



November 26, 2024

New Mexico Oil Conservation Division

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

**Re: Closure Request
PLU 16 Twin Wells Ranch 102H
Incident Number NAPP2334249809
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 16 Twin Wells Ranch 102H (Site). The purpose of excavation and soil sampling activities, conducted in accordance with an approved Remediation Work Plan (*Work Plan*), was to address waste-containing soil 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 NAPP2334249809.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 21, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.20755°, -103.78839°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On November 26, 2023, equipment failure on a 2-inch drain line resulted in the release of 1,610 barrels (bbls) of produced water onto the surface of the pad and into the surrounding pasture and right-of-way (ROW) areas. A vacuum truck was dispatched to the Site to recover free standing fluids, approximately 1,300 bbls of fluids were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via Notification of Release (NOR) and Initial C-141 Application (C-141) on December 8, 2023. The release was assigned Incident Number NAPP2334249809.

Ensolum conducted Site assessment, delineation, and excavation activities and presented the results in a *Work Plan*. The *Work Plan* was submitted on May 22, 2024, and approved by the NMOCD on May 29, 2024. The *Work Plan* proposed excavation of waste-containing soil identified during delineation activities. The approved *Work Plan* proposed the following:

- Excavation of 63,083 square feet on pad and 18,461 square feet in the ROW and pasture;
- An estimated 12,000 cubic yards of soil would be excavated and properly disposed of at a New Mexico approved landfill disposal facility; and
- Soil sampling would be completed following the approved sampling variance of every 400 square feet along the floor and sidewalls of the excavation.

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Since the release flowed off pad, XTO submitted a Form 3160-5 (Sundry Form) to the BLM to request access to the pasture soils on May 20, 2024. XTO received an approved sundry, granting access to complete remediation, on May 21, 2024. The approved sundry is presented in Appendix A.

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: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC.

EXCAVATION AND SOIL SAMPLING ACTIVITIES

Beginning on July 17 2024, Ensolum personnel were onsite to excavate waste-containing soil according to the approved *Work Plan*. Excavation activities were performed by the 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 waste-containing soil was adequately removed, 5-point composite soil samples were collected every 400 square feet from the floor and sidewalls of the excavation extent, as approved in the *Work Plan*. 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 FS217 were collected from the floor of the excavation at depths ranging from 0.3 feet below ground surface (bgs) to 4 feet bgs. Confirmation soil samples SW01 through SW24 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 1. Photographic documentation of the excavation activities and final excavation extent is provided 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, for analysis of the following contaminants 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 Standards Method SM4500.

The final excavation extent measured approximately 82,950 square feet. A total of approximately 9,220 cubic yards of waste-containing soil were removed during the excavation activities. The waste-containing soil was transported and disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. The final excavation was fenced off pending backfill activities.

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LABORATORY ANALYTICAL RESULTS

Initial laboratory analytical results for excavation floor sample FS97 and sidewall soil samples SW11, SW13, and SW14 exceeded reclamation requirement for chloride concentrations. These sample locations were excavated further. Laboratory analytical results for all final excavation floor and sidewall samples indicated COC concentrations were compliant with the Site Closure Criteria. Excavation floor samples FS82 through FS89, FS98, FS135, FS138, FS139, FS184, FS185, FS187, FS198, FS199, FS214, and excavation sidewall samples SW12 and SW20 indicated all COC concentrations were in compliance with Site Closure Criteria but exceeded reclamation requirements for chloride concentrations. All samples were collected on pad and are delineated to the reclamation requirements by adjacent confirmation soil samples. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix C.

CLOSURE REQUEST

Excavation activities were conducted at the Site in accordance with the *Work Plan* to address the November 2023 release of produced water. The approved May 22, 2024, *Work Plan* is included in Appendix D. Laboratory analytical results for all final excavation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria. 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 will be recontoured to match pre-existing site conditions.

Excavation of soil has removed waste-containing soil from the area. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2334249809.

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
Project Engineer



Daniel R. Moir, PG (licensed in WY & TX)
Senior Managing Geologist

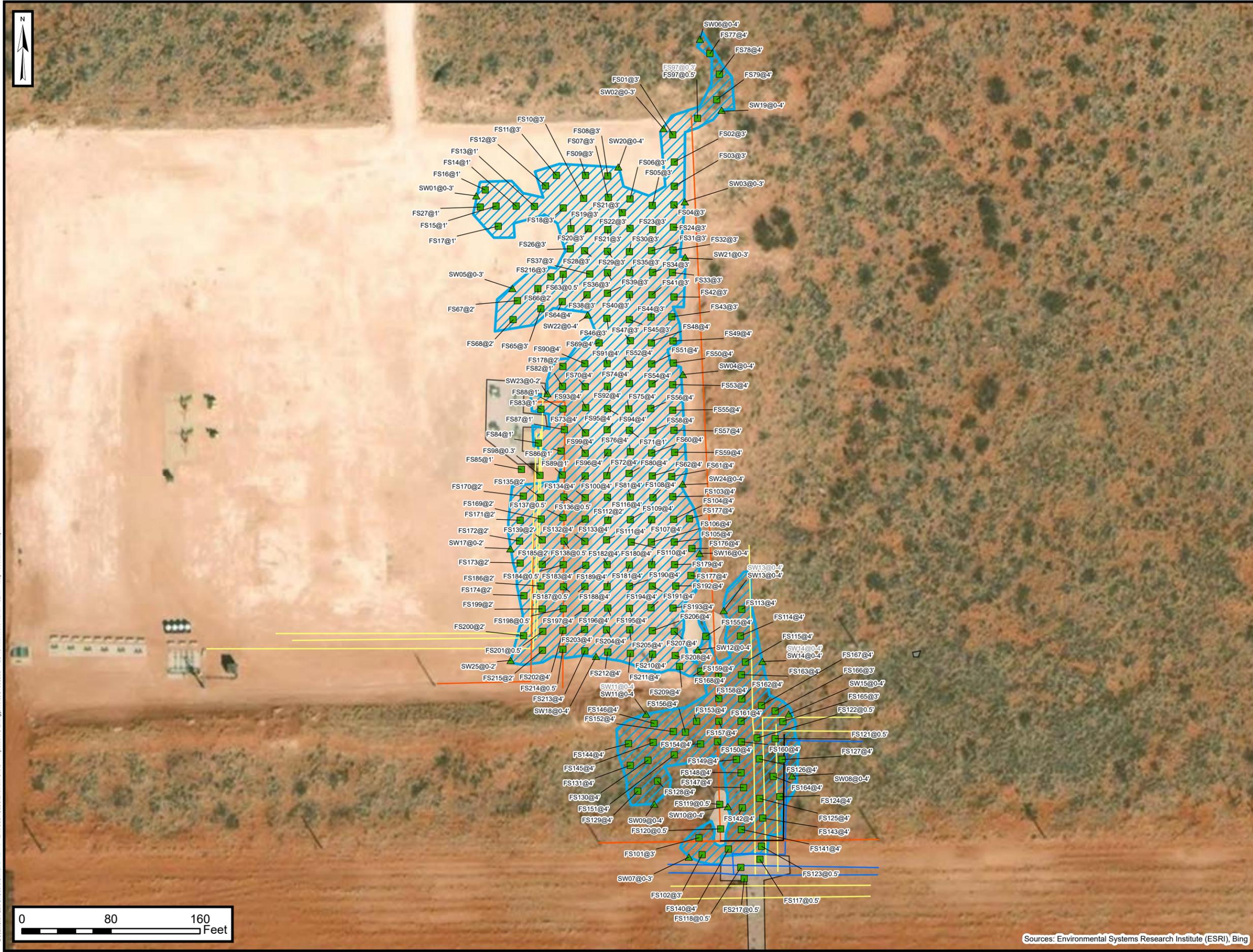
cc: Colton Brown, XTO
Kaylan Dirkx, XTO
BLM

Appendices:

- Figure 1 Excavation Soil Sample Locations
- Table 1 Soil Sample Analytical Results
- Appendix A Land Access Reference
- Appendix B Photographic Log
- Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix D May 22, 2024, *Remediation Work Plan*



FIGURES



Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Electric Utility Line
- Oil and Gas Utility Line
- Surface Line
- Water Utility Line
- ▨ Excavation Extent
- Utility Infrastructure
- Production Equipment

Excavation Soil Sample Locations
 XTO Energy, Inc
 PLU 16 Twin Wells Ranch 102H
 Incident Number: nAPP2334249809
 Unit D, Sec 21, Township 24S, Range 31E
 Eddy County, New Mexico

FIGURE 1



Sources: Environmental Systems Research Institute (ESRI), Bing



TABLES



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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)
NMOCB Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
PH01	12/06/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	2,930
PH01A	12/06/2023	4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	2,800
PH01B	12/06/2023	8	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	82.6
PH02	12/06/2023	0.5	<0.00200	<0.00399	<50.3	<50.3	<50.3	<50.3	<50.3	4,380
PH02A	12/06/2023	3	<0.00200	<0.00401	<50.3	<50.3	<50.3	<50.3	<50.3	867
PH02B	12/06/2023	4	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	3,030
PH02C	12/06/2023	8	<0.00198	<0.00396	<50.4	<50.4	<50.4	<50.4	<50.4	94.5
PH03	12/06/2023	0.5	<0.00200	<0.00401	<50.1	<50.1	<50.1	<50.1	<50.1	3,490
PH03A	12/06/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	702
PH03B	12/06/2023	8	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	22.9
PH04	12/06/2023	0.5	<0.00199	<0.00398	<50.4	55.9	<50.4	55.9	55.9	5,260
PH04A	12/06/2023	4	<0.00200	<0.00401	<49.6	<49.6	<49.6	<49.6	<49.6	1,610
PH04B	12/06/2023	6	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	3,180
PH04C	12/06/2023	8	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	80.1
PH05	12/06/2023	0.5	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	3,510
PH05A	12/06/2023	2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	1,030
PH05B	12/06/2023	4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	108
PH06	12/06/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	4,110
PH06A	12/06/2023	2	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	1,210
PH06B	12/06/2023	4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	44.5
PH07	12/06/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	4,220
PH07A	12/06/2023	2	<0.00199	<0.00398	<50.2	<50.2	<50.2	<50.2	<50.2	4,590
PH07B	12/06/2023	4	<0.00198	<0.00397	<50.4	<50.4	<50.4	<50.4	<50.4	70.6
PH08	12/06/2023	0.5	<0.00198	<0.00397	<50.5	<50.5	<50.5	<50.5	<50.5	1,970
PH08A	12/06/2023	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	235
PH09	12/07/2023	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	2,620
PH09A	12/07/2023	2	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	213
PH09B	12/07/2023	3	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	27.9
PH10	12/07/2023	0.5	<0.00200	<0.00401	<50.1	<50.1	<50.1	<50.1	<50.1	1,540
PH10A	12/07/2023	4	<0.00200	<0.00400	<49.7	<49.7	<49.7	<49.7	<49.7	42.3
PH11	12/07/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	844



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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
PH11A	12/07/2023	2	<0.00198	<0.00396	<49.6	<49.6	<49.6	<49.6	<49.6	50.9
PH12	12/07/2023	0.5	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	1,530
PH12A	12/07/2023	4	<0.00200	<0.00401	<50.3	<50.3	<50.3	<50.3	<50.3	84.0
PH13	12/07/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	219
PH13A	12/07/2023	3	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	229
PH13B	12/07/2023	4	<0.00202	<0.00404	<50.5	<50.5	<50.5	<50.5	<50.5	37.7
PH14	12/07/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	3,100
PH14A	12/07/2023	3	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	58.0
PH15	12/07/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	478
PH15A	12/07/2023	2	<0.00199	<0.00398	<50.2	<50.2	<50.2	<50.2	<50.2	42.1
PH16	12/07/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	5,700
PH16A	12/07/2023	4	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	7,950
PH16B	12/07/2023	8	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	62.3
Confirmation Soil Samples										
FS01	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS02	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS03	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS04	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS05	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS06	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS07	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS08	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS09	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS10	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS11	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS12	07/19/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS13	07/19/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS14	07/19/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS15	07/19/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS16	07/19/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS17	07/19/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS18	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0



**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
FS19	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS20	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS21	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS22	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS23	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS24	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS25	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS26	07/23/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS27	07/23/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS28	07/24/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS29	07/24/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS30	07/24/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS31	07/24/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS32	07/24/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS33	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS34	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS35	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS36	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS37	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS38	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS39	07/25/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS40	07/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS41	07/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	528
FS42	07/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS43	07/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS44	07/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS45	07/29/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS46	07/29/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS47	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS48	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
FS49	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,140
FS50	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624



**TABLE 1
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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)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
FS51	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS52	07/29/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
FS53	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	960
FS54	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	768
FS55	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,400
FS56	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS57	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,920
FS58	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
FS59	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
FS60	07/30/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432
FS61	08/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,640
FS62	08/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	688
FS63	07/31/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS64	08/01/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS65	08/02/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432
FS66	08/01/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS67	08/01/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS68	08/01/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS69	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS70	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS71	08/13/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS72	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
FS73	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	528
FS74	08/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS75	08/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS76	08/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS77	08/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,680
FS78	08/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,080
FS79	08/14/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,720
FS80	08/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS81	08/16/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS82	08/16/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,090



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
FS83	08/16/2024	1	<0.050	<0.300	<10.0	61.9	30.4	61.9	92.3	816
FS84	08/16/2024	1	<0.050	<0.300	<10.0	53.6	<10.0	53.6	53.6	2,560
FS85	08/16/2024	1	<0.050	<0.300	<10.0	47.4	15.5	47.4	62.9	1,060
FS86	08/16/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,760
FS87	08/16/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,880
FS88	08/16/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,220
FS89	11/04/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,520
FS90	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS91	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS92	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS93	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS94	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	992
FS95	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS96	09/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
FS97	09/05/2024	0.3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	944
FS97	11/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS98	09/06/2024	0.3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,360
FS99	11/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS100	11/04/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS101	09/12/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS102	09/12/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS103	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
FS104	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,560
FS105	09/20/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,860
FS106	09/20/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	704
FS107	09/20/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,680
FS108	09/20/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,070
FS109	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	720
FS110	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FS111	10/07/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS112	09/24/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS113	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,600



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
FS114	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
FS115	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,400
FS116	09/24/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
FS117	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS118	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS119	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS120	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS121	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS122	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS123	09/25/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS124	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	672
FS125	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,020
FS126	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,260
FS127	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS128	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
FS129	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,260
FS130	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
FS131	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,020
FS132	10/07/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS133	10/07/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS134	09/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS135	10/04/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	640
FS136	10/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS137	10/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS138	10/04/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
FS139	10/04/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,200
FS140	09/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,230
FS141	09/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,120
FS142	09/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,730
FS143	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,360
FS144	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,580
FS145	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,040



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
FS146	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,760
FS147	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,120
FS148	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,700
FS149	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
FS150	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,700
FS151	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,080
FS152	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,400
FS153	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,280
FS154	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,900
FS155	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS156	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,320
FS157	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,160
FS158	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,200
FS159	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,560
FS160	10/02/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,680
FS161	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,000
FS162	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,400
FS163	10/01/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,280
FS164	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS165	10/03/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS166	10/03/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS167	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS168	10/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS169	10/03/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
FS170	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS171	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS172	10/07/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS173	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS174	10/08/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS175	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,360
FS176	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,400
FS177	10/08/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,080



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
FS178	10/10/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS179	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,680
FS180	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
FS181	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FS182	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	768
FS183	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS184	10/10/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,080
FS185	10/10/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	848
FS186	10/10/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
FS187	10/10/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	832
FS188	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS189	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,410
FS190	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,030
FS191	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,320
FS192	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,280
FS193	10/10/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,080
FS194	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,200
FS195	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,840
FS196	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,040
FS197	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,020
FS198	10/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,220
FS199	10/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	640
FS200	10/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS201	10/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
FS202	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,360
FS203	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,390
FS204	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304
FS205	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
FS206	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,480
FS207	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,900
FS208	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
FS209	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,620



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
FS210	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,800
FS211	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,160
FS212	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
FS213	10/11/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,840
FS214	10/11/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,540
FS215	10/11/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS216	11/04/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS217	11/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW01	07/19/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW02	07/26/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW03	07/26/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SW04	08/12/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW05	08/02/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SW06	08/16/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SW07	09/12/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SW08	09/23/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW09	09/26/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW10	10/03/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW11	11/05/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW12	10/03/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,920
SW13	11/06/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW14	11/05/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
SW15	10/03/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
SW16	10/07/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SW17	10/08/2024	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW18	10/08/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW19	11/06/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SW20	11/04/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	704
SW21	11/06/2024	0-3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
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
SW22	11/04/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW23	11/05/2024	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW24	11/06/2024	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW25	11/05/2024	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0

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

Land Access Reference

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Well Name: POKER LAKE UNIT 16
TWR

Well Location: T24S / R31E / SEC 21 /
LOT D / 32.20857 / -103.78903

County or Parish/State: EDDY /
NM

Well Number: 102H

Type of Well: CONVENTIONAL GAS
WELL

Allottee or Tribe Name:

Lease Number: NMNM0506A

Unit or CA Name: POKER LAKE UNIT

Unit or CA Number:
NMNM71016X

US Well Number: 300154722100S1

Operator: XTO PERMIAN OPERATING
LLC

Notice of Intent

Sundry ID: 2791369

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 05/20/2024

Time Sundry Submitted: 11:46

Date proposed operation will begin: 05/27/2024

Procedure Description: XTO Permian Operating LLC., respectfully requests access off pad in order to complete remediation activities related to Incident Number nAPP2334249809 which occurred on November 26, 2023. Excavation of impacted soil is needed in pasture and right-of-way (ROW) areas utilizing heavy equipment (backhoe, trackhoe, front loader, and hydrovacuum truck). After successful completion of remediation efforts, the disturbed area will be backfilled and recontoured to match pre-existing conditions and re-seeded with the recommended BLM seed mixture. Please see attached site maps.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

PLU_16_TWR_102H_Map_20240520114331.pdf

XTO_PLU_16_Twin_Wells_Ranch_102H_Site_Map_20240520114148.pdf

Well Name: POKER LAKE UNIT 16
TWR

Well Location: T24S / R31E / SEC 21 /
LOT D / 32.20857 / -103.78903

County or Parish/State: EDDY /
NM

Well Number: 102H

Type of Well: CONVENTIONAL GAS
WELL

Allottee or Tribe Name:

