050	TPH
	SW17						X						1020	

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Relinquished By: *U.S. Brown* Date: 10/25/24  
 Received By: *U.S. Brown* Date: 0900  
 Relinquished By: *U.S. Brown* Date: 10/25/24  
 Received By: *U.S. Brown* Date: 0900  
 Delivered By: (Circle One) Observed Temp. °C: *8.0* Sample Condition:  Intact  
 Corrected Temp. °C: *8.0* Cool  Intact  Yes  No  
 Sampler - UPS - Bus - Other:  UPS  Bus  Other

Turnaround Time: *48hr* Standard  Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  
 Thermometer ID: *1149* Corrected Temp. °C: *8.0* Observed Temp. °C: *8.0* Corrected Temp. °C: *8.0*

Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: *usanantillana@ensolum.com* *kthomason@ensolum.com*  
*usantillana@ensolum.com* *tmorrissey@ensolum.com*  
 REMARKS: Cost center: 1140131001  
 Incident Number: NAPP2327751376  
 † Cardinal cannot accept verbal changes. Please email changes to *celey.keene@cardinallabsnm.com*



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November 01, 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 10/30/24 10:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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".

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:	10/30/2024	Sampling Date:	10/29/2024
Reported:	11/01/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW 09 (H246604-01)**

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	11/01/2024	ND	2.11	105	2.00	9.14	
Toluene*	<0.050	0.050	11/01/2024	ND	2.03	101	2.00	8.09	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.04	102	2.00	7.23	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.06	101	6.00	7.61	
Total BTEX	<0.300	0.300	11/01/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	336	16.0	11/01/2024	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	10/31/2024	ND	209	104	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	192	96.2	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.3 % 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: 10/30/2024  
 Reported: 11/01/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/29/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 10 (H246604-02)**

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	11/01/2024	ND	2.11	105	2.00	9.14	
Toluene*	<0.050	0.050	11/01/2024	ND	2.03	101	2.00	8.09	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.04	102	2.00	7.23	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.06	101	6.00	7.61	
Total BTEX	<0.300	0.300	11/01/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 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	48.0	16.0	11/01/2024	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	10/31/2024	ND	209	104	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	192	96.2	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 85.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.4 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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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: 10/30/2024  
 Reported: 11/01/2024  
 Project Name: PLU BIG SINKS 3-25-30  
 Project Number: 03C1558279  
 Project Location: XTO 32.15314,-103.86766

Sampling Date: 10/29/2024  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 11 (H246604-03)**

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	11/01/2024	ND	2.11	105	2.00	9.14	
Toluene*	<0.050	0.050	11/01/2024	ND	2.03	101	2.00	8.09	
Ethylbenzene*	<0.050	0.050	11/01/2024	ND	2.04	102	2.00	7.23	
Total Xylenes*	<0.150	0.150	11/01/2024	ND	6.06	101	6.00	7.61	
Total BTEX	<0.300	0.300	11/01/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	48.0	16.0	11/01/2024	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	10/31/2024	ND	209	104	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/31/2024	ND	192	96.2	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	10/31/2024	ND					

Surrogate: 1-Chlorooctane 83.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- 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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\*=Accredited Analyte

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*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

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum  
 Project manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM ZIP: 88220  
 Phone #: 9898540852  
 Project #: 03C1558279  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.86766  
 Sampler Name: Uriel Santillana  
 Lab I.D. [Blank]

P.O. #: [Blank]  
 Company: XTO Energy  
 Attn: Colton Brown  
 Address: 3104 E Greene St  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: [Blank] Fax #: [Blank]

Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	CHLORIDES	PH	BTEX
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :							
H246604		1								10/29/24	1130				
2		1									1325				
3		1									1330				

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Inquired By: [Signature] Date: 10/30/24 Received By: [Signature] Date: 10/30/24  
 Inquired By: [Signature] Date: 10/30/24 Received By: [Signature] Date: 10/30/24  
 Observed Temp. °C: 3.41 Corrected Temp. °C: 2.8  
 Sample Condition: Cool Intact  
 CHECKED BY: [Signature] (Initials) [Signature]  
 Remarks: Cost center: 1140131001 Incident ID: nAPP2327751376  
 Verbal Result: Yes No  
 Add'l Phone #: [Blank]



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

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November 18, 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 11/15/24 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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](http://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 "Mike Snyder".

Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 77 (H246995-01)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	4960	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.7 % 49.1-148

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\*=Accredited Analyte

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 78 (H246995-02)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	3680	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 81.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 79 (H246995-03)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	2960	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 84.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.8 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 80 (H246995-04)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	1470	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 83.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.3 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 81 (H246995-05)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	2960	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.6 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 82 (H246995-06)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	5760	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 81.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.3 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 83 (H246995-07)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	5760	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 84 (H246995-08)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	880	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.2 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 85 (H246995-09)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	3280	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 79.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.4 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 86 (H246995-10)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	1230	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 76.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.2 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/14/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: FS 87 (H246995-11)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	96.0	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 82.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.0 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW07 (H246995-12)**

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	11/15/2024	ND	2.22	111	2.00	2.34		
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32		
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61		
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11		
Total BTEX	<0.300	0.300	11/15/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.11		
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	196	97.8	200	1.98		
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND						

Surrogate: 1-Chlorooctane 80.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.3 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW08 (H246995-13)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	80.0	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 95.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.2 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW27 (H246995-14)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	320	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 93.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.9 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW28 (H246995-15)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	80.0	16.0	11/18/2024	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 95.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.1 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW29 (H246995-16)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	11/18/2024	ND	432	108	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 96.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.2 % 49.1-148

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW30 (H246995-17)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/18/2024	ND	432	108	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.8 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For 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:	11/15/2024	Sampling Date:	11/15/2024
Reported:	11/18/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.15314,-103.86766		

**Sample ID: SW31 (H246995-18)**

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	11/15/2024	ND	2.22	111	2.00	2.34	
Toluene*	<0.050	0.050	11/15/2024	ND	2.31	116	2.00	3.32	
Ethylbenzene*	<0.050	0.050	11/15/2024	ND	2.24	112	2.00	3.61	
Total Xylenes*	<0.150	0.150	11/15/2024	ND	7.13	119	6.00	3.11	
Total BTEX	<0.300	0.300	11/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	11/18/2024	ND	432	108	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	11/16/2024	ND	212	106	200	2.56	
DRO >C10-C28*	<10.0	10.0	11/16/2024	ND	204	102	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	11/16/2024	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- 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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Mike Snyder For 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

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum  
 Project manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM ZIP: 88220  
 Phone #: 989-854-0852  
 Project #: 03C1558279  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314,-103.86766  
 Sampler Name: Uriel Santillana  
 FOR LAB USE ONLY  
 Lab I.D.

P.O. #: \_\_\_\_\_  
 Company: XTO Energy  
 Attn: Colton Brown  
 Address: 3104 E Greene st.  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

Sample I.D.	F577	F578	F579	F580	F581	F582	F583	F584	F585	F586	DATE	TIME	MATRIX			PRESERV.		SAMPLING	
													GROUNDWATER	WASTEWATER	SOIL	ICE / COOL	OTHER :	DATE	TIME
1											11/14/24	1257	X	X	X				
2												1305	X	X	X				
3												1255	X	X	X				
4												1307	X	X	X				
5												1301	X	X	X				
6												1304	X	X	X				
7												1259	X	X	X				
8												1125	X	X	X				
9												1120	X	X	X				
10												1115	X	X	X				

DATE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [Signature] Date: 11/15/24 Time: 1535  
 Received By: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Observed Temp. °C: 10.0 Corrected Temp. °C: 1.25  
 Sample Condition: Cool  Intact   
 Checked By: [Signature]  
 Turnaround Time: Rush 24hr Standard  Backfill (only) Sample Condition   
 Thermometer ID #140 Correction Factor 0.00 Cool  Intact  Observed Temp. °C \_\_\_\_\_  
 Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 REMARKS: Cost center: 1140131001 Incident ID: nAPP2327751376





## APPENDIX C

### March 18, 2024 Remediation Work Plan

---



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.