Lease Number: NMNM0506A

Unit or CA Name: POKER LAKE UNIT

Unit or CA Number:
NMNM71016X

US Well Number: 300154722100S1

Operator: XTO PERMIAN OPERATING
LLC

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHERRY MORROW

Signed on: MAY 20, 2024 11:37 AM

Name: XTO PERMIAN OPERATING LLC

Title: Regulatory Analyst

Street Address: 6401 HOLIDAY HILL ROAD BLDG 5

City: MIDLAND

State: TX

Phone: (432) 218-3671

Email address: SHERRY.MORROW@EXXONMOBIL.COM

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CRISHA A MORGAN

BLM POC Title: Environmental Protection Specialist

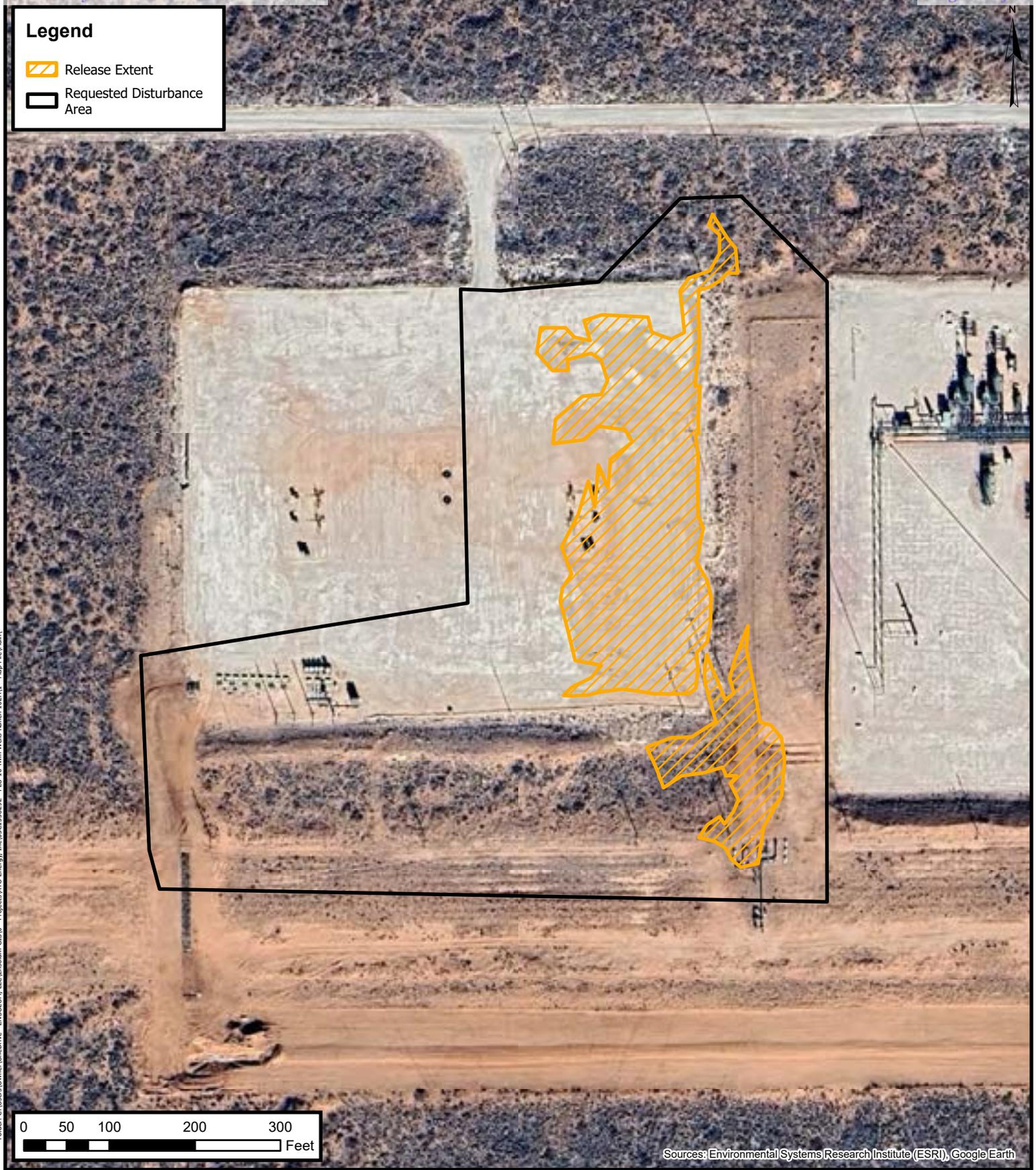
BLM POC Phone: 5752345987

BLM POC Email Address: camorgan@blm.gov

Disposition: Approved

Disposition Date: 05/21/2024

Signature: Crisha A. Morgan



Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C158992 - PLU 16 Twin Wells Ranch 102H1 - Map File\Main



Site Map

XTO Energy, Inc
 PLU 16 Twin Wells Ranch 102H
 Incident Number: nAPP2334249809
 Unit D, Section 21, Township 24 South, Range 31 East
 Eddy County, New Mexico

FIGURE

1

Poker Lake Unit 16 TWR 102H





APPENDIX B

Photographic Log



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



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

July 24, 2024

DAVID MCINNIS
ENSOLUM, LLC
705 W WADLEY AVE.
MIDLAND, TX 79705

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 07/19/24 16:23.

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.

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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 01 3' (H244343-01)

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	07/23/2024	ND	2.21	110	2.00	3.79	
Toluene*	<0.050	0.050	07/23/2024	ND	2.07	104	2.00	0.908	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.13	107	2.00	0.495	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.30	105	6.00	0.571	
Total BTEX	<0.300	0.300	07/23/2024	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	192	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 02 3' (H244343-02)

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	07/23/2024	ND	2.21	110	2.00	3.79	
Toluene*	<0.050	0.050	07/23/2024	ND	2.07	104	2.00	0.908	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.13	107	2.00	0.495	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.30	105	6.00	0.571	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	224	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 03 3' (H244343-03)

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	07/23/2024	ND	2.21	110	2.00	3.79	
Toluene*	<0.050	0.050	07/23/2024	ND	2.07	104	2.00	0.908	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.13	107	2.00	0.495	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.30	105	6.00	0.571	
Total BTEX	<0.300	0.300	07/23/2024	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	64.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 04 3' (H244343-04)

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	07/23/2024	ND	2.21	110	2.00	3.79	
Toluene*	<0.050	0.050	07/23/2024	ND	2.07	104	2.00	0.908	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.13	107	2.00	0.495	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.30	105	6.00	0.571	
Total BTEX	<0.300	0.300	07/23/2024	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	160	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 05 3' (H244343-05)

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	07/23/2024	ND	2.21	110	2.00	3.79	
Toluene*	<0.050	0.050	07/23/2024	ND	2.07	104	2.00	0.908	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.13	107	2.00	0.495	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.30	105	6.00	0.571	
Total BTEX	<0.300	0.300	07/23/2024	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	48.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 06 3' (H244343-06)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	80.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 07 3' (H244343-07)

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	07/23/2024	ND	1.98	99.1	2.00	4.83		
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 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	112	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	193	96.3	200	1.26		
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	190	94.9	200	1.68		
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND						

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 08 3' (H244343-08)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 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	496	16.0	07/23/2024	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*	<10.0	10.0	07/23/2024	ND	193	96.3	200	1.26	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	190	94.9	200	1.68	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 09 3' (H244343-09)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	368	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 10 3' (H244343-10)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 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	80.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 13 1' (H244343-11)

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	07/23/2024	ND	1.98	99.1	2.00	4.83		
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 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	80.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95		
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55		
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND						

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 14 1' (H244343-12)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	112	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 15 1' (H244343-13)

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	07/23/2024	ND	1.98	99.1	2.00	4.83		
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 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	288	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95		
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55		
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND						

Surrogate: 1-Chlorooctane 110 % 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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 16 1' (H244343-14)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	336	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 17 1' (H244343-15)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 01 0-3' (H244343-16)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	48.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND					

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 11 3' (H244343-17)

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	07/23/2024	ND	1.98	99.1	2.00	4.83		
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	80.0	16.0	07/23/2024	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*	<10.0	10.0	07/22/2024	ND	192	95.8	200	1.95		
DRO >C10-C28*	<10.0	10.0	07/22/2024	ND	196	97.8	200	2.55		
EXT DRO >C28-C36	<10.0	10.0	07/22/2024	ND						

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	07/19/2024	Sampling Date:	07/19/2024
Reported:	07/24/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 12 3' (H244343-18)

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	07/23/2024	ND	1.98	99.1	2.00	4.83	
Toluene*	<0.050	0.050	07/23/2024	ND	1.98	99.1	2.00	3.08	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.04	102	2.00	1.36	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	6.03	101	6.00	1.06	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	07/23/2024	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	07/23/2024	ND	192	95.8	200	1.95	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	196	97.8	200	2.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 118 % 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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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



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July 26, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 07/23/24 16:39.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 18 3' (H244384-01)

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	07/24/2024	ND	2.42	121	2.00	5.16	
Toluene*	<0.050	0.050	07/24/2024	ND	2.46	123	2.00	3.91	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.55	127	2.00	6.78	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	7.62	127	6.00	8.35	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	07/24/2024	ND	464	116	400	3.51	

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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 19 3' (H244384-02)

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	07/24/2024	ND	2.42	121	2.00	5.16	
Toluene*	<0.050	0.050	07/24/2024	ND	2.46	123	2.00	3.91	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.55	127	2.00	6.78	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	7.62	127	6.00	8.35	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	32.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 20 3' (H244384-03)

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	07/24/2024	ND	2.42	121	2.00	5.16	
Toluene*	<0.050	0.050	07/24/2024	ND	2.46	123	2.00	3.91	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.55	127	2.00	6.78	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	7.62	127	6.00	8.35	
Total BTEX	<0.300	0.300	07/24/2024	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	96.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 129 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 21 3' (H244384-04)

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	07/24/2024	ND	2.42	121	2.00	5.16	
Toluene*	<0.050	0.050	07/24/2024	ND	2.46	123	2.00	3.91	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.55	127	2.00	6.78	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	7.62	127	6.00	8.35	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	80.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 22 3' (H244384-05)

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	07/24/2024	ND	2.05	102	2.00	6.52	
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 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	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 23 3' (H244384-06)

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	07/24/2024	ND	2.05	102	2.00	6.52	
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 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	48.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 114 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 24 3' (H244384-07)

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	07/24/2024	ND	2.05	102	2.00	6.52		
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11		
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13		
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09		
Total BTEX	<0.300	0.300	07/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	64.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28		
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND						

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 25 3' (H244384-08)

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	07/24/2024	ND	2.05	102	2.00	6.52	
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11	
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13	
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09	
Total BTEX	<0.300	0.300	07/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 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	32.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28	
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59	
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND					

Surrogate: 1-Chlorooctane 113 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 26 3' (H244384-09)

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	07/24/2024	ND	2.05	102	2.00	6.52		
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11		
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13		
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09		
Total BTEX	<0.300	0.300	07/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	32.0	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28		
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND						

Surrogate: 1-Chlorooctane 110 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/23/2024	Sampling Date:	07/23/2024
Reported:	07/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 27 1' (H244384-10)

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	07/24/2024	ND	2.05	102	2.00	6.52		
Toluene*	<0.050	0.050	07/24/2024	ND	1.99	99.6	2.00	6.11		
Ethylbenzene*	<0.050	0.050	07/24/2024	ND	2.08	104	2.00	6.13		
Total Xylenes*	<0.150	0.150	07/24/2024	ND	6.12	102	6.00	6.09		
Total BTEX	<0.300	0.300	07/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 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	336	16.0	07/24/2024	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	07/24/2024	ND	202	101	200	2.28		
DRO >C10-C28*	<10.0	10.0	07/24/2024	ND	203	102	200	3.59		
EXT DRO >C28-C36	<10.0	10.0	07/24/2024	ND						

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Notes and Definitions

- 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

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

BILL TO

ANALYSIS REQUEST

Company Name: Engolum, LLC
 Project Manager: David McGinnis
 Address: 601 N. Marland St. STE 400
 City: Marland Carlsbad State: -TX- Zip: 79701 88220
 Phone #: 409-454-3009 Fax #:
 Project #: 0361558292 Project Owner:
 Project Name: PU 1W Twin Wells Ranch 102H
 Project Location: 32-201535-103-788414
 State: NM Zip: 88220
 Phone #:
 Fax #:
 Company: XTO Energy
 Attn: Amy Ruth
 Address: 5104 E. Greene St
 City: Carlsbad
 State: NM Zip: 88220
 Phone #:
 Fax #:
 Sample Name: Mariaha O'Neil
 P.O. #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chloride	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
1	FS18	3'	C	1		X					X					
2	FS19	3'														
3	FS20	3'														
4	FS21	3'														
5	FS22	3'														
6	FS23	3'														
7	FS24	3'														
8	FS25	3'														
9	FS26	3'														
10	FS27	1'														

PLEASE NOTE: Lately and Downlog. Cardenal's quality and safety records comply for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims involving claims for negligence and any other cause whatsoever shall be limited to the amount paid by Cardenal within 30 days after completion of the analysis. It is no event that Cardenal be liable for negligence or consequential damages, including without limitation, business interruption, loss of data, or loss of profits, resulting from, or arising out of, the analysis. Cardenal's liability shall be limited to the performance of services requested by Cardenal. Cardenal's liability shall be limited to the amount paid by the client for the analysis.

Relinquished By: *[Signature]* Date: 11/23/24
 Received By: *[Signature]* Date: 11/23/24
 Turnaround Time: 5 days
 Standard Rush: *[Initials]*
 Bacteria (only) Sample Condition: Yes No
 Corrected Temp. °C: *[Initials]*

Delivered By: (Circle One) UPS Bus Other:
 Observed Temp. °C: 20.1
 Corrected Temp. °C: *[Initials]*
 Sample Condition: Intact Cool Yes No Yes No
 CHECKED BY: *[Initials]*
 Turnaround Time: 5 days
 Standard Rush: *[Initials]*
 Bacteria (only) Sample Condition: Yes No
 Corrected Temp. °C: *[Initials]*



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

July 30, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 07/25/24 14:35.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/25/2024	Sampling Date:	07/24/2024
Reported:	07/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 28 3' (H244448-01)

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	07/26/2024	ND	2.13	106	2.00	0.322	
Toluene*	<0.050	0.050	07/26/2024	ND	2.22	111	2.00	0.310	
Ethylbenzene*	<0.050	0.050	07/26/2024	ND	2.31	115	2.00	0.809	
Total Xylenes*	<0.150	0.150	07/26/2024	ND	7.00	117	6.00	0.335	
Total BTEX	<0.300	0.300	07/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	80.0	16.0	07/29/2024	ND	464	116	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	07/29/2024	ND	178	88.8	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	172	86.2	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/25/2024	Sampling Date:	07/24/2024
Reported:	07/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 29 3' (H244448-02)

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	07/26/2024	ND	2.13	106	2.00	0.322	
Toluene*	<0.050	0.050	07/26/2024	ND	2.22	111	2.00	0.310	
Ethylbenzene*	<0.050	0.050	07/26/2024	ND	2.31	115	2.00	0.809	
Total Xylenes*	<0.150	0.150	07/26/2024	ND	7.00	117	6.00	0.335	
Total BTEX	<0.300	0.300	07/26/2024	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	64.0	16.0	07/29/2024	ND	464	116	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	07/29/2024	ND	178	88.8	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	172	86.2	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/25/2024	Sampling Date:	07/24/2024
Reported:	07/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 30 3' (H244448-03)

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	07/26/2024	ND	2.13	106	2.00	0.322	
Toluene*	<0.050	0.050	07/26/2024	ND	2.22	111	2.00	0.310	
Ethylbenzene*	<0.050	0.050	07/26/2024	ND	2.31	115	2.00	0.809	
Total Xylenes*	<0.150	0.150	07/26/2024	ND	7.00	117	6.00	0.335	
Total BTEX	<0.300	0.300	07/26/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	07/29/2024	ND	464	116	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	07/29/2024	ND	178	88.8	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	172	86.2	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 96.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/25/2024	Sampling Date:	07/24/2024
Reported:	07/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 31 3' (H244448-04)

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	07/26/2024	ND	2.13	106	2.00	0.322	
Toluene*	<0.050	0.050	07/26/2024	ND	2.22	111	2.00	0.310	
Ethylbenzene*	<0.050	0.050	07/26/2024	ND	2.31	115	2.00	0.809	
Total Xylenes*	<0.150	0.150	07/26/2024	ND	7.00	117	6.00	0.335	
Total BTEX	<0.300	0.300	07/26/2024	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	32.0	16.0	07/29/2024	ND	464	116	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	07/29/2024	ND	178	88.8	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	172	86.2	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 96.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/25/2024	Sampling Date:	07/24/2024
Reported:	07/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 32 3' (H244448-05)

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	07/26/2024	ND	2.13	106	2.00	0.322	
Toluene*	<0.050	0.050	07/26/2024	ND	2.22	111	2.00	0.310	
Ethylbenzene*	<0.050	0.050	07/26/2024	ND	2.31	115	2.00	0.809	
Total Xylenes*	<0.150	0.150	07/26/2024	ND	7.00	117	6.00	0.335	
Total BTEX	<0.300	0.300	07/26/2024	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	208	16.0	07/29/2024	ND	464	116	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	07/29/2024	ND	178	88.8	200	2.32	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	172	86.2	200	1.66	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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

- 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



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

July 31, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 07/26/24 16:24.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 33 3' (H244485-01)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 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	32.0	16.0	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	194	97.2	200	2.04	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	101	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 34 3' (H244485-02)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 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	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	194	97.2	200	2.04	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	101	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 35 3' (H244485-03)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	64.0	16.0	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 36 3' (H244485-04)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	<16.0	16.0	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 37 3' (H244485-05)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 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	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 38 3' (H244485-06)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 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	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 132 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/25/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 39 3' (H244485-07)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 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	64.0	16.0	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 40 3' (H244485-08)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 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	144	16.0	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 124 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 41 3' (H244485-09)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 42 3' (H244485-10)

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	07/30/2024	ND	1.99	99.3	2.00	1.04		
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333		
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821		
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347		
Total BTEX	<0.300	0.300	07/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 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	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613		
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30		
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND						

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 43 3' (H244485-11)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 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	288	16.0	07/30/2024	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*	<10.0	10.0	07/29/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/29/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/29/2024	ND					

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 44 3' (H244485-12)

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	07/30/2024	ND	1.99	99.3	2.00	1.04	
Toluene*	<0.050	0.050	07/30/2024	ND	1.96	98.0	2.00	0.333	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.06	103	2.00	0.00821	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.08	101	6.00	0.00347	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 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	128	16.0	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 02 0-3' (H244485-13)

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	07/30/2024	ND	1.96	98.2	2.00	7.20	
Toluene*	<0.050	0.050	07/30/2024	ND	2.13	107	2.00	6.14	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.30	115	2.00	4.65	QR-03
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.87	114	6.00	4.35	QR-03
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 130 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/26/2024	Sampling Date:	07/26/2024
Reported:	07/31/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 03 0-3' (H244485-14)

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	07/30/2024	ND	1.96	98.2	2.00	7.20	
Toluene*	<0.050	0.050	07/30/2024	ND	2.13	107	2.00	6.14	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.30	115	2.00	4.65	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.87	114	6.00	4.35	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	240	16.0	07/30/2024	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*	<10.0	10.0	07/30/2024	ND	212	106	200	0.613	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	201	100	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 134 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 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 LCS/D recovery and/or RPD values.
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: Ensolium, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #:
 Project #: 03C1558292 Project Owner: XTO
 Project Name: Plu 16 Twin Wells Ranch 102H
 Project Location: 38.207535 -103.788414
 Sampler Name: Jesse Dorman
 P.O. #:
 Company: XTO Energy Inc.
 Attn: Amy Ruth
 Address: 3104 E. Green St.
 City: Carlsbad State: NM Zip: 88220
 Phone #:
 Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	FOR LAB USE ONLY		MATRIX	PRESERV	SAMPLING	DATE	TIME	BTEX	TPH	CHLORIDE	Other
			GRAB OR (C)OMP	# CONTAINERS									
1124485	E533	3'		1	SOIL	X	7/25/24	11:20	X	X	X		
	E534			1	SOIL	X	7/25/24	11:25	X	X	X		
	E535			1	SOIL	X	7/25/24	11:30	X	X	X		
	E536			1	SOIL	X	7/25/24	11:35	X	X	X		
	E537			1	SOIL	X	7/25/24	11:40	X	X	X		
	E538			1	SOIL	X	7/25/24	11:45	X	X	X		
	E539			1	SOIL	X	7/25/24	11:50	X	X	X		
	E540			1	SOIL	X	7/25/24	12:30	X	X	X		
	E541			1	SOIL	X	7/25/24	12:30	X	X	X		
	E542			1	SOIL	X	7/25/24	12:30	X	X	X		

FIELD NOTE: Location and sampler information should be included in the report for the sample. The report should include the name of the sampler, the date and time of collection, the location of the sample, and the name of the person who collected the sample. The report should also include the name of the person who analyzed the sample and the name of the person who prepared the report. The report should be signed by the person who analyzed the sample and the person who prepared the report. The report should be submitted to the laboratory within 30 days of collection. The report should be submitted to the laboratory in a sealed envelope. The report should be submitted to the laboratory in a sealed envelope. The report should be submitted to the laboratory in a sealed envelope.