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

## 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.

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

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

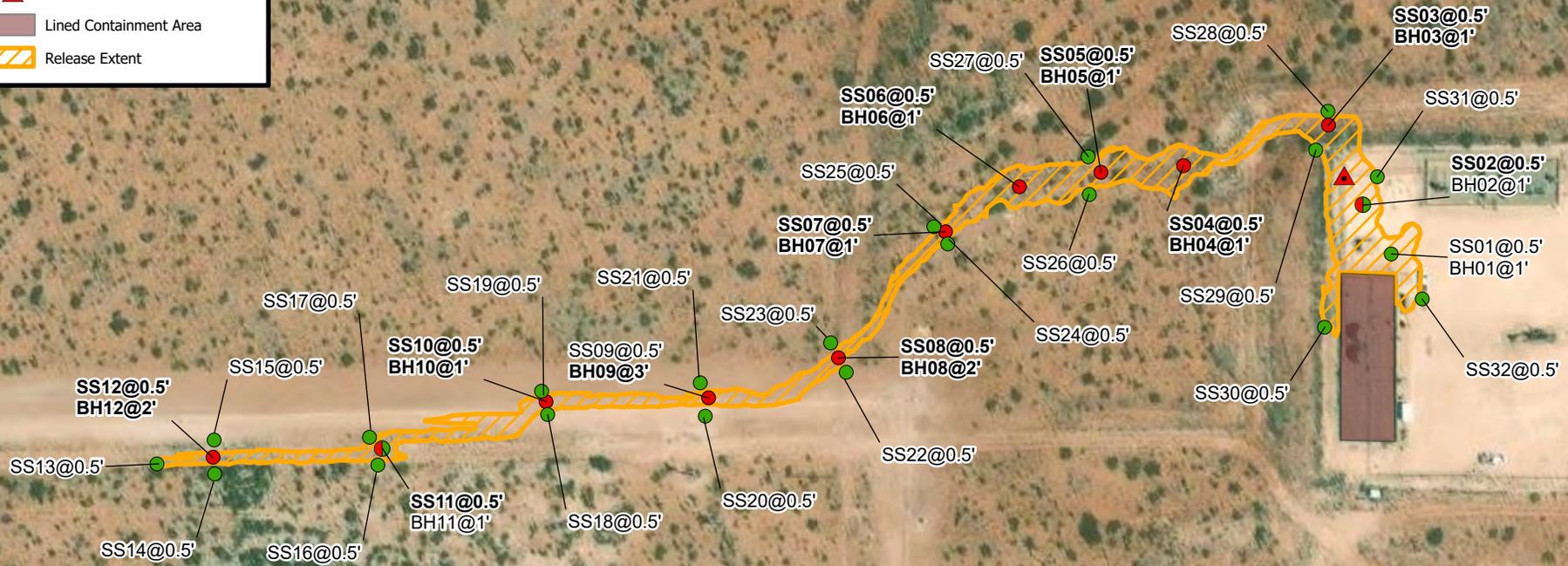


FIGURES

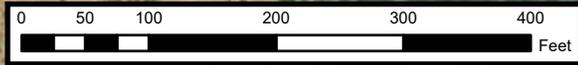


**Legend**

- 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

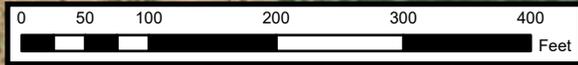
**FIGURE**  
**2**

**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

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**  
**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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Delineation Soil Samples</b>										
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	<b>29,600</b>
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	<b>16,100</b>
BH03	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>3,600</b>
SS04	10/13/2023	0.5	<0.00198	<0.00396	<50.1	<50.1	<50.1	<50.1	<50.1	<b>7,430</b>
BH04	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,960</b>
SS05	10/13/2023	0.5	<0.00201	<0.00402	<49.5	<49.5	<49.5	<49.5	<49.5	<b>11,800</b>
BH05	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,720</b>
SS06	10/13/2023	0.5	<0.00200	<0.00401	<49.7	<49.7	<49.7	<49.7	<49.7	<b>8,440</b>
BH06	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,680</b>
SS07	10/13/2023	0.5	<0.00200	<0.00399	<50.3	<50.3	<50.3	<50.3	<50.3	<b>19,600</b>
BH07	03/11/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>4,160</b>
SS08	10/13/2023	0.5	<0.00198	<0.00396	<50.4	<50.4	<50.4	<50.4	<50.4	<b>26,800</b>
BH08	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,880</b>
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	<b>5,360</b>
SS10	10/13/2023	0.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	<b>5,250</b>
BH10	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>4,720</b>
SS11	10/13/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	<b>1,430</b>
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	<b>5,260</b>
BH12	03/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,200</b>
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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
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

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					Sample Name: C-04757 (BH01)		Date: 8/2/2023					
					Site Name: PLU CVX JV BS #016H				Incident Number: NAB1519556419			
					Job Number: 03C1558238				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						
						120	SP-SM	115' SAND with silt, red, medium to fine grained, poorly sorted.				
						TD		Total Depth @ 119' bgs.				



APPENDIX B

Photographic Log

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**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



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

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



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

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



## APPENDIX C

### Lithologic Soil Sampling Logs

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							Sample Name: BH01		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153193, -103.867498							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				

							Sample Name: BH02		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							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				

							Sample Name: BH03		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153513, -103.867678							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				

							Sample Name: BH04		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153513, -103.867678							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				