Relinquished By: *[Signature]*
 Received By: *[Signature]*
 Date: 7/26/24
 Time: 10:24
 Delivered By: (Circle One) UPS Bus Other:
 Sampler - UPS - Bus - Other:
 Sample Condition: Cool Intact No No No No
 Checked By: *[Signature]*
 Turnaround Time: Standard Rush
 Bacteria (only) Sample Condition: Yes No No No
 Cool Intact: Yes No No No
 Corrected Temp. °C:
 REMARKS:
 Cost Center: 2198471001
 Incident ID: NAEP23424000

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



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

August 01, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 07/29/24 16:20.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 45 3' (H244503-01)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	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	160	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 138 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 46 3' (H244503-02)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	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	128	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 47 4' (H244503-03)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 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	32.0	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 48 4' (H244503-04)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	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	448	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 49 4' (H244503-05)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	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	1140	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 50 4' (H244503-06)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	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	624	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 51 4' (H244503-07)

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	07/30/2024	ND	2.06	103	2.00	1.58	
Toluene*	<0.050	0.050	07/30/2024	ND	2.38	119	2.00	3.86	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.50	125	2.00	3.73	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	7.58	126	6.00	3.05	
Total BTEX	<0.300	0.300	07/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	368	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/29/2024	Sampling Date:	07/29/2024
Reported:	08/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 52 4' (H244503-08)

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	07/30/2024	ND	1.92	96.0	2.00	6.92	
Toluene*	<0.050	0.050	07/30/2024	ND	2.02	101	2.00	6.41	
Ethylbenzene*	<0.050	0.050	07/30/2024	ND	2.10	105	2.00	6.15	
Total Xylenes*	<0.150	0.150	07/30/2024	ND	6.46	108	6.00	5.87	
Total BTEX	<0.300	0.300	07/30/2024	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	384	16.0	07/30/2024	ND	448	112	400	3.51	

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	07/30/2024	ND	189	94.5	200	3.63	
DRO >C10-C28*	<10.0	10.0	07/30/2024	ND	178	88.9	200	7.58	
EXT DRO >C28-C36	<10.0	10.0	07/30/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 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



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August 07, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/01/24 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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 53 4' (H244609-01)

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	08/02/2024	ND	1.82	91.2	2.00	8.24	
Toluene*	<0.050	0.050	08/02/2024	ND	1.78	89.0	2.00	8.35	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	1.89	94.3	2.00	8.35	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	5.54	92.4	6.00	8.35	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	960	16.0	08/06/2024	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	08/02/2024	ND	212	106	200	2.64	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	232	116	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane 97.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 54 4' (H244609-02)

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	08/02/2024	ND	1.82	91.2	2.00	8.24	
Toluene*	<0.050	0.050	08/02/2024	ND	1.78	89.0	2.00	8.35	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	1.89	94.3	2.00	8.35	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	5.54	92.4	6.00	8.35	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	768	16.0	08/06/2024	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	08/02/2024	ND	212	106	200	2.64	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	232	116	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 55 4' (H244609-03)

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	08/02/2024	ND	1.82	91.2	2.00	8.24	
Toluene*	<0.050	0.050	08/02/2024	ND	1.78	89.0	2.00	8.35	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	1.89	94.3	2.00	8.35	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	5.54	92.4	6.00	8.35	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 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	3400	16.0	08/06/2024	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	08/02/2024	ND	212	106	200	2.64	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	232	116	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane 83.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 56 4' (H244609-04)

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	08/02/2024	ND	1.82	91.2	2.00	8.24		
Toluene*	<0.050	0.050	08/02/2024	ND	1.78	89.0	2.00	8.35		
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	1.89	94.3	2.00	8.35		
Total Xylenes*	<0.150	0.150	08/02/2024	ND	5.54	92.4	6.00	8.35		
Total BTEX	<0.300	0.300	08/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	160	16.0	08/06/2024	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	08/02/2024	ND	212	106	200	2.64		
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	232	116	200	8.76		
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND						

Surrogate: 1-Chlorooctane 80.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 57 4' (H244609-05)

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	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	2920	16.0	08/06/2024	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	08/03/2024	ND	212	106	200	2.64	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	232	116	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane 95.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 58 4' (H244609-06)

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	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	544	16.0	08/06/2024	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	08/03/2024	ND	212	106	200	2.64	
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	232	116	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 59 4' (H244609-07)

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	08/02/2024	ND	2.33	117	2.00	2.10		
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87		
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45		
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58		
Total BTEX	<0.300	0.300	08/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	576	16.0	08/06/2024	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	08/03/2024	ND	212	106	200	2.64		
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	232	116	200	8.76		
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND						

Surrogate: 1-Chlorooctane 97.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/30/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 60 4' (H244609-08)

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	08/02/2024	ND	2.33	117	2.00	2.10		
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87		
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45		
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58		
Total BTEX	<0.300	0.300	08/02/2024	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	432	16.0	08/06/2024	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	08/03/2024	ND	212	106	200	2.64		
DRO >C10-C28*	<10.0	10.0	08/03/2024	ND	232	116	200	8.76		
EXT DRO >C28-C36	<10.0	10.0	08/03/2024	ND						

Surrogate: 1-Chlorooctane 98.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/01/2024	Sampling Date:	07/31/2024
Reported:	08/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 63 0.5' (H244609-09)

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	08/02/2024	ND	2.33	117	2.00	2.10	
Toluene*	<0.050	0.050	08/02/2024	ND	2.49	125	2.00	2.87	
Ethylbenzene*	<0.050	0.050	08/02/2024	ND	2.65	132	2.00	4.45	
Total Xylenes*	<0.150	0.150	08/02/2024	ND	8.13	135	6.00	5.58	
Total BTEX	<0.300	0.300	08/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	08/06/2024	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	08/02/2024	ND	209	104	200	2.72	
DRO >C10-C28*	<10.0	10.0	08/02/2024	ND	210	105	200	8.41	
EXT DRO >C28-C36	<10.0	10.0	08/02/2024	ND					

Surrogate: 1-Chlorooctane 76.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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



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

August 08, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/02/24 14:22.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 61 4' (H244658-01)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	2640	16.0	08/06/2024	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	08/05/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane 84.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 62 4' (H244658-02)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	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	688	16.0	08/06/2024	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	08/05/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 64 2' (H244658-03)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	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	400	16.0	08/06/2024	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	08/05/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/05/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/05/2024	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 66 2' (H244658-04)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	08/06/2024	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	08/06/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 77.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 67 2' (H244658-05)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	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	128	16.0	08/06/2024	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	08/06/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 76.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/02/2024	Sampling Date:	08/01/2024
Reported:	08/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 68 2' (H244658-06)

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	08/05/2024	ND	2.05	103	2.00	7.49	
Toluene*	<0.050	0.050	08/05/2024	ND	2.11	106	2.00	6.15	
Ethylbenzene*	<0.050	0.050	08/05/2024	ND	2.25	113	2.00	6.41	
Total Xylenes*	<0.150	0.150	08/05/2024	ND	6.69	111	6.00	6.78	
Total BTEX	<0.300	0.300	08/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	176	16.0	08/06/2024	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	08/06/2024	ND	205	103	200	2.13	
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	220	110	200	9.44	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 70.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.1 % 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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August 12, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/06/24 13:45.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 05 0-3' (H244714-01)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	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	240	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 71.1 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/02/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 65 3' (H244714-02)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	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	432	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 74.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 01 1' (H244714-03)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	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	2840	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 75.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 01 A 2' (H244714-04)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	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	608	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 75.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 01 B 3' (H244714-05)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	960	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 74.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 01 C 4' (H244714-06)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	928	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.5 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 02 1' (H244714-07)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/05/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 02 A 2' (H244714-08)

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	08/07/2024	ND	2.27	113	2.00	0.890	
Toluene*	<0.050	0.050	08/07/2024	ND	2.51	125	2.00	2.27	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.63	131	2.00	3.87	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	7.98	133	6.00	4.42	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/08/2024	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	08/07/2024	ND	202	101	200	0.137	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	193	96.6	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
- 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: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 4094543009 Fax #: _____
 Project #: 03C1558292 Project Owner: _____
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32.207535, -103.788414
 Sampler Name: Uriel Santibana
 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	Sw05	0-3'	C	1			X				8/2/24	941	X Chloride
2	FS65	3'	C	1							8/2/24	1055	X BTEX
3	DH01	1'	G	1							8/5/24	1332	X TPH
4	DH01A	2'	G	1							8/5/24	1339	
5	DH01B	3'	G	1								1411	
6	DH01C	4'	G	1								1414	
7	DH02	1'	G	1								1523	
8	DH02A	2'	G	1								1528	

FOR LAB USE ONLY

RELINQUISH BY: *U Brandt* Date: *8-4-24* Received By: *Uriel Santibana* Date: *8-4-24*

Delivered By: (Circle One) Driver Other

Sampler - UPS - Bus - Other: _____

On-site Temp: _____ °C

Conserved Temp: *-0.3* °C

Sample Condition: Cool Intact

Checked By: *AS* (Initials)

Vertical Results: Yes No Add'l Phone #: _____

Remarks: *Modelle@ensolum.com*

Incident Number: *NAPP2334249809*

Standard Bacteria (only) Sample Condition

Thermometer ID: *4140* *Rush* Cool Intact Observed Temp: _____ °C

Corrected Temp: _____ °C

† Cardinal cannot accept verbal changes. Please email changes to coloy.keene@cardinalcorp.com



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

August 16, 2024

DAVID MCINNIS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/12/24 16:36.

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.

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, LLC
 DAVID MCINNIS
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	08/12/2024	Sampling Date:	08/12/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	*** (See Notes)
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 04 0-4' (H244860-01)

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	08/14/2024	ND	2.12	106	2.00	3.20	
Toluene*	<0.050	0.050	08/14/2024	ND	2.18	109	2.00	3.10	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	112	2.00	2.96	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.87	114	6.00	2.36	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	64.0	16.0	08/14/2024	ND	416	104	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	08/13/2024	ND	209	104	200	0.302	
DRO >C10-C28*	<10.0	10.0	08/13/2024	ND	215	107	200	0.0870	
EXT DRO >C28-C36	<10.0	10.0	08/13/2024	ND					

Surrogate: 1-Chlorooctane 103 % 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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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

Company Name: Ensolium, LLC Project Manager: David McInnis Address: 601 N. Marland St. STE 400 City: Midland State: TX Zip: 79701 Phone #: 409-454-3009 Fax #: Project #: 03C1558292 Project Owner: Project Name: PLU 10 TWR 102H Project Location: 32.207535, -103.788414 Sampler Name: Maraha O'Dell		BILL TO P.O. #: Company: XTO Energy Attn: Amy Ruth Address: 3104 E. Green St City: Carlsbad State: NM Zip: 88220 Phone #: Fax #: 	
FOR LAB USE ONLY Lab I.D. 11244800 Sample I.D. SW04 Sample Depth (feet) 0-4'		(G)GRAB OR (C)OMP. C # CONTAINERS 1 MATRIX: <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER: PRESERV: <input checked="" type="checkbox"/> ACID/BASE: <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER: DATE 8/12/24 TIME 10:50	
REMARKS: Lab ID and Sample ID All results are guaranteed. Please provide email address: David.McInnis@ensolium.com Billing email: David.McInnis@ensolium.com Billing phone: 409-454-3009 REMARKS: Inoculum at: NAPP2334249809 Center: 2198411001		ANALYSIS REQUEST <input checked="" type="checkbox"/> Chloride <input checked="" type="checkbox"/> TPH <input checked="" type="checkbox"/> BTEX	
Requisitioned By: MO'Dell Received By: APW Date: 8/12/2024 Time: 10:30		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l phone #: 	
Delivered By: (Circle One) UPS <input type="checkbox"/> Bus <input type="checkbox"/> Other <input type="checkbox"/> Turnaround Time: 5 days Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Temperature: 11°C <input checked="" type="checkbox"/> 19°C <input type="checkbox"/> 4°C <input type="checkbox"/> 0-4°C <input type="checkbox"/> Bacteria (only) Sample Condition: <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C: Corrected Temp. °C: 		CHECKED BY: APW Bacteria (only) Sample Condition: <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C: Corrected Temp. °C: 	



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

August 19, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/16/24 15:53.

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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 82 1' (H245010-01)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	1090	16.0	08/19/2024	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	08/16/2024	ND	226	113	200	1.66	
DRO >C10-C28*	<10.0	10.0	08/16/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 83 1' (H245010-02)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	816	16.0	08/19/2024	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	08/16/2024	ND	226	113	200	1.66	
DRO >C10-C28*	61.9	10.0	08/16/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	30.4	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 95.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 84 1' (H245010-03)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	2560	16.0	08/19/2024	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	08/16/2024	ND	226	113	200	1.66	
DRO >C10-C28*	53.6	10.0	08/16/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	<10.0	10.0	08/16/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 85 1' (H245010-04)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	1060	16.0	08/19/2024	ND	416	104	400	7.41	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	08/17/2024	ND	226	113	200	1.66	
DRO >C10-C28*	47.4	10.0	08/17/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	15.5	10.0	08/17/2024	ND					

Surrogate: 1-Chlorooctane 97.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 86 1' (H245010-05)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	3760	16.0	08/19/2024	ND	416	104	400	7.41	

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	08/17/2024	ND	226	113	200	1.66	
DRO >C10-C28*	<10.0	10.0	08/17/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	<10.0	10.0	08/17/2024	ND					

Surrogate: 1-Chlorooctane 97.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 87 1' (H245010-06)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	1880	16.0	08/19/2024	ND	416	104	400	7.41	

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	08/17/2024	ND	226	113	200	1.66	
DRO >C10-C28*	<10.0	10.0	08/17/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	<10.0	10.0	08/17/2024	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 88 1' (H245010-07)

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	08/16/2024	ND	2.19	110	2.00	8.49	
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36	
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35	
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56	
Total BTEX	<0.300	0.300	08/16/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	1220	16.0	08/19/2024	ND	416	104	400	7.41	

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	08/17/2024	ND	226	113	200	1.66	
DRO >C10-C28*	<10.0	10.0	08/17/2024	ND	227	114	200	2.80	
EXT DRO >C28-C36	<10.0	10.0	08/17/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/19/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: BH 03 1' (H245010-08)

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	08/16/2024	ND	2.19	110	2.00	8.49		
Toluene*	<0.050	0.050	08/16/2024	ND	2.23	111	2.00	7.36		
Ethylbenzene*	<0.050	0.050	08/16/2024	ND	2.25	113	2.00	7.35		
Total Xylenes*	<0.150	0.150	08/16/2024	ND	6.97	116	6.00	6.56		
Total BTEX	<0.300	0.300	08/16/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	208	16.0	08/19/2024	ND	416	104	400	7.41		

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	08/17/2024	ND	226	113	200	1.66		
DRO >C10-C28*	34.3	10.0	08/17/2024	ND	227	114	200	2.80		
EXT DRO >C28-C36	11.0	10.0	08/17/2024	ND						

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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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



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

August 20, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 08/16/24 15:53.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 81 4' (H245011-01)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 78.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 80 4' (H245011-02)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	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	32.0	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 82.5 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 76 4' (H245011-03)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 79.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 75 4' (H245011-04)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	240	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 77.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 74 4' (H245011-05)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	320	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 80.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 06 0-4' (H245011-06)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	272	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 83.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/13/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 71 1' (H245011-07)

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	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	320	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 82.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/14/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 77 4' (H245011-08)

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	08/20/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/20/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/20/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/20/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	1680	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 83.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/14/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 78 4' (H245011-09)

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	08/20/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/20/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/20/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/20/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	2080	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 85.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/14/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 79 4' (H245011-10)

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	08/20/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/20/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/20/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/20/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/20/2024	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	2720	16.0	08/19/2024	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	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 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



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

September 11, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 09/06/24 14:40.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 69 4' (H245412-01)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	112	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 74.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 70 4' (H245412-02)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	16.0	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 79.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 72 4' (H245412-03)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	512	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 74.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 73 4' (H245412-04)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	528	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 75.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 90 4' (H245412-05)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	176	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 80.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 91 4' (H245412-06)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	16.0	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 76.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 92 4' (H245412-07)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 79.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 93 4' (H245412-08)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	32.0	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 81.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 94 4' (H245412-09)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	992	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 74.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 95 4' (H245412-10)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	144	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 74.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 96 4' (H245412-11)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	224	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 79.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/05/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 97 0.3' (H245412-12)

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	09/09/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/09/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/09/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/09/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/09/2024	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	944	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 75.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/06/2024	Sampling Date:	09/06/2024
Reported:	09/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 98 0.3' (H245412-13)

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	09/10/2024	ND	1.75	87.5	2.00	8.76	
Toluene*	<0.050	0.050	09/10/2024	ND	1.77	88.7	2.00	10.6	
Ethylbenzene*	<0.050	0.050	09/10/2024	ND	1.76	88.2	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/10/2024	ND	5.56	92.6	6.00	11.1	
Total BTEX	<0.300	0.300	09/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	7360	16.0	09/09/2024	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	09/09/2024	ND	204	102	200	2.05	
DRO >C10-C28*	<10.0	10.0	09/09/2024	ND	197	98.3	200	1.62	
EXT DRO >C28-C36	<10.0	10.0	09/09/2024	ND					

Surrogate: 1-Chlorooctane 70.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 66.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

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

1-2

Company Name: Ensolum, LLC Project Manager: David McInnis Address: 3122 National Parks Hwy City: Carlsbad State: NM Zip: 88220 Phone #: 4094543009 Fax #: Project #: 03C1556292 Project Owner: Project Name: PLU 16 Twin Wells Ranch 102H Project Location: 32.207535, -103.788414 Sampler Name: Uriel Santillana		BILL TO P.O. #: Company: XTO Energy Attn: Amy Ruth Address: 3104 E Green st City: Carlsbad State: NM Zip: 88220 Phone #: Fax #:		ANALYSIS REQUEST	
--	--	---	--	-------------------------	--

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			
11	E596	4'	C 1	1	X	X	X	X	X	X	9/5/24	1225	Chloride	
12	E597	0.3'	C 1	1	X	X	X	X	X	X	↑	1331	BTEX	
13	E598	0.3'	C 1	1	X	X	X	X	X	X	9/6/24	1059	TPH	

PLEASE NOTE: Liability and Damages. Cardinal shall not accept liability for any loss or damage to samples or data, or for any delay in the receipt of results, or for any loss or damage to samples or data, or for any delay in the receipt of results, or for any loss or damage to samples or data, or for any delay in the receipt of results. All claims, including those for negligence and any other claims whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the analysis. It is not intended that this shall be construed as a limitation on the remedies available to a client under applicable law. Cardinal shall not be liable for any loss or damage to samples or data, or for any delay in the receipt of results, or for any loss or damage to samples or data, or for any delay in the receipt of results, or for any loss or damage to samples or data, or for any delay in the receipt of results.