							Sample Name: BH05		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153403, -103.868342							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				

							Sample Name: BH06		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153369, -103.868580							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				

							Sample Name: BH07		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.153260, -103.868796							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				

							Sample Name: BH08		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.152950, -103.869111							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				

							Sample Name: BH09		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.152855, -103.869491							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		
D	498.2	153.2	N	SS09	0.5	0	SW	0-3', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.		
D	2,901	0	N		1	1				
D	5,365	0	N		2	2				
D	6,356	0	N	BH09	3	3				
							TD	Auger Refusal @ 3' bgs.		
						4				
						5				
						6				
						7				
						8				
						9				
						10				
						11				
						12				

							Sample Name: BH10		Date: 3/11/2024					
							Site Name: PLU Big Sinks 3-25-30				Incident Number: NAPP2327751376			
							Job Number: 03C1558279				Logged By: M. O'Dell		Method: Hand Auger	
							Coordinates: 32.152850, -103.869964				Hole Diameter: 4"		Total Depth: 2'	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>														
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								

							Sample Name: BH11		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.152738, -103.870442							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				

							Sample Name: BH12		Date: 3/11/2024	
							Site Name: PLU Big Sinks 3-25-30			
							Incident Number: NAPP2327751376			
							Job Number: 03C1558279			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>							Logged By: M. O'Dell		Method: Hand Auger	
Coordinates: 32.152721, -103.870936							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	8,164	334	N	SS12	0.5	0	SP	0-2', SAND, brown, very fine to fine grained, poorly graded, dry, no odor.		
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

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

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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](http://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.

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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

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

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) 93.8 % 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

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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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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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\*=Accredited Analyte

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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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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



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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500CI-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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

1 of 2

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Belli  
 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  
 P.O. #: Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 Fa Brenest.  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.			
H341334	BH1101	1'	G	5		X						3/11/24	12:40	Chlorides
	BH1202	2'	X			X						3/11/24	13:15	TPH
														BTEX