Relinquished By: *[Signature]* Date: 9/24/24
 Received By: *[Signature]* Date: 9/24/24
 Turnaround Time: Standard Rush
 Incident Number: NAPP2334249809
 Vertical Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 Dmccinnis@ensolum.com useatillana@ensolum.com
 REMARKS: Cost center: 2198471001

† Cardinal cannot accept verbal changes. Please email changes to cately.keene@cardinalabnm.com



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

September 16, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 09/12/24 15:39.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/12/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 101 3 (H245549-01)

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	09/13/2024	ND	2.21	110	2.00	0.422	
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42	
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72	
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86	
Total BTEX	<0.300	0.300	09/13/2024	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	80.0	16.0	09/13/2024	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	09/13/2024	ND	194	96.8	200	0.472	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	199	99.6	200	0.413	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 83.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/12/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 102 3 (H245549-02)

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	09/13/2024	ND	2.21	110	2.00	0.422	
Toluene*	<0.050	0.050	09/13/2024	ND	2.25	113	2.00	2.42	
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.45	122	2.00	2.72	
Total Xylenes*	<0.150	0.150	09/13/2024	ND	7.42	124	6.00	2.86	
Total BTEX	<0.300	0.300	09/13/2024	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	96.0	16.0	09/13/2024	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	09/13/2024	ND	213	107	200	2.55	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	202	101	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 73.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/12/2024
Reported:	09/16/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 07 0-3' (H245549-03)

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	09/13/2024	ND	2.14	107	2.00	1.05	
Toluene*	<0.050	0.050	09/13/2024	ND	2.01	101	2.00	2.08	
Ethylbenzene*	<0.050	0.050	09/13/2024	ND	2.06	103	2.00	2.39	
Total Xylenes*	<0.150	0.150	09/13/2024	ND	6.25	104	6.00	2.54	
Total BTEX	<0.300	0.300	09/13/2024	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	272	16.0	09/13/2024	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	09/13/2024	ND	213	107	200	2.55	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	202	101	200	4.26	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 77.1 % 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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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

Company Name: Ensolum, LLC

Project Manager: David McFalls

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 409 454 3009

Fax #:

Project #: 0301558 292

Project Owner: XTO

Project Name: PU 16 TWR 102 H

Project Location: 32.207535, -103.798414

Sampler Name: Joshua Seckley

BILL TO

P.O. #:

Company: XTO Energy Inc.

Attn: Amy Ruth

Address: 3104 E Green St

City: Carlsbad

State: NM Zip: 88220

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chloride	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H245399	ES101	3		1							9/12/24	0855	X	X	X
	ES102	3		1							9/12/24	0910	X	X	X
	SW07	0.5'		1							9/12/24	0805	X	X	X

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Relinquished By: *[Signature]*
 Date: 9/12/24

Received By: *[Signature]*
 Date: 9/29/24

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other:

Observed Temp: 45°C
 Corrected Temp: 39.9°C

Sample Condition
 Cool Intact: Yes
 Bacteria (only) Sample Condition: Yes

Checked By: *[Signature]*

Turnaround Time: 2 day
 Standards: Rush

Bacteria (only) Sample Condition: Yes

Observed Temp: 45°C
 Corrected Temp: 39.9°C

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinalabnm.com



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

September 23, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/23/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 103 4' (H245701-01)

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	09/20/2024	ND	2.12	106	2.00	1.74	
Toluene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	1.35	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.16	108	2.00	0.165	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.51	108	6.00	0.124	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	2960	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	09/20/2024	ND	194	96.8	200	1.30	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	198	99.0	200	1.16	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 103 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/23/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 104 4' (H245701-02)

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	09/20/2024	ND	2.12	106	2.00	1.74	
Toluene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	1.35	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.16	108	2.00	0.165	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.51	108	6.00	0.124	
Total BTEX	<0.300	0.300	09/20/2024	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	4560	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	09/20/2024	ND	194	96.8	200	1.30	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	198	99.0	200	1.16	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 104 % 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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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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Enrollm, LLC	P.O. #:
Project Manager: David McInnis	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Amy Ruth
City: Carlsbad	Address: 3104 E. Green St.
State: NM	City: Carlsbad
Zip: 88220	State: NM
Phone #: 409-454-3009	Zip: 88220
Fax #:	Phone #:
Project #: 03C1558292	Project Owner: XTO
Project Name: PLU 16 Twin Wells Ranch 102H	Project Location: 32 207535, -103.789414
Sample Name: Jesse Dorman	FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample Depth (feet)	CONTAINERS		MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
			GRAB OR (C)OMP.	#	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE					
He45701	ES103	4'		2								9/19/18	11:40			
	ES104	4'		2									11:45			
SD																

PLEASE NOTE: Liability and Damages. Customer liability and contract provisions remain in effect for any other party not named herein. Cardinal Laboratories shall be deemed to have accepted for analysis only those samples which are properly labeled and received by Cardinal within 30 days after completion of the application. All claims, including those for negligence and any other claims whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the application. In the event that Cardinal is liable for negligent or intentional damage, including without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors, Cardinal shall be held liable for the full amount of such damages. No limitation shall be placed on the amount or type of damages, compensation, benefits or other amounts payable by third parties (including without limitation, attorneys' fees and costs) for such damages, compensation, benefits or other amounts payable by third parties.

Retrieved By: [Signature] **Date:** 9/19/24

Received By: [Signature] **Date:** 9/19/24

Time: 1:17

Temperature: 1.1

Sample Condition: Cool / Yes / No

Checked By: [Signature]

Remarks: Cost Center: 12198471001 Incident ID: NAPP2334249809

Turnaround Time: **END** Standard Rush

Backlogs (only) Sample Condition: Cool Intact / Yes / No

Corrected Temp. °C: / Yes / No

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallab.com



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

September 26, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 09/24/24 13:20.

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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/24/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 08 0-4' (H245778-01)

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	09/25/2024	ND	2.05	102	2.00	4.17	
Toluene*	<0.050	0.050	09/25/2024	ND	2.09	105	2.00	4.38	
Ethylbenzene*	<0.050	0.050	09/25/2024	ND	2.11	105	2.00	4.03	
Total Xylenes*	<0.150	0.150	09/25/2024	ND	6.29	105	6.00	3.93	
Total BTEX	<0.300	0.300	09/25/2024	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	32.0	16.0	09/25/2024	ND	432	108	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	09/25/2024	ND	214	107	200	0.167	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	220	110	200	0.536	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

September 30, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 09/24/24 13:20.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/24/2024	Sampling Date:	09/20/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 105 4' (H245779-01)

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	09/25/2024	ND	2.05	102	2.00	4.17	
Toluene*	<0.050	0.050	09/25/2024	ND	2.09	105	2.00	4.38	
Ethylbenzene*	<0.050	0.050	09/25/2024	ND	2.11	105	2.00	4.03	
Total Xylenes*	<0.150	0.150	09/25/2024	ND	6.29	105	6.00	3.93	
Total BTEX	<0.300	0.300	09/25/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	5860	16.0	09/26/2024	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	09/25/2024	ND	214	107	200	0.167	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	220	110	200	0.536	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/24/2024	Sampling Date:	09/20/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 106 4' (H245779-02)

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	09/25/2024	ND	2.05	102	2.00	4.17	
Toluene*	<0.050	0.050	09/25/2024	ND	2.09	105	2.00	4.38	
Ethylbenzene*	<0.050	0.050	09/25/2024	ND	2.11	105	2.00	4.03	
Total Xylenes*	<0.150	0.150	09/25/2024	ND	6.29	105	6.00	3.93	
Total BTEX	<0.300	0.300	09/25/2024	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	704	16.0	09/26/2024	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	09/25/2024	ND	214	107	200	0.167	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	220	110	200	0.536	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.4 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/24/2024	Sampling Date:	09/20/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 107 4' (H245779-03)

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	09/25/2024	ND	2.05	102	2.00	4.17	
Toluene*	<0.050	0.050	09/25/2024	ND	2.09	105	2.00	4.38	
Ethylbenzene*	<0.050	0.050	09/25/2024	ND	2.11	105	2.00	4.03	
Total Xylenes*	<0.150	0.150	09/25/2024	ND	6.29	105	6.00	3.93	
Total BTEX	<0.300	0.300	09/25/2024	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
Chloride	2680	16.0	09/26/2024	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	09/25/2024	ND	214	107	200	0.167	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	220	110	200	0.536	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/24/2024	Sampling Date:	09/20/2024
Reported:	09/30/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 108 4' (H245779-04)

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	09/25/2024	ND	2.05	102	2.00	4.17	
Toluene*	<0.050	0.050	09/25/2024	ND	2.09	105	2.00	4.38	
Ethylbenzene*	<0.050	0.050	09/25/2024	ND	2.11	105	2.00	4.03	
Total Xylenes*	<0.150	0.150	09/25/2024	ND	6.29	105	6.00	3.93	
Total BTEX	<0.300	0.300	09/25/2024	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
Chloride	1070	16.0	09/26/2024	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	09/25/2024	ND	214	107	200	0.167	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	220	110	200	0.536	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.0 % 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

- 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, Lab Director/Quality Manager



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

October 01, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 109 4' (H245850-01)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	720	16.0	09/27/2024	ND	416	104	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	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 110 4' (H245850-02)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
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	560	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 111 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 112 2' (H245850-03)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
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: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 113 4' (H245850-04)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	12600	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 104 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 114 4' (H245850-05)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 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	9600	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 105 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 115 4' (H245850-06)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 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	11400	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/24/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 116 4' (H245850-07)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 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	592	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 117 .5' (H245850-08)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	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	48.0	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 118 .5' (H245850-09)

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	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	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	128	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 119 .5' (H245850-10)

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	09/27/2024	ND	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
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: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 120 .5' (H245850-11)

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	09/27/2024	ND	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
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	80.0	16.0	09/27/2024	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	09/30/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/30/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/30/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 121 .5' (H245850-12)

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	09/27/2024	ND	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/27/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/27/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/27/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	112	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 122 .5' (H245850-13)

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	09/28/2024	ND	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/28/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/28/2024	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	176	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 123 .5' (H245850-14)

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	09/28/2024	ND	2.09	104	2.00	11.6	
Toluene*	<0.050	0.050	09/28/2024	ND	2.19	110	2.00	10.2	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.35	118	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.15	119	6.00	11.8	
Total BTEX	<0.300	0.300	09/28/2024	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	64.0	16.0	09/27/2024	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	09/27/2024	ND	218	109	200	0.722	
DRO >C10-C28*	<10.0	10.0	09/27/2024	ND	220	110	200	0.500	
EXT DRO >C28-C36	<10.0	10.0	09/27/2024	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 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

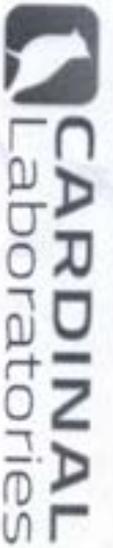
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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: Ensochem, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #:
 Project #: 03C1558292 Project Owner: XTO
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32.207535, -103.789414
 Sampler Name: Jesse Dorman
 P.O. #:
 Company: XTO Energy Inc.
 Attn: Amy Ruth
 Address: 3104 E. Green St
 City: Carlsbad State: NM Zip: 88220
 Phone #:
 Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:					
H245850	F5120	5'		1								3/25/09	9:55			
	F5121			1								10/5/09	10:55			
	F5122			1								10/30	10:30			
	F5123			1								12/05	12:05			
		50														

FOR LAB USE ONLY

Vertical Results: Yes No ADD'l Phone #:

REMARKS: Cost Center: 12196471001 Incident ID: NA4PZ3A249805

Relinquished By: *[Signature]*
 Received By: *[Signature]*
 Date: 1/3/08
 Time: 9:26 AM

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other:
 Corrected Temp. °C: 19
 Sample Condition: Cool Not Cool
 CHECKED BY: *[Signature]*
 Turnaround Time: Standard Rush
 Bacteria (only) Sample Condition: Intact Observed Temp. °C:
 Connected Temp. °C:
 † Cardinal cannot accept verbal changes. Please email changes to cefey.keene@cardinallabnm.com



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

October 03, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 10/01/24 13:20.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 124 4' (H245948-01)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	672	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 125 4' (H245948-02)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	1020	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 119 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 126 4' (H245948-03)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	8260	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 103 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 127 4' (H245948-04)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 98.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 128 4' (H245948-05)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	3000	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 129 4' (H245948-06)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	1260	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 130 4' (H245948-07)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	464	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.4 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 131 4' (H245948-08)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	1020	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 134 4' (H245948-09)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	336	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 121 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/26/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 09 0-4' (H245948-10)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	32.0	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 140 4' (H245948-11)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 141 4' (H245948-12)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	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	3120	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/01/2024	Sampling Date:	09/27/2024
Reported:	10/03/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 142 4' (H245948-13)

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	10/02/2024	ND	2.11	106	2.00	3.66	
Toluene*	<0.050	0.050	10/02/2024	ND	2.31	115	2.00	9.39	
Ethylbenzene*	<0.050	0.050	10/02/2024	ND	2.50	125	2.00	11.1	
Total Xylenes*	<0.150	0.150	10/02/2024	ND	7.56	126	6.00	11.6	
Total BTEX	<0.300	0.300	10/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	7730	16.0	10/02/2024	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	10/02/2024	ND	214	107	200	11.1	
DRO >C10-C28*	<10.0	10.0	10/02/2024	ND	212	106	200	10.2	
EXT DRO >C28-C36	<10.0	10.0	10/02/2024	ND					

Surrogate: 1-Chlorooctane 109 % 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

- 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

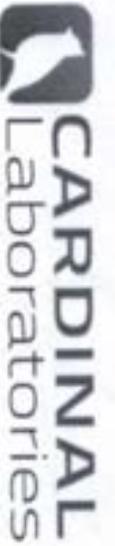
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Celey D. Keene

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

BILL TO

ANALYSIS REQUEST

Company Name: Enselum, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #:
 Project #: 03C1558292 Project Owner: XTO
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32 207535, -103.788414
 Sampler Name: Jesse Dorman
 P.O. #:
 Company: XTO Energy Inc.
 Attn: Amy Ruth
 Address: 3104 E. Green St.
 City: Carlsbad
 State: NM Zip: 88220
 Phone #:
 Fax #:
 FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample Depth (feet)	RECEIVED		DATE	TIME	ANALYSIS REQUEST		
			(G)RAB OR (C)OMP	# CONTAINERS			BTEX	TPH	CHLORIDE
11	ES140	4'	<input checked="" type="checkbox"/>	1	12/17/24	8:45			
12	FS141	4'	<input checked="" type="checkbox"/>	1	12/17/24	8:50			
13	RS142	4'	<input checked="" type="checkbox"/>	1	12/17/24	8:55			
	SD								

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Relinquished By: [Signature]
 Received By: [Signature] Stodriquiry
 Date: 12/30/24
 Time: 1:30
 Received By: [Signature] Stodriquiry
 Date: 12/30/24
 Time: 1:30

Deferred By: (Circle One) UPS Bus Other:
 Sample Condition: Intact Broken Other:
 Checked By: [Signature] SR
 Turnaround Time: 48 hours
 Standard: Standard Rush
 Bacteria (only) Sample Condition: Observed Temp. °C Connected Temp. °C



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

October 07, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 143 4' (H246026-01)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
Total BTEX	<0.300	0.300	10/03/2024	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	3360	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 79.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 144 4' (H246026-02)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1580	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 79.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 145 4' (H246026-03)

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	2.01	101	2.00	3.03		
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50		
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978		
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04		
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: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5040	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77		
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3		
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND						

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 146 4' (H246026-04)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
Total BTEX	<0.300	0.300	10/03/2024	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	5760	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 147 4' (H246026-05)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 148 4' (H246026-06)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10700	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 92.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 149 4' (H246026-07)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9600	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/01/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 150 4' (H246026-08)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8700	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 77.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 161 4' (H246026-09)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	6000	16.0	10/04/2024	ND	432	108	400	3.64	QM-05

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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 89.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 162 4' (H246026-10)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	4400	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 82.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 163 4' (H246026-11)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	7280	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 78.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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



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: Ensochem, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #: _____
 Project #: 03C1558292 Project Owner: XTO
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32 207535, -103.788414
 Sampler Name: Jesse Dorman
 P.O. #: _____
 Company: XTO Energy Inc.
 Attn: Amy Ruth
 Address: 3104 E. Green St.
 City: Carlsbad State: NM Zip: 88220
 Phone #: _____ Fax #: _____

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
1	56143	4'	C	1							10/19/24	1005			
2	56144											1012			
3	56145											1015			
4	56146											1030			
5	56147											1220			
6	56148											1225			
7	56149											1230			
8	56150											1230			

Vertical Retire: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: _____
 Dorman@enschem.com Thomsen@enschem.com Altemisor@enschem.com
 HEMARKS: Cool Center 12199471001 Incident ID: NA92334249809

Relinquished By: _____ Received By: *S. Pedregon*
 Date: 10/31/24 Time: 1400
 Delivered By: (Circle One) _____
 Sampler - UPS - Bus - Other: _____
 Temperature: _____
 Sample Condition: _____
 Checked By: *SPZ*

† Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinalabnm.com



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: Enigma, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #: Project Owner: XTO
 Project #: 03C1558292
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32.207535, -103.788414
 Sampler Name: Jesse Dorman
 P.O. #: Company: XTO Energy Inc.
 Attn: Amy Ruth
 Address: 3104 E. Green St.
 City: Carlsbad State: NM Zip: 88220
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	COLLECTOR'S INITIALS		DATE		TIME	BTEX	TPH	CHLORIDE
			(GRAB OR C/COMP)	# CONTAINERS	DATE	TIME				
9	FS161	4'	JD	JD	10/24/10	1240	/	/	/	
10	FS162	4'	JD	JD	10/25/10	1245	/	/	/	
11	FS163	4'	JD	JD	10/25/10	1250	/	/	/	

PLEASE NOTE: Lab and Sample IDs are required for any data entry. Samples must be collected in accordance with the standard for the test for the analyte. All items including those for signature and any other labels must be provided to the sampler. Samples must be collected in accordance with the standard for the test for the analyte. No on-site testing is allowed. Samples must be collected in accordance with the standard for the test for the analyte. No on-site testing is allowed. Samples must be collected in accordance with the standard for the test for the analyte. No on-site testing is allowed.

Relinquished By: [Signature]
 Date: 10/24/10
 Time: 1400
 Received By: [Signature]
 Date: 10/24/10
 Time: 1400

Delivered By: (Circle One)
 Sampler: UPS - Bus - Other: [X]
 Temperature: 17.2°C
 Sample Condition: Cool Intact [X]
 Checked By: [Signature]
 Remarks: [Text]



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

October 07, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 151 4' (H246027-01)

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	10/04/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/04/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/04/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/04/2024	ND	6.16	103	6.00	1.04	
Total BTEX	<0.300	0.300	10/04/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	4080	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 90.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 152 4' (H246027-02)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	11400	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 94.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 153 4' (H246027-03)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	5280	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 154 4' (H246027-04)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	11900	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 155 1' (H246027-05)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	176	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 86.1 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 156 4' (H246027-06)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	6320	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 87.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 157 4' (H246027-07)

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	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	8160	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 90.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 158 4' (H246027-08)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
Total BTEX	<0.300	0.300	10/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	5200	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 159 4' (H246027-09)

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	10/03/2024	ND	2.01	101	2.00	3.03	
Toluene*	<0.050	0.050	10/03/2024	ND	2.05	102	2.00	1.50	
Ethylbenzene*	<0.050	0.050	10/03/2024	ND	2.07	103	2.00	0.978	
Total Xylenes*	<0.150	0.150	10/03/2024	ND	6.16	103	6.00	1.04	
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	4560	16.0	10/04/2024	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	10/04/2024	ND	185	92.4	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	189	94.5	200	10.3	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/03/2024	Sampling Date:	10/02/2024
Reported:	10/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 160 4' (H246027-10)

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	10/03/2024	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	7680	16.0	10/04/2024	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	10/04/2024	ND	198	99.1	200	1.96	
DRO >C10-C28*	<10.0	10.0	10/04/2024	ND	193	96.7	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/04/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.7 % 49.1-148

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Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
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



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: Enselum, LLC
 Project Manager: David McInnis
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #: 409-454-3009
 Project #: 03C1558292 Project Owner: XTO
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32.207535, -103.789414
 Sampler Name: Jesse Dorman
 P.O. #: Company: XTO Energy Inc.
 Attn: Amy Ruth Address: 3104 E. Green St.
 City: Carlsbad State: NM Zip: 88220
 Phone #: Fax #:

Lab I.D. Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
103410027	4								10/21/11	9:30				
103410028	4								10/21/11	9:35				
103410029	4								10/21/11	9:40				
103410030	4								10/21/11	9:45				
103410031	4								10/21/11	9:50				
103410032	4								10/21/11	9:55				
103410033	4								10/21/11	10:00				
103410034	4								10/21/11	10:05				
103410035	4								10/21/11	10:10				
103410036	4								10/21/11	10:15				
103410037	4								10/21/11	10:20				
103410038	4								10/21/11	10:25				
103410039	4								10/21/11	10:30				
103410040	4								10/21/11	10:35				

FOR LAB USE ONLY

Lab I.D. Sample I.D. 103410027

Retinquished By: [Signature]

Received By: [Signature]

Date: 10/21/11

Time: 1400

Temperature: 9.7°C

Corrected Temp: 1.1°C

Sample Condition: Cool Heat

Groundwater: Yes No

Wastewater: Yes No

Soil: Yes No

Oil: Yes No

Sludge: Yes No

Other: Yes No

Acid/Alkaline: Yes No

Ice/Cool: Yes No

Other: Yes No

DATE: 10/21/11

TIME: 9:30

BTEX: [Signature]

TPH: [Signature]

CHLORIDE: [Signature]

Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____

Received By: [Signature]

Date: 10/21/11

Time: 1400

Temperature: 9.7°C

Corrected Temp: 1.1°C

Sample Condition: Cool Heat

Groundwater: Yes No

Wastewater: Yes No

Soil: Yes No

Oil: Yes No

Sludge: Yes No

Other: Yes No

Acid/Alkaline: Yes No

Ice/Cool: Yes No

Other: Yes No

DATE: 10/21/11

TIME: 9:30

BTEX: [Signature]

TPH: [Signature]

CHLORIDE: [Signature]



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

October 08, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 10/04/24 16:11.

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 164 4' (H246070-01)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	96.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 93.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 165 3' (H246070-02)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	32.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 166 3' (H246070-03)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	320	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 167 4' (H246070-04)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	272	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 168 4' (H246070-05)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	80.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.9 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 10 0-4' (H246070-06)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	80.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 91.5 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 11 0-4' (H246070-07)

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	10/07/2024	ND	2.16	108	2.00	7.90		
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78		
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16		
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35		
Total BTEX	<0.300	0.300	10/07/2024	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	928	16.0	10/07/2024	ND	416	104	400	7.41		

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	10/07/2024	ND	198	98.8	200	0.818		
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04		
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND						

Surrogate: 1-Chlorooctane 85.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 12 0-4' (H246070-08)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	5920	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 86.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 13 0-4' (H246070-09)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	2320	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 14 0-4' (H246070-10)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	2360	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 82.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/03/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 15 0-4' (H246070-11)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	592	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 94.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 135 2' (H246070-12)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	640	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 136 .5' (H246070-13)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	32.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 98.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 137 .5' (H246070-14)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	32.0	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 138 .5' (H246070-15)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	2960	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 92.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 139 2' (H246070-16)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	5200	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 90.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.0 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/04/2024	Sampling Date:	10/04/2024
Reported:	10/08/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 169 2' (H246070-17)

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	10/07/2024	ND	2.16	108	2.00	7.90	
Toluene*	<0.050	0.050	10/07/2024	ND	2.10	105	2.00	7.78	
Ethylbenzene*	<0.050	0.050	10/07/2024	ND	2.13	107	2.00	7.16	
Total Xylenes*	<0.150	0.150	10/07/2024	ND	6.36	106	6.00	7.35	
Total BTEX	<0.300	0.300	10/07/2024	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	448	16.0	10/07/2024	ND	416	104	400	7.41	

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	10/07/2024	ND	198	98.8	200	0.818	
DRO >C10-C28*	<10.0	10.0	10/07/2024	ND	179	89.7	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	10/07/2024	ND					

Surrogate: 1-Chlorooctane 93.1 % 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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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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensochem, LLC		BILL TO	
Project Manager: David McInnis		P.O. #:	
Address: 3122 National Parks Hwy		Company: XTO Energy Inc.	
City: Carlsbad		Attn: Amy Rulph	
Phone #: 409-454-3009		Address: 3104 E. Green St.	
Fax #: _____		City: Carlsbad	
Project #: 03C1558292		State: NM Zip: 88220	
Project Name: PLU 16 Twin Wells Ranch 102H		Phone #: _____	
Project Location: 32.207535, -103.788414		Fax #: _____	
Sampler Name: Jesse Dorman		DATE TIME	

Lab I.D.	Sample I.D.	Sample Depth (feet)	METHOD	PRESERV		DATE	TIME	BTEX	TPH	CHLORIDE
				GROUNDWATER	WASTEWATER					
10	FC1614	0-4'	GRAB OR (C)OMP.			11/30	11:30			
	165	4-8'	CONTAINERS			11/30	11:35			
	166	8-12'	CONTAINERS			11/30	11:40			
	167	12-16'	CONTAINERS			11/30	11:45			
	168	16-20'	CONTAINERS			11/30	11:50			
	SW10	0-4'	CONTAINERS			11/30	12:00			
	SW11	4-8'	CONTAINERS			11/30	12:05			
	SW12	8-12'	CONTAINERS			11/30	12:10			
	SW13	12-16'	CONTAINERS			11/30	12:15			
	SW14	16-20'	CONTAINERS			11/30	12:20			

FOR LAB USE ONLY

REMARKS: (Safety and Storage) Customer's safety and health records should be reviewed for any other safety records related to container or use, and for the product used by the client for the analysis. All data, including those for samples and any other data submitted shall be reviewed and signed by the analyst and approved by Cardinal within 30 days after completion of the analysis. In no event shall Cardinal be liable for incidents of contamination, including without limitation, hazardous materials, hazardous waste, or use of public resources by client, its subsidiaries, affiliates or independent agents, and/or related to the performance of services furnished by Cardinal, regardless of whether such client is listed as a customer or contractor.

Relinquished By: <i>[Signature]</i>	Date: 11/30/24	Received By: <i>[Signature]</i>	Date: 11/30/24
Delivered By: (Circle One)	Overseas	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Time: 8:00	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	APD
	Container Temp: 50°C	Other Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Turnaround Time: 24-48 hrs	
		Standard <input type="checkbox"/> Bacteria (only) <input type="checkbox"/>	
		Corrected Temp: 1°C	

Verbal Request: Yes No Add'l Phone # _____

All Results are emailed. Please provide Email address: _____

Declines@ensolum.com; TMs@ensolum.com; kthomas@ensolum.com

REMARKS: Cost Center: 12198471001 Inocul ID: NAPP230424909

1 Cardinal cannot accept verbal changes. Please email changes to cely.keene@cardinalabnm.com



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

October 10, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/08/2024	Sampling Date:	10/07/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 16 0-4 (H246102-01)

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	2.16	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	160	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 93.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/08/2024	Sampling Date:	10/07/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 172 2' (H246102-02)

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	2.16	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, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	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 94.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/08/2024	Sampling Date:	10/07/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 111 4' (H246102-03)

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	2.16	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, 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	10/09/2024	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 93.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.4 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/08/2024	Sampling Date:	10/07/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 132 4' (H246102-04)

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	2.16	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, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	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 98.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.4 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/08/2024	Sampling Date:	10/07/2024
Reported:	10/10/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 133 4' (H246102-05)

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	2.16	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	64.0	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 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.3 % 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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensham, LLC Project Manager: David McInnis Address: 3122 National Parks Hwy City: Carlsbad Phone #: 409-454-3009 Project #: 03C1558292 Project Name: PLU 16 Twin Wells Ranch 102H Project Location: 32 207535, -103.789414 Sampler Name: Jesse Dorman		P.O. #: Company: XTO Energy Inc. Attn: Amy Ruth Address: 3104 E. Green St. City: Carlsbad State: NM Zip: 88220 Phone #: Fax #:	
---	--	---	--

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER					
1	SW16	0-11	✓	1							10/17/14	1345			
2	ES172	2'	✓	1							10/17/14	1415			
3	ES111	4'	✓	1							10/17/14	1420			
4	ES132	4'	✓	1							10/17/14	1425			
5	ES133	4'	✓	1							10/17/14	1425			
gpd															

PLEASE NOTE: Sampling and Analysis. Cardiac's safety and other services comply for any other state where work is performed or will be performed. All other states where work is performed or will be performed by Cardiac shall be covered by the contract for the project. No other states where work is performed or will be performed by Cardiac shall be covered by the contract for the project. No other states where work is performed or will be performed by Cardiac shall be covered by the contract for the project.

Relinquished By: *[Signature]*

Received By: *[Signature]*

Date: 10/17/14

Time: 1410

Temperature: 20.0°C

Sample Condition: Cool Intact

Checked By: *[Signature]*

Remarks: *[Handwritten]*

Delivered By: (Circle One) UPS Bus Other

Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinalabnm.com



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

October 14, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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/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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 17 0-2' (H246170-01)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	112	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 18 0-4' (H246170-02)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	48.0	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 119 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 170 2' (H246170-03)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	160	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 171 2' (H246170-04)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	80.0	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 173 2' (H246170-05)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	64.0	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 125 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 174 2' (H246170-06)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	32.0	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 130 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 175 4' (H246170-07)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	7360	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 119 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 176 4' (H246170-08)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	6400	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/10/2024	Sampling Date:	10/08/2024
Reported:	10/14/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 177 4' (H246170-09)

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	2.10	105	2.00	2.37	
Toluene*	<0.050	0.050	10/11/2024	ND	2.01	100	2.00	1.33	
Ethylbenzene*	<0.050	0.050	10/11/2024	ND	2.01	101	2.00	0.760	
Total Xylenes*	<0.150	0.150	10/11/2024	ND	6.00	100	6.00	0.794	
Total BTEX	<0.300	0.300	10/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	4080	16.0	10/11/2024	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	10/11/2024	ND	195	97.7	200	3.92	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	191	95.6	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 121 % 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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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.
- 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



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

October 15, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 178 2' (H246197-01)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	64.0	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 86.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.3 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 179 4' (H246197-02)

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	10/12/2024	ND	2.08	104	2.00	2.47		
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56		
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60		
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81		
Total BTEX	<0.300	0.300	10/12/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	2680	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 71.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 180 4' (H246197-03)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	2000	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.2 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 181 4' (H246197-04)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	560	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 182 4' (H246197-05)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	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	768	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 93.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.6 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 183 4' (H246197-06)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	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	112	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 184 0.5' (H246197-07)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	3080	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 91.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 185 2' (H246197-08)

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	10/12/2024	ND	2.08	104	2.00	2.47		
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56		
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60		
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81		
Total BTEX	<0.300	0.300	10/12/2024	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	848	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 186 2' (H246197-09)

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	10/12/2024	ND	2.08	104	2.00	2.47		
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56		
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60		
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81		
Total BTEX	<0.300	0.300	10/12/2024	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	384	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588		
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715		
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND						

Surrogate: 1-Chlorooctane 80.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 187 0.5' (H246197-10)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	832	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 82.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 188 4' (H246197-11)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	240	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 82.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.1 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 189 4' (H246197-12)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	1410	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 82.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.7 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 190 4' (H246197-13)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	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	2030	16.0	10/14/2024	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	10/11/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 191 4' (H246197-14)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	10/14/2024	ND	432	108	400	3.64	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	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/11/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/11/2024	ND					

Surrogate: 1-Chlorooctane 85.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 192 4' (H246197-15)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	10/14/2024	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	10/12/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/12/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/12/2024	ND					

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	10/11/2024	Sampling Date:	10/10/2024
Reported:	10/15/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 193 4' (H246197-16)

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	10/12/2024	ND	2.08	104	2.00	2.47	
Toluene*	<0.050	0.050	10/12/2024	ND	2.05	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	10/12/2024	ND	2.12	106	2.00	4.60	
Total Xylenes*	<0.150	0.150	10/12/2024	ND	6.35	106	6.00	4.81	
Total BTEX	<0.300	0.300	10/12/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 77.5-125

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2080	16.0	10/14/2024	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	10/12/2024	ND	210	105	200	0.588	
DRO >C10-C28*	<10.0	10.0	10/12/2024	ND	194	96.9	200	0.715	
EXT DRO >C28-C36	<10.0	10.0	10/12/2024	ND					

Surrogate: 1-Chlorooctane 91.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.0 % 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

2/2

BILL TO

ANALYSIS REQUEST

Company Name: Ensolem, LLC
 Project Manager: David McCombs
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409-454-3009 Fax #:
 Project #: 02-1558292 Project Owner: XTO
 Project Name: PLU 16 TOWN WALLS BENCH 162H
 Project Location:
 Sampler Name: ANATON MERTINS
 P.O. #:
 Company: XTO Energy Inc.
 Attn: Army Ruth
 Address: 3104 E. Greene St.
 City: Carlsbad
 State: NM Zip: 88220
 Phone #:
 Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE					
H24197	FS128	4'	1			X				10-10-24	1253	X	X	X	
	FS189		1			X					1253	X	X	X	
	FS190		1			X					1305	X	X	X	
	FS191		1			X					1310	X	X	X	
	FS192		1			X					1320	X	X	X	
	FS193		1			X					1325	X	X	X	

FOR LAB USE ONLY
 PREPARE NOTE: Location and Designator. Cardholder's name and contact information should be provided for any other party who may be contacted for information regarding the sample. All dates including those for collection and any other dates indicated should be provided. All samples should be analyzed by the laboratory within the specified time frame. All samples should be analyzed by the laboratory within the specified time frame. All samples should be analyzed by the laboratory within the specified time frame.

Retrieved By: *[Signature]* Date: 10-11-24
 Received By: *[Signature]* Date: 10-11-24
 Time: 805

Delivered By: (Circle One) UPS Bus Other
 Received By: *[Signature]*
 Date: 10-11-24
 Time: 805
 Received By: *[Signature]*
 Date: 10-11-24
 Time: 805
 Received By: *[Signature]*
 Date: 10-11-24
 Time: 805

† Cardinal cannot accept verbal changes. Please email changes to cefey/keene@cardinalazmat.com



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

October 15, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 10/11/24 16:07.

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.

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, prominent "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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 194 4' (H246225-01)

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) 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	4200	16.0	10/14/2024	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	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 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 195 4' (H246225-02)

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) 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	1840	16.0	10/14/2024	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	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 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 196 4' (H246225-03)

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) 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	1040	16.0	10/14/2024	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	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 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 197 4' (H246225-04)

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) 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	1020	16.0	10/14/2024	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	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 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 198 0.5' (H246225-05)

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, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	10/14/2024	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	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 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 199 2' (H246225-06)

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) 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	640	16.0	10/14/2024	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	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 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 200 2' (H246225-07)

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: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/14/2024	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	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 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 201 0.5' (H246225-08)

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, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	10/14/2024	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	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 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 202 4' (H246225-09)

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) 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	3360	16.0	10/14/2024	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	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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 203 4' (H246225-10)

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	10/14/2024	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: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	10/14/2024	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	10/15/2024	ND	224	112	200	3.30		
DRO >C10-C28*	<10.0	10.0	10/15/2024	ND	224	112	200	1.45		
EXT DRO >C28-C36	<10.0	10.0	10/15/2024	ND						

Surrogate: 1-Chlorooctane 127 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 204 4' (H246225-11)

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	10/14/2024	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: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/14/2024	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	10/15/2024	ND	224	112	200	3.30	
DRO >C10-C28*	<10.0	10.0	10/15/2024	ND	224	112	200	1.45	
EXT DRO >C28-C36	<10.0	10.0	10/15/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 205 4' (H246225-12)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	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	2000	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 206 4' (H246225-13)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	4480	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 110 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 207 4' (H246225-14)

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	10/14/2024	ND	2.14	107	2.00	0.642		
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26		
Total BTEX	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	6900	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95		
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3		
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND						

Surrogate: 1-Chlorooctane 104 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 208 4' (H246225-15)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 110 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 209 4' (H246225-16)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 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	1620	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 210 4' (H246225-17)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 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	1800	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 112 % 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
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 211 4' (H246225-18)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	2160	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 212 4' (H246225-19)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	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	576	16.0	10/14/2024	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	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 213 4' (H246225-20)

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	10/14/2024	ND	2.14	107	2.00	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 125 % 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	2840	16.0	10/14/2024	ND	448	112	400	3.64	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	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 214 0.5' (H246225-21)

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	0.642	
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537	
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631	
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26	
Total BTEX	<0.300	0.300	10/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	1540	16.0	10/14/2024	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*	<10.0	10.0	10/14/2024	ND	232	116	200	5.95	
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 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 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 215 2' (H246225-22)

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	0.642		
Toluene*	<0.050	0.050	10/14/2024	ND	2.28	114	2.00	0.0537		
Ethylbenzene*	<0.050	0.050	10/14/2024	ND	2.36	118	2.00	0.631		
Total Xylenes*	<0.150	0.150	10/14/2024	ND	7.20	120	6.00	1.26		
Total BTEX	<0.300	0.300	10/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	128	16.0	10/14/2024	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*	<10.0	10.0	10/14/2024	ND	232	116	200	5.95		
DRO >C10-C28*	<10.0	10.0	10/14/2024	ND	221	110	200	12.3		
EXT DRO >C28-C36	<10.0	10.0	10/14/2024	ND						

Surrogate: 1-Chlorooctane 110 % 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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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: Ensolium, LLC
 Project Manager: David M. Davis
 Address: 3122 National Parks HWY
 City: Carlsbad State: NM Zip: 88220
 Phone #: 409.454.3009 Fax #: _____
 Project #: 01C1558242 Project Owner: _____
 Project Name: FLU 16 TUR 102H
 Project Location: 32, 207 5361-103, 785419
 Sampler Name: ANDREW MARRINS
 P.O. #: _____ Company: XTO
 Attn: Colby Brown
 Address: 3104 E. Grant
 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	TPH	BTEX	Chloride
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE					
11201305	FS194	4'	C	1	X							10/11/24	0901	X	X	X
	FS195	4'	C	1	X							10/11/24	0905	X	X	X
	FS196	4'	C	1	X							10/11/24	0909	X	X	X
	FS197	4'	C	1	X							10/11/24	0952	X	X	X
	FS198	0.5'	C	1	X							10/11/24	1000	X	X	X
	FS199	2'	C	1	X							10/11/24	1015	X	X	X
	FS200	2'	C	1	X							10/11/24	1019	X	X	X
	FS201	0.5'	C	1	X							10/11/24	1023	X	X	X
	FS202	4'	C	1	X							10/11/24	1028	X	X	X
	FS203	4'	C	1	X							10/11/24	1033	X	X	X

PLEASE NOTE: Ensolium, LLC and Ensolium, LLC are not responsible for any data entry errors. All data entered on this form will be subject to the same audit as data entered on the laboratory's information system. All data entered on this form will be subject to the same audit as data entered on the laboratory's information system. If you have any questions, please contact the laboratory at (575) 393-2326.