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Relinquished By: *M. O'Dell* Date: 3/11/24  
 Received By: *M. O'Dell* Date: 3-12-24  
 Time: 20:39  
 Observed Temp. °C: 4.1  
 Corrected Temp. °C: 4.1  
 Sample Condition: Cool Intact Yes [X] No [ ]  
 CHECKED BY: *M. O'Dell*  
 Turnaround Time: 24 hrs Standard [X] Rush [ ]  
 Thermometer ID: #140  
 Correction Factor: 3/12/24  
 Bacteria (only) Sample Condition: Cool Intact Yes [X] No [ ]  
 Observed Temp. °C: Corrected Temp. °C:  
 Verbal Result:  Yes  No Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 bbelli@ensolum.com, model1@ensolum.com  
 REMARKS: Incident #: NAPP23277513710  
 Cost center: 1140131001

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinalabsnm.com



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

BILL TO

ANALYSIS REQUEST

Company Name: ENSOLUM, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 989-854-0852 Fax #:   
 Project #: 03C1558279 Project Owner:   
 Project Name: PLY BLD SINKS 3-25-30  
 Project Location: 32.15314, -103.80716  
 Sampler Name: M. D'IDEL  
 P.O. #:   
 Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E. Greenleaf  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	SAMPLING	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :				
12	BH10 @ 2'		1							12:30		Chlorides	
11	BH09 @ 3'		1							11:45		TPH	
10	BH08 @ 2'		1							11:25		BTEX	
9	BH07 @ 1'		1							11:05			
8	BH06 @ 1'		1							10:35			
7	BH05 @ 1'		1							10:15			
6	BH04 @ 1'		1							10:06			
5	BH03 @ 1'		1							9:45			
4	BH02 @ 1'		1							9:25			
3	BH01 @ 1'		1							9:15			

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Relinquished By: *[Signature]* Date: 3/11/24 Time: 20:39  
 Received By: *[Signature]* Date: 3/12/24 Time: 14:05

Delivered By: (Circle One) Observed Temp. °C: *[Signature]* Corrected Temp. °C: *[Signature]*  
 Sampler - UPS - Bus - Other:  UPS  Bus  Other

Sample Condition:  Intact  Broken  
 Checked By: *[Signature]* (Initials) *[Signature]*

Turnaround Time: 24 hrs Standard  Rush   
 Thermometer ID: #44-#150 Correction Factor: #3-#32/24  
 Bacteria (only)  Cool Intact  Yes  No  Sample Condition Observed Temp. °C Corrected Temp. °C  
 Remarks: Incident #: NAPP2327151376  
 Cost Center: 1140131001  
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: bbellill@ensolum.com  
 Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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---

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](http://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".

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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500Cl-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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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



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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, SM4500Cl-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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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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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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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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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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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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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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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



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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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



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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 95.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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



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**Analytical Results For:**

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

Received:	03/12/2024	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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, 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 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	Sampling Date:	03/11/2024
Reported:	03/13/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 3-25-30	Sampling Condition:	Cool & Intact
Project Number:	03C1558279	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.15314,-103.86766		

**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

Cardinal Laboratories

\*=Accredited Analyte

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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

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

1 of 2

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Ben Bellill  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 989-854-0852 Fax #: 88220  
 Project #: 03C1558279 Project Owner:  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314 -103.81076  
 Sampler Name: M. O'Dell  
 P.O. #: Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E. Greene St  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
HBW1835	SS13	0.5'		6			X				X	11/24	13:30	X	X	X
	SS14			1								13:20	13:20	X	X	X
	SS15											13:25	13:25	X	X	X
	SS16											12:45	12:45	X	X	X
	SS17											12:50	12:50	X	X	X
	SS18											13:35	13:35	X	X	X
	SS19											13:40	13:40	X	X	X
	SS20											13:45	13:45	X	X	X
	SS21											13:50	13:50	X	X	X
	SS22											13:55	13:55	X	X	X

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Relinquished By: *M. O'Dell*  
 Date: 3/11/24  
 Time: 20:40  
 Received By: *M. O'Dell*  
 Date: 3/12/24  
 Time: 17:05

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  Other  
 Observed Temp. °C: 41.1  
 Corrected Temp. °C:   
 Sample Condition:  Intact  Cool  Yes  No  
 CHECKED BY: (Initials) *MO*  
 Turnaround Time: 24 hrs  
 Standard  Rush   
 Thermometer ID #449 #140  
 Correction Factor: 3-1224  
 Bacteria (only)  Sample Condition  Observed Temp. °C  Corrected Temp. °C