Relinquished By: _____ Date: 10/11/24
 Received By: David M. Davis
 Delivered By: (Circle One) _____ Date: 10/11/24
 Received By: Stationery
 Sampler - UPS - Bus - Other: _____
 Corrected Temp. °C: 3.52
 Sample Condition: Cool Inlet No
 Checked By: _____
 Turnaround Time: 4.12
 Remarks: CC: 2198471001
 I.D.: 11201305
 Standard Bacteria (only)
 Cool Inlet Bacteria (only)
 Observed Temp. °C: _____
 Corrected Temp. °C: _____

↑ Cardinal cannot accept verbal changes. Please email changes to colby.brown@cardinallabsnm.com



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

BILL TO

ANALYSIS REQUEST

Project Manager: *David Matonis*
 Address: 3122 National Parks HWY
 City: Carlsbad State: NM Zip: 88220
 Phone #: 407.454.3004 Fax #:
 Project #: 0321558242 Project Owner:
 Project Name: *PLU 16 TWR 102H* City: *Carlsbad*
 Project Location: *32.20735, -103.288414* State: *NM* Zip: *88220*
 Sampler Name: *Anna Matonis* P.O. #:
 Fax #:
 Company: *RTD*
 Attn: *Colton Brown*
 Address: *3104 E. Greent*
 City: *Carlsbad*
 State: *NM* Zip: *88220*
 Phone #:
 Fax #:
 PRESERV:
 SAMPLING:
 DATE: *10/11/24* TIME: *12:26*

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP	MATRIX						DATE	TIME	TPH	BTEX	Chloride
				GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER	ACID/BASE					
<i>W24005</i>														
<i>81</i>	<i>F32M</i>	<i>0.5</i>	<i>C</i>	<input checked="" type="checkbox"/>	<i>10/11/24</i>	<i>12:21</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<i>82</i>	<i>F315</i>	<i>2</i>	<i>C</i>	<input checked="" type="checkbox"/>	<i>10/11/24</i>	<i>12:26</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

FOR LAB USE ONLY
 Rollinquinshed By: *[Signature]* Date: *10/11/24* Time: *1440*
 Received By: *[Signature]* Date: *10/11/24* Time: *1440*
 Delivered By: *[Signature]* Date: *10/11/24* Time: *1440*
 Sampler - UPS - Bus - Other:
 Corrected Temp. °C: *3.5*

REMARKS: *CC: 2108 471001*
Incident # 2334 244804
 Turnaround Time: *4.1*
 Standard: *RTD*
 Bacteria (only) Sample Condition: Cool Intact Observed Temp. °C: *4.1*
 Corrected Temp. °C: *3.5*

† Cardinal cannot accept verbal changes. Please email changes to cately.keenec@cardinallabsnm.com



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

November 07, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 11/05/24 13:30.

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.

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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 20 (H246725-01)

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	11/05/2024	ND	2.25	113	2.00	0.275	
Toluene*	<0.050	0.050	11/05/2024	ND	2.15	107	2.00	0.794	
Ethylbenzene*	<0.050	0.050	11/05/2024	ND	2.16	108	2.00	1.84	
Total Xylenes*	<0.150	0.150	11/05/2024	ND	6.41	107	6.00	1.81	
Total BTEX	<0.300	0.300	11/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	704	16.0	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853	
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831	
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND					

Surrogate: 1-Chlorooctane 100 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 22 (H246725-02)

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	11/05/2024	ND	2.25	113	2.00	0.275	
Toluene*	<0.050	0.050	11/05/2024	ND	2.15	107	2.00	0.794	
Ethylbenzene*	<0.050	0.050	11/05/2024	ND	2.16	108	2.00	1.84	
Total Xylenes*	<0.150	0.150	11/05/2024	ND	6.41	107	6.00	1.81	
Total BTEX	<0.300	0.300	11/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853	
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831	
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 216 (H246725-03)

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	11/05/2024	ND	2.25	113	2.00	0.275	
Toluene*	<0.050	0.050	11/05/2024	ND	2.15	107	2.00	0.794	
Ethylbenzene*	<0.050	0.050	11/05/2024	ND	2.16	108	2.00	1.84	
Total Xylenes*	<0.150	0.150	11/05/2024	ND	6.41	107	6.00	1.81	
Total BTEX	<0.300	0.300	11/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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	32.0	16.0	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853	
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831	
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND					

Surrogate: 1-Chlorooctane 100 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 89 (H246725-04)

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	11/06/2024	ND	2.19	110	2.00	4.68	
Toluene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	4.03	
Ethylbenzene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	3.63	
Total Xylenes*	<0.150	0.150	11/06/2024	ND	6.19	103	6.00	3.82	
Total BTEX	<0.300	0.300	11/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853	
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831	
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND					

Surrogate: 1-Chlorooctane 90.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 99 (H246725-05)

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	11/06/2024	ND	2.19	110	2.00	4.68	
Toluene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	4.03	
Ethylbenzene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	3.63	
Total Xylenes*	<0.150	0.150	11/06/2024	ND	6.19	103	6.00	3.82	
Total BTEX	<0.300	0.300	11/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 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	336	16.0	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853	
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831	
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND					

Surrogate: 1-Chlorooctane 100 % 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
 TRACY HILLARD
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/05/2024	Sampling Date:	11/04/2024
Reported:	11/07/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 100 (H246725-06)

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	11/06/2024	ND	2.19	110	2.00	4.68		
Toluene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	4.03		
Ethylbenzene*	<0.050	0.050	11/06/2024	ND	2.08	104	2.00	3.63		
Total Xylenes*	<0.150	0.150	11/06/2024	ND	6.19	103	6.00	3.82		
Total BTEX	<0.300	0.300	11/06/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	11/06/2024	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	11/05/2024	ND	190	94.9	200	0.853		
DRO >C10-C28*	<10.0	10.0	11/05/2024	ND	188	93.9	200	0.831		
EXT DRO >C28-C36	<10.0	10.0	11/05/2024	ND						

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.7 % 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



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: Ensochem
 Project manager: Tracy Hillard
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM ZIP: 88220
 Phone #: 575-937-3906
 Project #: 03C1658292
 Project Name: PLU 16 Twin Wells Ranch 102H
 Project Location: 32.207535, -103.788414
 Sampler Name: Urvel Santilana
 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.	(GRAB OR (C)OMP.	# CONTAINERS	MATRIX					DATE	TIME	CHLORIDES	PH	TEMP
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE					
H2416785							11/4/24	11:22	X	X	X	
1								1358	X	X	X	
2								1318	X	X	X	
3								1340	X	X	X	
4								1332	X	X	X	
5								1336	X	X	X	

Requisitioned By: [Signature]
 Received By: [Signature]
 Date: 11/30
 Time: 1:30
 Received By: [Signature]

Delivered By: (Circle One)
 Handler - UPS - Bus - Other:
 Conserved Temp. °C: 1.9
 Corrected Temp. °C: 1.3

Sample Condition:
 Cool Moist
 Dry Wet

CHECKED BY: [Signature] (initials)
 Vertical Result: Yes No
 Incident ID: NAF2314248809



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

November 11, 2024

DAVID MCINNIS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU 16 TWIN WELLS RANCH 102H

Enclosed are the results of analyses for samples received by the laboratory on 11/07/24 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.

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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/05/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 11 (H246797-01)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 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	32.0	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 90.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.4 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/06/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 13 (H246797-02)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 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	32.0	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 99.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/05/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 14 (H246797-03)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 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	416	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	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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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/06/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 19 (H246797-04)

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	11/08/2024	ND	1.74	87.2	2.00	21.9		
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7		
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1		
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4		
Total BTEX	<0.300	0.300	11/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 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	96.0	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230		
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774		
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND						

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/06/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 21 (H246797-05)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 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	368	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/05/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 23 (H246797-06)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 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	192	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.7 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/06/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 24 (H246797-07)

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	11/08/2024	ND	1.74	87.2	2.00	21.9		
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7		
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1		
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4		
Total BTEX	<0.300	0.300	11/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 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	64.0	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230		
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774		
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/05/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: SW 25 (H246797-08)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 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	80.0	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/05/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 97 (H246797-09)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 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	112	16.0	11/11/2024	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	11/08/2024	ND	201	101	200	0.230	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	193	96.4	200	0.774	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.3 % 49.1-148

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Analytical Results For:

ENSOLUM
 DAVID MCINNIS
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	11/07/2024	Sampling Date:	11/06/2024
Reported:	11/11/2024	Sampling Type:	Soil
Project Name:	PLU 16 TWIN WELLS RANCH 102H	Sampling Condition:	Cool & Intact
Project Number:	03C1558292	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.207535, -103.788414		

Sample ID: FS 217 (H246797-10)

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	11/08/2024	ND	1.74	87.2	2.00	21.9	
Toluene*	<0.050	0.050	11/08/2024	ND	1.69	84.6	2.00	20.7	
Ethylbenzene*	<0.050	0.050	11/08/2024	ND	1.70	84.8	2.00	20.1	
Total Xylenes*	<0.150	0.150	11/08/2024	ND	5.00	83.4	6.00	20.4	
Total BTEX	<0.300	0.300	11/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 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	48.0	16.0	11/11/2024	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	11/08/2024	ND	205	102	200	3.82	
DRO >C10-C28*	<10.0	10.0	11/08/2024	ND	200	100	200	2.88	
EXT DRO >C28-C36	<10.0	10.0	11/08/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 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.
S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum

BILL TO

ANALYSIS REQUEST

Project manager: Tracy Hillard

P.O. #:

Address: 3122 National Parks Hwy

Company: XTO Energy

City: Carlsbad State: NM ZIP: 88220

Attn: Cotton Brown

Phone #: 575-937-3906

Address: 3104 E Greens St.

Project #: 03C1558292

City: Carlsbad

Project Name: PLU 16 Twin Wells Ranch 102H

State: NM Zip: 88220

Project Location: 32.207535, -103.788414

Phone #:

Sampler Name: Urinal Sanitiana

Fax #:

Lab I.D.

Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	CHLORIDES	PH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:					
1	SW11	C	2			X								
2	SW13	C	1			X			11/5/24	1441	X	X	X	
3	SW14	C	1			X			11/5/24	1338	X	X	X	
4	SW19	C	1			X			11/6/24	1450	X	X	X	
5	SW21	C	1			X			11/6/24	1320	X	X	X	
6	SW23	C	1			X			11/5/24	1405	X	X	X	
7	SW24	C	1			X			11/6/24	1300	X	X	X	
8	SW25	C	1			X			11/5/24	1250	X	X	X	
9	ES97	C	1			X			11/5/24	1403	X	X	X	
10	FS217	C	1			X			11/6/24	1040	X	X	X	

NOTE: Labels and tags... (G)RAB OR (C)OMP. # CONTAINERS. MATRIX: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER: ACID/BASE, ICE / COOL, OTHER: DATE, TIME. CHLORIDES, PH, BTEX.

Uninquired By: *[Signature]*

Date: 11-7-24

Received By: *[Signature]*

Vertical Result: Yes No Add'l Phone #

Observed Temp. °C: 23

Corrected Temp. °C: 19

Sample Condition: Cool Moist Other

CHECKED BY: *[Signature]*

Remarks: Cost center: 2158471001 Incident ID: NAPP23424809

Standard Analytical Sample Condition Cool Other

FORM-006 R 3.3 10/07/21

Cardinal cannot accept verbal changes. Please email changes to cefey.keeve@cardinalab.com



APPENDIX D

May 22, 2024, *Remediation Work Plan*



May 22, 2024

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan
PLU 16 Twin Wells Ranch 102H
Incident Number nAPP2334249809
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 the site assessment activities completed to date and propose a work plan to address impacted soil identified at the PLU 16 Twin Wells Ranch 102H (Site). The purpose of the site assessment activities was to delineate the lateral and vertical extent of impacted soil resulting from a release of produced water. The following *Work Plan* proposes to excavate impacted and waste-containing soil.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 21, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.20755°, -103.78839°) and is associated with oil and gas exploration and production operations on Federal land under the stewardship of the Bureau of Land Management (BLM).

On November 26, 2023, equipment failure on a 2-inch drain line resulted in the release of 1,610 barrels (bbls) of produced water onto the surface of the pad and into the surrounding pasture and right-of-way (ROW) areas. Vacuum trucks were dispatched to the Site and recovered 1,300 bbls of released fluids. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on November 27, 2023 and submitted a Form C-141 Application (Form C-141) on December 8, 2023. The release was assigned Incident Number nAPP2334249809.

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 and potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-4499, located approximately 0.36 miles southwest of the Site. Well C-4499 is a soil boring drilled by XTO utilizing a truck-mounted hollow-stem auger rig to determine regional depth to groundwater in the area. The soil boring was advanced to a total depth of 110 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was

XTO Energy, Inc.
Remediation Work Plan
PLU 16 Twin Wells Ranch 102H

left open for over 72 hours to allow for the potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater in the area is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A and all wells used for depth to water determination are depicted on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 6,702 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet 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).

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 applies to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC.

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On December 6, and December 7, 2023, Ensolum personnel arrived onsite to conduct Site assessment and delineation activities. Potholes PH01 through PH16 were advanced via hand auger, backhoe, or hydrovacuum truck within the release extent. The potholes were advanced to a maximum depth of 8 feet bgs. Discrete soil samples were collected from each pothole at depths ranging from 0.5-foot bgs to 8 feet bgs. Soil samples from each pothole were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations were logged on lithologic/soil sampling logs, which are included in Appendix B. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix C.

The delineation 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 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.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples PH01, PH02, PH02A, PH03, PH04, and PH16 indicated chloride concentrations exceeded the reclamation requirement applied in the top 4 feet of

XTO Energy, Inc.
Remediation Work Plan
PLU 16 Twin Wells Ranch 102H

pasture areas. All other potholes were advanced on the facility pad and indicated elevated chloride concentrations of up to a maximum of 4,590 mg/kg, indicating the presence of waste-containing soil. Additionally, laboratory analytical results for soil samples collected at the terminal depth of all potholes indicated all COCs are below the strictest Table I Closure Criteria, and thus vertically defines the release. Analytical results for all soil samples collected indicated concentrations of benzene, BTEX, and TPH concentrations were in compliance with the strictest Table I Closure Criteria. Laboratory analytical results are presented in Table 1 and the complete laboratory analytical reports and chain-of-custody documentation are presented in Appendix D.

PROPOSED REMEDIATION WORK PLAN

The delineation soil sampling results indicate soil containing elevated chloride concentrations exists across an approximate 81,544 square-foot area (18,461 square feet of pasture/ROW area) and extends to a maximum depth of 4 feet bgs. XTO proposes to complete the following remediation activities:

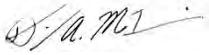
- Excavation of chloride-impacted and waste-containing soil to a maximum depth of 4 feet bgs. Excavation will proceed laterally until sidewall samples confirm chloride concentrations are compliant with the reclamation requirement in the top four feet.
- The soil samples will be handled as described above and analyzed for chloride. The soil samples will be analyzed for chloride only since benzene, BTEX, and TPH concentrations were all below non detectable laboratory limits.
- Due to the estimated size of excavation, XTO requests a variance for frequency of confirmation samples. XTO proposes five-point composite samples to be collected at a sampling frequency of 500 square feet along the excavation floor and sidewalls. The proposed sampling frequency would reduce the total amount of samples from approximately 468 samples (200 square-foot frequency) to approximately 188 samples.
- Horizontal definition will be achieved through either the collection of sidewall confirmation soil samples or the collection of delineation soil samples.
- An estimated 12,000 cubic yards of impacted and waste-containing soil will be excavated. The excavated soil will be transferred to a New Mexico approved landfill disposal facility.
- The excavation will be backfilled and recontoured to match pre-existing Site conditions and pasture/ROW area to be re-seeded with the approved BLM seed mixture.

XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such XTO requests approval of the *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 NMOCD.