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



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: Ben Belli  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 989-854-0852 Fax #:  
 Project #: 03G1558279 Project Owner:  
 Project Name: PLU Big Sinks 3-25-30  
 Project Location: 32.15314, -103.80766  
 Sampler Name: M. O'Dell  
 P.O. #: Company: XTO Energy  
 Attn: Amy Ruth  
 Address: 3104 E. Greene St.  
 City: Carlsbad State: NM Zip: 88220  
 Phone #:  
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides	TPH	BTEX	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						ACID/BASE:
H241235	SS23	0.5'	G	1			X					3/11/24	14:00	X	X	X
	SS24											3/11/24	14:05	X	X	X
	SS25											3/11/24	14:10	X	X	X
	SS26											3/11/24	14:20	X	X	X
	SS27											3/11/24	14:25	X	X	X
	SS28											3/11/24	14:30	X	X	X
	SS29											3/11/24	14:35	X	X	X
	SS30											3/11/24	14:40	X	X	X
	SS31											3/11/24	14:50	X	X	X
	SS32											3/11/24	15:00	X	X	X

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Relinquished By: *[Signature]* Date: 3/11/24 Time: 20:40  
 Received By: *[Signature]* Date: 3-12-24 Time: 14:05  
 Remarks: Incident #: N APP 232716 1376  
 Cost center: 1140131001  
 Verbal Result:  Yes  No Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 bbelli@ensolum.com, modell@ensolum.com

Delivered By: (Circle One) Observed Temp. °C 41.1 Sample Condition:  Intact  Yes  No  
 Corrected Temp. °C  Yes  No  
 Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  
 Corrected Temp. °C

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ben Belill  
Ensolum

601 N. Marienfeld St.  
Suite 400

Midland, Texas 79701

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



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

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

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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.
α	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.

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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: 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
<b>Diesel Range Organics (Over C10-C28)</b>	<b>81.6</b>		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	1

**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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

Matrix: Solid

**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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

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		10/19/23 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
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
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
Oll Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		10/17/23 15:26	10/18/23 04:26	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
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

### 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
<b>Toluene</b>	<b>0.00357</b>		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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

Matrix: Solid

**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  
 Date Received: 10/13/23 15:53  
 Sample Depth: .05'

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 18:06	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
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
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
Oll Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		10/17/23 16:16	10/18/23 22:13	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
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

### Client Sample Results

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

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

**Client Sample ID: SS011**

**Lab Sample ID: 890-5458-11**

Date Collected: 10/13/23 12:25

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 18:26	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**

**Lab Sample ID: 890-5458-12**

Date Collected: 10/13/23 12:30

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 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**

**Lab Sample ID: 890-5458-12**

Date Collected: 10/13/23 12:30

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)	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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		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
LCS 880-64905/3-A	Lab Control Sample Dup	87	86
LCS 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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

### 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  
Matrix: Solid  
Analysis Batch: 65026

Client Sample ID: Method Blank  
Prep Type: Total/NA  
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  
Matrix: Solid  
Analysis Batch: 65026

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
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  
Matrix: Solid  
Analysis Batch: 65026

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 64991

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec 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  
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
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	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
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	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
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	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
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	LCS	Limits
	%Recovery	Qualifier	
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	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
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	LCSD	Limits
	%Recovery	Qualifier	
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	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
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

Surrogate	MS %Recovery	MS 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	MSD %Recovery	MSD 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	MB %Recovery	MB 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	LCS %Recovery	LCS 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**  
**Matrix: Solid**  
**Analysis Batch: 64848**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	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	
		<b>LCSD</b>	<b>LCSD</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
1-Chlorooctane	87		70 - 130							
o-Terphenyl	86		70 - 130							

**Lab Sample ID: 880-34522-A-3-D MS**  
**Matrix: Solid**  
**Analysis Batch: 64848**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 64905**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
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		
		<b>MS</b>	<b>MS</b>								
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1-Chlorooctane	127		70 - 130								
o-Terphenyl	96		70 - 130								

**Lab Sample ID: 880-34522-A-3-E MSD**  
**Matrix: Solid**  
**Analysis Batch: 64848**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 64905**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	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
		<b>MSD</b>	<b>MSD</b>								
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1-Chlorooctane	126		70 - 130								
o-Terphenyl	94		70 - 130								

**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**

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

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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: MB 880-64907/1-A**  
**Matrix: Solid**  
**Analysis Batch: 64930**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 64907**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
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**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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	LCS LCS		Limits
	%Recovery	Qualifier	
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**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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	LCSD LCSD		Limits
	%Recovery	Qualifier	
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**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	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	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	153	S1+	70 - 130
o-Terphenyl	111		70 - 130

### 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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	1010	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
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD</b>	<b>Limits</b>							
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 Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
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 Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	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**  
**Matrix: Solid**  
**Analysis Batch: 64999**

**Client Sample ID: SS011**  
**Prep Type: Soluble**

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**  
**Matrix: Solid**  
**Analysis Batch: 64999**

**Client Sample ID: SS011**  
**Prep Type: Soluble**

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

### 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**

**Lab Sample ID: 890-5458-1**

Date Collected: 10/13/23 12:05

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-2**

Date Collected: 10/13/23 12:10

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-3**

Date Collected: 10/13/23 10:45

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-4**

Date Collected: 10/13/23 10:50

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-4**

Date Collected: 10/13/23 10:50

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-5**

Date Collected: 10/13/23 10:55

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-6**

Date Collected: 10/13/23 11:00

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-7**

Date Collected: 10/13/23 11:05

Matrix: Solid

Date Received: 10/13/23 15:53

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

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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: SS07**

**Lab Sample ID: 890-5458-7**

Date Collected: 10/13/23 11:05

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-8**

Date Collected: 10/13/23 11:10

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-9**

Date Collected: 10/13/23 12:15

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-10**

Date Collected: 10/13/23 12:20

Matrix: Solid

Date Received: 10/13/23 15:53

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

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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: SS011**

**Lab Sample ID: 890-5458-11**

Date Collected: 10/13/23 12:25

Matrix: Solid

Date Received: 10/13/23 15:53

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**

**Lab Sample ID: 890-5458-12**

Date Collected: 10/13/23 12:30

Matrix: Solid

Date Received: 10/13/23 15:53

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

### 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'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300  
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334

Environment Testing

Xenoco

Work Order No.

www.xenoco.com

Page 2 of 2

Project Manager: Ben Belli  
 Company Name: ENSOLUN  
 Address: 3122 National Parks Hwy  
 City, State ZIP: Carlsbad, NM, 88220  
 Phone: 969-854-0852  
 Email: bbelli@ensolun.com

Bill to: (if different)  
 Company Name: Garrett Green  
 Address: XTO Energy  
 City, State ZIP: Carlsbad, NM, 88220  
 Email: bbelli@ensolun.com

Work Order Comments

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

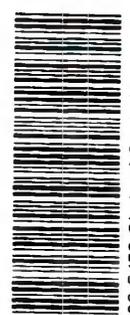
Project Name: PLU Bigs nbs 3-25-30  
 Project Number: 03C1558279  
 Project Location: 321531, 103, 96766  
 Sampler's Name: Sarah Welvang  
 PO #:   
 Turn Around:  Routine  Rush  
 Due Date:   
 TAT starts the day received by the lab, if received by 4:30pm

SAMPLE RECEIPT  
 Samples Received Intact: Yes  No   
 Cooler Custody Seals: Yes  No   
 Sample Custody Seals: Yes  No   
 Total Containers:   
 Temp Blank: Yes  No   
 Thermometer ID:   
 Correction Factor:   
 Temperature Reading:   
 Corrected Temperature:   
 Wet Ice: Yes  No