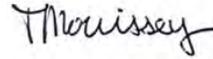
If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

XTO Energy, Inc.
Remediation Work Plan
PLU 16 Twin Wells Ranch 102H

Sincerely,
Ensolum, LLC



David A. McInnis
Project Geologist



Tacoma Morrissey, M.S.
Associate Principal

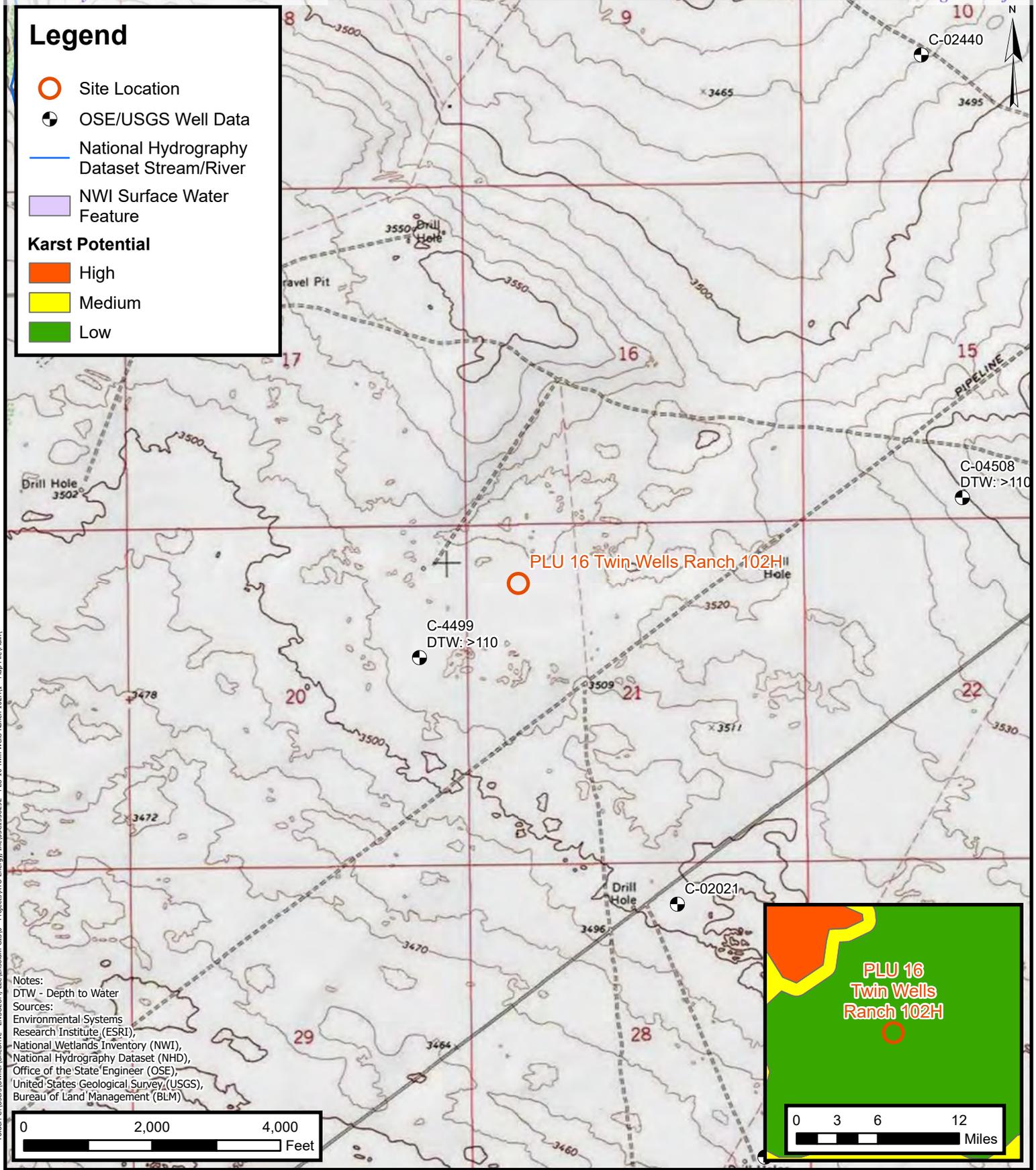
cc: Amy Ruth, XTO
Amanda Garcia, XTO
BLM

Appendices:

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



FIGURES



Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Documents\GIS\0 - Projects\XTO Energy, Inc\03C1558992 - PLU 16 Twin Wells Ranch 102H1 - Map File\Main

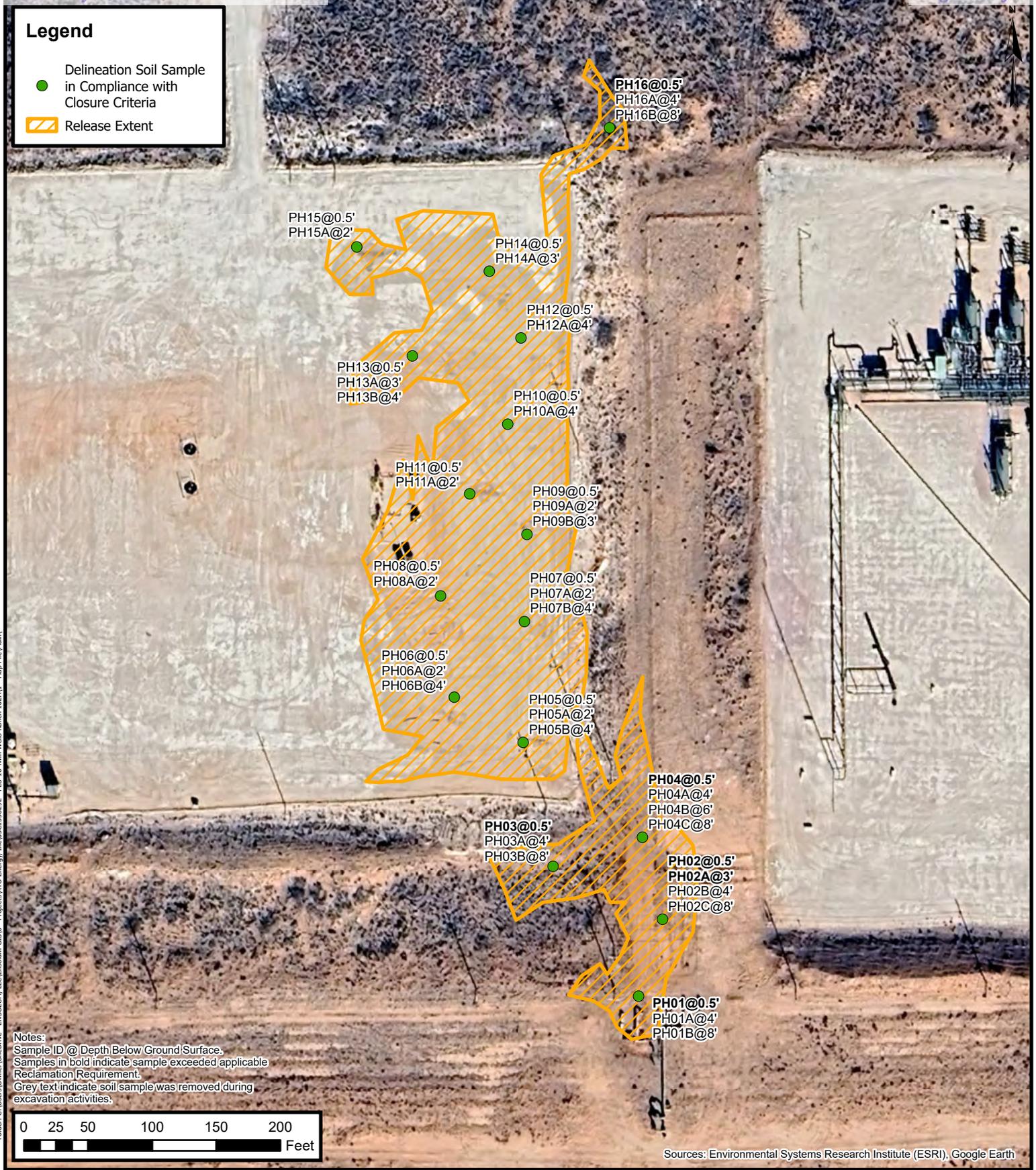


Site Receptor Map
 XTO Energy, Inc
 PLU 16 Twin Wells Ranch 102H
 Incident Number: nAPP2334249809
 Unit D, Section 21, Township 24 South, Range 31 East
 Eddy County, New Mexico

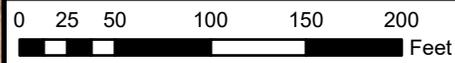
FIGURE
 1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Release Extent



Notes:
 Sample ID @ Depth Below Ground /Surface.
 Samples in bold indicate sample exceeded applicable Reclamation Requirement.
 Grey text indicate soil sample was removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI), Google Earth

Delineation Soil Sample Locations

XTO Energy, Inc
 PLU 16 Twin Wells Ranch 102H
 Incident Number: nAPP2334249809
 Unit D, Section 21, Township 24 South, Range 31 East
 Eddy County, New Mexico

FIGURE
2





TABLES



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 16 Twin Wells Ranch 102H
XTO Energy, Inc
Eddy County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
PH01	12/06/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	2,930
PH01A	12/06/2023	4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	2,800
PH01B	12/06/2023	8	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	82.6
PH02	12/06/2023	0.5	<0.00200	<0.00399	<50.3	<50.3	<50.3	<50.3	<50.3	4,380
PH02A	12/06/2023	3	<0.00200	<0.00401	<50.3	<50.3	<50.3	<50.3	<50.3	867
PH02B	12/06/2023	4	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	3,030
PH02C	12/06/2023	8	<0.00198	<0.00396	<50.4	<50.4	<50.4	<50.4	<50.4	94.5
PH03	12/06/2023	0.5	<0.00200	<0.00401	<50.1	<50.1	<50.1	<50.1	<50.1	3,490
PH03A	12/06/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	702
PH03B	12/06/2023	8	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	22.9
PH04	12/06/2023	0.5	<0.00199	<0.00398	<50.4	55.9	<50.4	55.9	55.9	5,260
PH04A	12/06/2023	4	<0.00200	<0.00401	<49.6	<49.6	<49.6	<49.6	<49.6	1,610
PH04B	12/06/2023	6	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	3,180
PH04C	12/06/2023	8	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	80.1
PH05	12/06/2023	0.5	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	3,510
PH05A	12/06/2023	2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	1,030
PH05B	12/06/2023	4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	108
PH06	12/06/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	4,110
PH06A	12/06/2023	2	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	1,210
PH06B	12/06/2023	4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	44.5
PH07	12/06/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	4,220
PH07A	12/06/2023	2	<0.00199	<0.00398	<50.2	<50.2	<50.2	<50.2	<50.2	4,590
PH07B	12/06/2023	4	<0.00198	<0.00397	<50.4	<50.4	<50.4	<50.4	<50.4	70.6
PH08	12/06/2023	0.5	<0.00198	<0.00397	<50.5	<50.5	<50.5	<50.5	<50.5	1,970
PH08A	12/06/2023	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	235
PH09	12/07/2023	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	2,620
PH09A	12/07/2023	2	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	213
PH09B	12/07/2023	3	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	27.9
PH10	12/07/2023	0.5	<0.00200	<0.00401	<50.1	<50.1	<50.1	<50.1	<50.1	1,540
PH10A	12/07/2023	4	<0.00200	<0.00400	<49.7	<49.7	<49.7	<49.7	<49.7	42.3
PH11	12/07/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	844
PH11A	12/07/2023	2	<0.00198	<0.00396	<49.6	<49.6	<49.6	<49.6	<49.6	50.9
PH12	12/07/2023	0.5	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	1,530
PH12A	12/07/2023	4	<0.00200	<0.00401	<50.3	<50.3	<50.3	<50.3	<50.3	84
PH13	12/07/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	219
PH13A	12/07/2023	3	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	229
PH13B	12/07/2023	4	<0.00202	<0.00404	<50.5	<50.5	<50.5	<50.5	<50.5	37.7
PH14	12/07/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	3,100
PH14A	12/07/2023	3	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	58
PH15	12/07/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	478
PH15A	12/07/2023	2	<0.00199	<0.00398	<50.2	<50.2	<50.2	<50.2	<50.2	42.1
PH16	12/07/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	5,700
PH16A	12/07/2023	4	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	7,950
PH16B	12/07/2023	8	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	62.3

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



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4499			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	LATITUDE	DEGREES 32°	MINUTES 12'	SECONDS 15.89" N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84		
		LONGITUDE	-103°	47'	36.29" W			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE NE Sec. 20 T24S R31E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249	NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.			
	DRILLING STARTED 12/30/2020	DRILLING ENDED 12/30/2020	DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) n/a			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	110	±8.5	Boring- HSA	-	-	-	-
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/17)			
FILE NO.	C-4499	POD NO.	1	TRN NO.	182532
LOCATION	24S.31E.20.243		WELL TAG ID NO.	—	PAGE 1 OF 2

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4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	6	6	SAND, well graded, fine-to-large grain particles red-brown, dry	✘ ✓ N	
	6	8	2	SAND, poorly graded, fine grained little clay mod. plasticity, red-brown, moist	Y ✓ N	
	8	11	3	CALICHE, mod. consolidated, some sand, medium /fine grain, white-tan, dry	Y ✓ N	
	11	46	35	CALICHE, mod. consolidated, some sand, medium to fine grain, white-tan, dry.	Y ✓ N	
	46	74	28	SAND, well-graded, medium grain, caliche gravel (1-4mm), light brown, dry.	Y ✓ N	
	74	110	36	SAND, well-graded, fine/large grain, few clay, cohesive, red-brown, dry	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from WSP on-site geologist.
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	Shane Eldridge

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 Jackie D. Atkins _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME	01/15/2021 _____ DATE

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO.	C-4499	POD NO.	1
LOCATION		TRN NO.	482532
		WELL TAG ID NO.	PAGE 2 OF 2

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APPENDIX B

Lithologic Soil Sampling Logs

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants		Sample Name: PH01		Date: 12/6/2023				
		Site Name: PLU 16 TWR 102H						
Incident Number:								
Job Number: 03C1558292								
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: MR				
Coordinates: 32.207557, -103.788404				Method: Hand Auger				
				Hole Diameter: 4"				
				Total Depth: 8'				
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	3,696	6.1	N	PH01	0.5	0	SP-SM	0-3' SAND with silt, medium brown to red. Poorly sorted, sub-rounded, medium to fine grains, no stain, no odor, moist.
M	3,360	13.2	N			1		
M	4,430	10.5	N			2		
M	5,258	8.1	N	PH01A		3	SP-SC	3-6' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
M	11,575	7.3	N		4	4		
						5		
M	1,870	3.1	N	PH01B		6	SP-SM	6-8' SAND with silt, reddish brown. Medium to fine grains, subrounded, poorly sorted. No stain, no odor, moist.
						7		
M	245	0.1	N		8	8		
						TD		Total Depth @ 8' bgs.

		Sample Name: PH02		Date: 12/6/2023				
		Site Name: PLU 16 TWR 102H						
		Incident Number:						
		Job Number: 03C1558292						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: MR		Method: Hand Auger		
Coordinates: 32.207721, -103.788341				Hole Diameter: 4"		Total Depth: 8'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	8,495	12.1	N	PH02	0.5	0	SP-SM	0-3' SAND with silt, medium brown to red. Poorly sorted, sub-rounded, medium to fine grains, no stain, no odor, moist.
M	9,178	17.6	N			1		
M	5,712	10.7	N			2		
M	5,258	7.6	N	PH02A		3	SP-SC	3-6' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
M	9,178	8.1	N	PH02B	4	4		
M	6,199	4.2	N			5		6-8' SAND with silt, reddish brown. Medium to fine grains, subrounded, poorly sorted. No stain, no odor, moist.
M						6	SP-SM	
M						7		
M	<168	0.0	N	PH02C	8	8		Total Depth @ 8' bgs.
						TD		

		Sample Name: PH03	Date: 12/6/2023					
		Site Name: PLU 16 TWR 102H						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.207837, 103.788615		Logged By: MR	Method: Hand Auger					
		Hole Diameter: 4"	Total Depth: 8'					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	5,258	6.2	N	PH03	0.5	0	SP-SM	0-3' SAND with silt, medium brown to red. Poorly sorted, sub-rounded, medium to fine grains, no stain, no odor, moist.
M	5,528	5.8	N		1			
M	6,714	3.7	N		2			
M	9,918	5.6	N	PH03A	4	3	SP-SC	3-6' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
M	14,678	9.8	N		4			
M	5,712	3.2	N	PH03B	8	6	SP-SM	6-8' SAND with silt, reddish brown. Medium to fine grains, subrounded, poorly sorted. No stain, no odor, moist.
M	<168	0.1	N		8			
					8	8		Total Depth @ 8' bgs.

								Sample Name: PH04	Date: 12/6/2023
								Site Name: PLU 16 TWR 102H	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR	Method: Hand Auger
Coordinates: 32.207897, -103.788389								Hole Diameter: 4"	Total Depth: 8'
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
M	6,199	6.1	N	PH04	0.5	0	SP-SM	0-3' SAND with silt, medium brown to red. Poorly sorted, sub-rounded, medium to fine grains, no stain, no odor, moist.	
M	6,199	5.3	N			1			
M	5,258	4.9	N			2			
M	5,712	6.7	N	PH04A		3	SP-SC	3-6' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.	
M	9,178	7.1	N		4	4			
M	10,713	8.1	N	PH04B		5	SP-SM	6-8' SAND with silt, reddish brown. Medium to fine grains, subrounded, poorly sorted. No stain, no odor, moist.	
M	<168	0	N		6	6			
M	<168	0	N	PH04C		7		Total Depth @ 8' bgs.	
					8	8			
						TD			

					Sample Name: PH05		Date: 12/6/2023			
					Site Name: PLU 16 TWR 102H				Incident Number:	
LITHOLOGIC / SOIL SAMPLING LOG					Job Number: 03C1558292		Logged By: MR		Method: Backhoe	
					Coordinates: 32.208104, -103.788687				Hole Diameter: ~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. A 40% error factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	6,199	10.2	N	PH05	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.		
M	6,199	10.1	N			1	SP-SM	0.5-3' SAND with silt, medium brown to reddish brown, medium to fine grained, sub-rounded grains, no stain, no odor, moist.		
M	8,495	12.7	N	PH05A	2	2				
M	6,714	13.2	N			3	SP-SC	3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.		
M	245	0.2	N	PH05B	4	4				
						TD		Total Depth @ 4' bgs.		

					Sample Name: PH06		Date: 12/6/2023			
					Site Name: PLU 16 TWR 102H				Incident Number:	
LITHOLOGIC / SOIL SAMPLING LOG					Job Number: 03C1558292		Logged By: MR		Method: Backhoe	
					Coordinates: 32.208202, -103.78886					Hole Diameter: ~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. A 40% error factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	4,430	3.1	N	PH06	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.		
M	5,712	0.7	N			1	SP-SM	0.5-3' SAND with silt, medium brown to reddish brown, medium to fine grained, sub-rounded grains, no stain, no odor, moist.		
M	7,862	2.1	N	PH06A	2	2				
M	2,638	1.3	N			3	SP-SC	3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.		
M	168	0.4	N	PH06B	4	4				
						TD		Total Depth @ 4' bgs.		

					Sample Name: PH07		Date: 12/6/2023			
					Site Name: PLU 16 TWR 102H				Incident Number:	
LITHOLOGIC / SOIL SAMPLING LOG					Job Number: 03C1558292		Logged By: MR		Method: Backhoe	
					Coordinates: 32.208364, -103.788681					Hole Diameter: ~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. A 40% error factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	5,712	3.1	N	PH07	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.		
M	7,269	0.7	N			1	SP-SM	0.5-3' SAND with silt, medium brown to reddish brown, medium to fine grained, sub-rounded grains, no stain, no odor, moist.		
M	10,713	2.1	N	PH07A	2	2				
M	364	1.3	N			3	SP-SC	3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.		
M	<168	0.4	N	PH07B	4	4				
						TD		Total Depth @ 4' bgs.		