ANALYSIS REQUEST

Preservative Codes

None: NO  DI Water: H<sub>2</sub>O   
 ool  MeOH: Me   
 C  HNO<sub>3</sub>: HN   
 H<sub>2</sub>  NaOH: Na   
 :HP   
 ) 4: NABIS   
 ,O<sub>3</sub>: NaSO<sub>3</sub>   
 Zn Acetate+NaOH: Zn   
 NaOH+Ascorbic Acid: SACP



890-5458 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters
S501	S	10/13/20	12:05	0.5'	G	1	TOT
S502			12:10				
S503			10:45				
S504			10:50				
S505			10:55				
S506			11:00				
S507			11:05				
S508			11:10				
S509			11:15				
S510			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<sub>2</sub> 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 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 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.

Relinquished by: (Signature) *[Signature]* Date/Time 10/13/20 15:52  
 Received by: (Signature) *[Signature]* Date/Time

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) 365-3445, Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

## Environment Testing



Work Order No. \_\_\_\_\_

www.xenco.com Page 2 of 2

Project Manager:	Ben Belli	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parkblw	Address:	3104 E Greenest
City, State ZIP:	Carlsbad, NM, 88220	City, State ZIP:	Carlsbad, NM, 88220
Phone:	949-854-0882	Email:	B.Belli@ensolum.com

Project Name:	PLV Big Sinks 3-25-20	Turn Around	
Project Number:	031558299	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	
Project Location:	3215 514, -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		Pres. Code	ANALYSIS REQUEST	Preservative Codes
							Yes	No			
SS 11	S	10/13/23	12:25	0.5	G	2				None: NO Cool: Cool HCL: HC H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SACP	
SS 12	S		12:30								

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<sub>2</sub> 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 Tl U Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	10/13/23

Relinquished by: (Signature) \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_ Date/Time \_\_\_\_\_



### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5458-1

SDG Number: 03C1558279

Login Number: 5458

List Source: Eurofins Carlsbad

List Number: 1

Creator: Bruns, Shannon

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	

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### 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	

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

QUESTIONS

Action 415064

**QUESTIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2327751376
Incident Name	NAPP2327751376 PLU BIG SINKS 3-25-30 @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received

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

<b>Incident Details</b>	
<i>Please answer all the questions in this group.</i>	
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

<b>Nature and Volume of Release</b>	
<i>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.</i>	
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.

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QUESTIONS, Page 2

Action 415064

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>Yes</b>
Reasons why this would be considered a submission for a notification of a major release	<b>From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.</b>

*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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/26/2024
--	--

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QUESTIONS, Page 3

Action 415064

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

**Site Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	OCD Imaging Records Lookup
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
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
<i>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.</i>	
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	33575
What is the estimated volume (in cubic yards) that will be reclaimed	4974
What is the estimated surface area (in square feet) that will be remediated	34575
What is the estimated volume (in cubic yards) that will be remediated	5122

*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 415064

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

**Remediation Plan (continued)**

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

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

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	OWL LANDFILL JAL [JEG1635837366]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/26/2024
--	--

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

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QUESTIONS, Page 5

Action 415064

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Deferral Requests Only</b>	
<i>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.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 415064

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	<b>400299</b>
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	<b>11/15/2024</b>
What was the (estimated) number of samples that were to be gathered	<b>40</b>
What was the sampling surface area in square feet	<b>16000</b>

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	34575
What was the total volume (cubic yards) remediated	5122
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	33575
What was the total volume (in cubic yards) reclaimed	4974
Summarize any additional remediation activities not included by answers (above)	Site assessment and excavation activities were conducted at the Site to address the September 20, 2023, release of produced water. Laboratory analytical results for excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Based on laboratory analytical results, no further remediation is required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. Areas pending reclamation will be completed during pad abandonment or major facility reconstruction.

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 12/26/2024
--	--

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QUESTIONS, Page 7

Action 415064

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Reclamation Report</b>	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	No

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

CONDITIONS

Action 415064

**CONDITIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 415064
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**CONDITIONS**

Created By	Condition	Condition Date
scwells	None	12/27/2024