					Sample Name: PH08		Date: 12/6/2023					
					Site Name: PLU 16 TWR 102H				Incident Number:			
					Job Number: 03C1558292				Logged By: MR		Method: Backhoe	
					Coordinates: 32.20842, -103.788891				Hole Diameter: ~3'		Total Depth: 2'	
LITHOLOGIC / SOIL SAMPLING LOG												
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions				
M	2,246	0.9	N	PH08	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.				
M	291	0.8	N			1	SP-SM	0.5-3' SAND with silt, medium brown to reddish brown, medium to fine grained, sub-rounded grains, no stain, no odor, moist.				
M	<168	0.2	N	PH08A	2	2						

 Environmental, Engineering and Hydrogeologic Consultants						Sample Name: PH09		Date: 12/7/2023			
						Site Name: PLU 16 TWR 102H				Incident Number:	
LITHOLOGIC / SOIL SAMPLING LOG						Job Number: 03C1558292		Logged By: MR		Method: Backhoe	
						Coordinates: 32.20855, -103.788672					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	4,429	10.3	N	PH09	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.			
M	4,833	9.1	N			1	SP	0.5-1.5' SAND with caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.			
M	7,269	5.4	N	PH09A	2	2	SP-SM	1.5-3' SAND with silt, reddish brown, poorly sorted, medium to fine grained, no stain, no odor, moist.			
M	<168	0.7	N	PH09B	3	3	SP-SC	3' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.			
						TD		Total Depth @ 3' bgs.			

							Sample Name: PH10		Date: 12/7/2023	
							Site Name: PLU 16 TWR 102H			
							Incident Number:			
							Job Number: 03C1558292			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: MR		Method: Backhoe	
Coordinates: 32.208787, -103.788716							Hole Diameter: ~3'		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	9,520	13.1	N	PH10	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.		
M	5,499	2.7	N			1	SP	0.5-1.5' SAND with caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.		
M	2,778	1.8	N			2	SP-SM	1.5-3' SAND with silt, reddish brown, poorly sorted, medium to fine grained, no stain, no odor, moist.		
M	963	1.2	N			3	SP-SC	3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.		
M	<168	0.1	N	PH10A	4	4		Total Depth @ 4' bgs.		
						TD				

 Environmental, Engineering and Hydrogeologic Consultants						Sample Name: PH11		Date: 12/7/2023			
						Site Name: PLU 16 TWR 102H				Incident Number:	
LITHOLOGIC / SOIL SAMPLING LOG						Job Number: 03C1558292		Logged By: MR		Method: Backhoe	
						Coordinates: 32.208638, -103.788815					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M	2,990	1.6	N	PH11	0.5	0	CCHE	0-0.5' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.			
M	493	1.9	N			1	SP	0.5-1.5' SAND with caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.			
M	291	0.2	N	PH11A	2	2	SP-SM	1.5-2' SAND with silt, reddish brown, poorly sorted, medium to fine grained, no stain, no odor, moist.			
						TD		Total Depth @ 2' bgs.			

					Sample Name: PH12		Date: 12/7/2023	
					Site Name: PLU 16 TWR 102H			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: MR		Method: Backhoe	
					Coordinates: 32.208971, -103.788681			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	10,282	13.1	N	PH12	0.5	0	CCHE	0-1' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.
M	5,964	2.7	N		1	1	SP	1-3' SAND with trace caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.
M	5,964	1.8	N		2	2		
M	2,778	1.2	N		3	3	SP-SC	3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
M	<168	0.1	N	PH12A	4	4		Total Depth @ 4' bgs.
						TD		

					Sample Name: PH13		Date: 12/7/2023	
					Site Name: PLU 16 TWR 102H			
LITHOLOGIC / SOIL SAMPLING LOG					Job Number: 03C1558292		Method: Backhoe	
					Logged By: MR		Total Depth: 4'	
Coordinates: 32.208936, -103.788955					Hole Diameter: ~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. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	610	3.1	N	PH13	0.5	0	CCHE	0-1' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.
M	1,350	2.6	N			1	SP	1-3' SAND with trace caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.
M	5,499	4.4	N			2		
M	6,462	3.7	N	PH13A	3	3	SP-SC	
M	<168	0.2	N	PH13B	4	4		3-4' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
						TD		Total Depth @ 4' bgs.

					Sample Name: PH14		Date: 12/7/2023					
					Site Name: PLU 16 TWR 102H				Incident Number:			
					Job Number: 03C1558292				Logged By: MR		Method: Backhoe	
					Coordinates: 32.209115, -103.788758				Hole Diameter: ~3'		Total Depth: 3'	
LITHOLOGIC / SOIL SAMPLING LOG												
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions				
M	14,095	0.9	N	PH14	0.5	0	CCHE	0-1' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.				
M	2,778	0.7	N			1	SP	1-3' SAND with trace caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.				
M	2,990	0.5	N			2						
M	246	0.2	N	PH14A	3	3	SP-SC	3' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.				
						TD		Total Depth @ 3' bgs.				

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants					Sample Name: PH15		Date: 12/7/2023					
					Site Name: PLU 16 TWR 102H				Incident Number:			
					Job Number: 03C1558292				Logged By: MR		Method: Backhoe	
					Coordinates: 32.209171, -103.789092				Hole Diameter: ~3'		Total Depth: 2'	
LITHOLOGIC / SOIL SAMPLING LOG												
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions				
M	6,989	0.9	N	PH15	0.5	0	CCHE	0-1' CALICHE, medium brown, medium to coarse grained, poorly sorted. Stained.				
M	<168	0.7	N			1	SP	1-2' SAND with trace caliche, medium to red brown, medium to coarse grained, poorly sorted, sub-rounded grains, no stain, no odor, moist.				
M	<168	0.5	N	PH15A	2	2		Total Depth @ 2' bgs.				
						TD						

		Sample Name: PH16		Date: 12/7/2023				
		Site Name: PLU 16 TWR 102H						
		Incident Number:						
		Job Number: 03C1558292						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: MR		Method: Hand Auger		
Coordinates: 32.209420, -103.788451				Hole Diameter: 4"		Total Depth: 8'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	11,575	3.2	N	PH16	0.5	0	SP-SM	0-3' SAND with silt, medium brown to red. Poorly sorted, sub-rounded, medium to fine grains, no stain, no odor, moist.
M	5,258	4.1	N			1		
M	5,712	6.2	N			2		
M	11,575	2.7	N	PH16A		3	SP-SC	3-6' CLAYEY SAND, reddish brown. Fine to very fine grains, no stain, no odor, moist.
M	15,926	3.3	N		4	4		
						5		
M	4,430	1.7	N	PH16B		6	SP-SM	6-8' SAND with silt, reddish brown. Medium to fine grains, subrounded, poorly sorted. No stain, no odor, moist.
						7		
M	<168	0.4	N		8	8		
						TD		Total Depth @ 8' bgs.



APPENDIX C

Photographic Log



Photographic Log
XTO Energy, Inc
PLU 16 Twin Wells Ranch 102H
nAPP2334249809



Photograph: 1 Date: 11/26/2023
Description: Produced water in release footprint
View: Southwest

Photograph: 2 Date: 11/26/2023
Description: Soil staining in release footprint
View: East



Photograph: 3 Date: 12/6/2023
Description: Soil staining in release footprint
View: South

Photograph: 4 Date: 12/6/2023
Description: Soil Staining in release footprint
View: North



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701

Generated 12/18/2023 8:59:11 AM Revision 1

JOB DESCRIPTION

PLU 16 TWR 102H
 03C1558292

JOB NUMBER

890-5755-1

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
12/18/2023 8:59:11 AM
Revision 1

Authorized for release by
Jessica Kramer, Project Manager
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(432)704-5440

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Client: Ensolum
Project/Site: PLU 16 TWR 102H

Laboratory Job ID: 890-5755-1
SDG: 03C1558292

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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

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Case Narrative

Client: Ensolum
Project: PLU 16 TWR 102H

Job ID: 890-5755-1

Job ID: 890-5755-1

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Job Narrative 890-5755-1

REVISION

The report being provided is a revision of the original report sent on 12/14/2023. The report (revision 1) is being revised due to Per client email, requesting sample ID edits. Revision needed.

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 12/7/2023 3:22 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 2.8°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01A (890-5755-1), PH01B (890-5755-2), PH02A (890-5755-3), PH02B (890-5755-4), PH02C (890-5755-5), PH03A (890-5755-6), PH03B (890-5755-7), PH04A (890-5755-8), PH04B (890-5755-9), PH04C (890-5755-10), PH05A (890-5755-11), PH05B (890-5755-12), PH06A (890-5755-13), PH06B (890-5755-14), PH07A (890-5755-15), PH07B (890-5755-16), PH08 (890-5755-17), PH08A (890-5755-18), PH09A (890-5755-19), PH09B (890-5755-20), PH10 (890-5755-21), PH10A (890-5755-22), PH11 (890-5755-23), PH11A (890-5755-24), PH12 (890-5755-25), PH12A (890-5755-26), PH13A (890-5755-27), PH13B (890-5755-28), PH14 (890-5755-29), PH14A (890-5755-30), PH15 (890-5755-31), PH15A (890-5755-32), PH16A (890-5755-33) and PH16B (890-5755-34).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-36696-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-68939 and analytical batch 880-68889 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (MB 880-68998/5-A) and (MB 880-69014/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5771-A-13-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-69014 and analytical batch 880-68975 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-69015 and analytical batch 880-68997 was outside the upper control limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-69028 and analytical batch 880-68997 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

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Case Narrative

Client: Ensolum
Project: PLU 16 TWR 102H

Job ID: 890-5755-1

Job ID: 890-5755-1 (Continued)

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acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-69028 and analytical batch 880-68997 was outside the upper control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-68962/1-A) and (LCSD 880-68962/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH01A (890-5755-1), PH02A (890-5755-3), PH02B (890-5755-4), PH02C (890-5755-5) and (890-5755-A-1-G MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH04C (890-5755-10), PH05A (890-5755-11), PH07B (890-5755-16), PH08 (890-5755-17), PH08A (890-5755-18), PH09A (890-5755-19) and PH09B (890-5755-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-68962 and analytical batch 880-68890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The method blank for preparation batch 880-69028 and analytical batch 880-68997 contained o-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-68817 and analytical batch 880-68745 was outside the upper control limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-68850 and analytical batch 880-68747 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH10 (890-5755-21), PH10A (890-5755-22), PH11 (890-5755-23), PH12 (890-5755-25), PH12A (890-5755-26), PH14A (890-5755-30), PH15 (890-5755-31) and PH15A (890-5755-32). 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 880-68747/31), (CCV 880-68747/47) and (CCV 880-68747/58). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH01A (890-5755-1), PH01B (890-5755-2), PH02A (890-5755-3), PH02B (890-5755-4), PH02C (890-5755-5), PH03A (890-5755-6), PH03B (890-5755-7), PH04A (890-5755-8), PH04B (890-5755-9), PH04C (890-5755-10), PH05A (890-5755-11), PH05B (890-5755-12), PH06A (890-5755-13), PH06B (890-5755-14), PH07A (890-5755-15), PH07B (890-5755-16), PH08 (890-5755-17), PH08A (890-5755-18), PH09A (890-5755-19), PH09B (890-5755-20), (890-5755-A-1-E MS) and (890-5755-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-68817 and analytical batch 880-68745 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.

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 880-68801 and analytical batch 880-68836 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.

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Case Narrative

Client: Ensolum
Project: PLU 16 TWR 102H

Job ID: 890-5755-1

Job ID: 890-5755-1 (Continued)

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Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-68803 and analytical batch 880-68918 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 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH01A
Date Collected: 12/06/23 11:15
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1 F2	0.00199	mg/Kg		12/12/23 08:16	12/13/23 03:50	1
Toluene	<0.00199	U F1 F2	0.00199	mg/Kg		12/12/23 08:16	12/13/23 03:50	1
Ethylbenzene	<0.00199	U F1 F2	0.00199	mg/Kg		12/12/23 08:16	12/13/23 03:50	1
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.00398	mg/Kg		12/12/23 08:16	12/13/23 03:50	1
o-Xylene	<0.00199	U F1 F2	0.00199	mg/Kg		12/12/23 08:16	12/13/23 03:50	1
Xylenes, Total	<0.00398	U F1 F2	0.00398	mg/Kg		12/12/23 08:16	12/13/23 03:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	60	S1-	70 - 130	12/12/23 08:16	12/13/23 03:50	1
1,4-Difluorobenzene (Surr)	85		70 - 130	12/12/23 08:16	12/13/23 03:50	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			12/13/23 03:50	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			12/11/23 21:43	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		12/11/23 12:05	12/11/23 21:43	1
Diesel Range Organics (Over C10-C28)	<50.3	U F1	50.3	mg/Kg		12/11/23 12:05	12/11/23 21:43	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/11/23 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	157	S1+	70 - 130	12/11/23 12:05	12/11/23 21:43	1
o-Terphenyl	152	S1+	70 - 130	12/11/23 12:05	12/11/23 21:43	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800	F1	25.3	mg/Kg			12/11/23 21:12	5

Client Sample ID: PH01B
Date Collected: 12/06/23 12:30
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:17	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 04:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:17	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 04:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	12/12/23 08:16	12/13/23 04:17	1

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Client Sample Results

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

Client Sample ID: PH01B
 Date Collected: 12/06/23 12:30
 Date Received: 12/07/23 15:22
 Sample Depth: 8'

Lab Sample ID: 890-5755-2
 Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	112		70 - 130	12/12/23 08:16	12/13/23 04:17	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			12/13/23 04:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/11/23 22:48	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	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/11/23 22:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/11/23 22:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/11/23 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	168	S1+	70 - 130	12/11/23 12:05	12/11/23 22:48	1
o-Terphenyl	156	S1+	70 - 130	12/11/23 12:05	12/11/23 22:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	82.6		5.05	mg/Kg			12/11/23 21:31	1

Client Sample ID: PH02A
 Date Collected: 12/06/23 11:40
 Date Received: 12/07/23 15:22
 Sample Depth: 3'

Lab Sample ID: 890-5755-3
 Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:43	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 04:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 04:43	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	12/12/23 08:16	12/13/23 04:43	1
1,4-Difluorobenzene (Surr)	83		70 - 130	12/12/23 08:16	12/13/23 04:43	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			12/13/23 04:43	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			12/11/23 23:10	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH02A
Date Collected: 12/06/23 11:40
Date Received: 12/07/23 15:22
Sample Depth: 3'

Lab Sample ID: 890-5755-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/11/23 23:10	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/11/23 23:10	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/11/23 23:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	173	S1+	70 - 130			12/11/23 12:05	12/11/23 23:10	1
o-Terphenyl	171	S1+	70 - 130			12/11/23 12:05	12/11/23 23:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	867		5.05	mg/Kg			12/11/23 21:37	1

Client Sample ID: PH02B
Date Collected: 12/06/23 11:45
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 05:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130			12/12/23 08:16	12/13/23 05:09	1
1,4-Difluorobenzene (Surr)	60	S1-	70 - 130			12/12/23 08:16	12/13/23 05:09	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			12/13/23 05:09	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			12/11/23 23:32	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		12/11/23 12:05	12/11/23 23:32	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		12/11/23 12:05	12/11/23 23:32	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		12/11/23 12:05	12/11/23 23:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	167	S1+	70 - 130			12/11/23 12:05	12/11/23 23:32	1
o-Terphenyl	153	S1+	70 - 130			12/11/23 12:05	12/11/23 23:32	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH02B
Date Collected: 12/06/23 11:45
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3030		25.3	mg/Kg			12/11/23 21:43	5

Client Sample ID: PH02C
Date Collected: 12/06/23 12:35
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/12/23 08:16	12/13/23 05:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130			12/12/23 08:16	12/13/23 05:36	1
1,4-Difluorobenzene (Surr)	140	S1+	70 - 130			12/12/23 08:16	12/13/23 05:36	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			12/13/23 05:36	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			12/11/23 23:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/11/23 23:53	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/11/23 23:53	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/11/23 23:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	172	S1+	70 - 130			12/11/23 12:05	12/11/23 23:53	1
o-Terphenyl	159	S1+	70 - 130			12/11/23 12:05	12/11/23 23:53	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	94.5		5.02	mg/Kg			12/11/23 21:49	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH03A

Lab Sample ID: 890-5755-6

Date Collected: 12/06/23 13:25

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 4'

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		12/12/23 08:16	12/13/23 06:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 06:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 06:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 06:02	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 06:02	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 06:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130	12/12/23 08:16	12/13/23 06:02	1
1,4-Difluorobenzene (Surr)	80		70 - 130	12/12/23 08:16	12/13/23 06:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/13/23 06:02	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			12/12/23 00:14	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		12/11/23 12:05	12/12/23 00:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/11/23 12:05	12/12/23 00:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/11/23 12:05	12/12/23 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	164	S1+	70 - 130	12/11/23 12:05	12/12/23 00:14	1
o-Terphenyl	151	S1+	70 - 130	12/11/23 12:05	12/12/23 00:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	702		5.01	mg/Kg			12/12/23 12:00	1

Client Sample ID: PH03B

Lab Sample ID: 890-5755-7

Date Collected: 12/06/23 13:35

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 8'

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		12/12/23 08:16	12/13/23 06:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 06:28	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:28	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 06:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	12/12/23 08:16	12/13/23 06:28	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH03B
Date Collected: 12/06/23 13:35
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-7
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	116		70 - 130	12/12/23 08:16	12/13/23 06:28	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			12/13/23 06:28	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			12/12/23 00:35	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		12/11/23 12:05	12/12/23 00:35	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 12:05	12/12/23 00:35	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 12:05	12/12/23 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	161	S1+	70 - 130	12/11/23 12:05	12/12/23 00:35	1
o-Terphenyl	155	S1+	70 - 130	12/11/23 12:05	12/12/23 00:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22.9		5.02	mg/Kg			12/12/23 12:07	1

Client Sample ID: PH04A

Lab Sample ID: 890-5755-8
Matrix: Solid

Date Collected: 12/06/23 12:15
Date Received: 12/07/23 15:22
Sample Depth: 4'

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		12/12/23 08:16	12/13/23 06:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:54	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 06:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 06:54	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 06:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	12/12/23 08:16	12/13/23 06:54	1
1,4-Difluorobenzene (Surr)	102		70 - 130	12/12/23 08:16	12/13/23 06:54	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			12/13/23 06:54	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			12/12/23 00:57	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH04A
Date Collected: 12/06/23 12:15
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		12/11/23 12:05	12/12/23 00:57	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 12:05	12/12/23 00:57	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 12:05	12/12/23 00:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	172	S1+	70 - 130			12/11/23 12:05	12/12/23 00:57	1
o-Terphenyl	160	S1+	70 - 130			12/11/23 12:05	12/12/23 00:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1610		25.0	mg/Kg			12/12/23 12:13	5

Client Sample ID: PH04B
Date Collected: 12/06/23 12:20
Date Received: 12/07/23 15:22
Sample Depth: 6'

Lab Sample ID: 890-5755-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 07:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130			12/12/23 08:16	12/13/23 07:20	1
1,4-Difluorobenzene (Surr)	83		70 - 130			12/12/23 08:16	12/13/23 07:20	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			12/13/23 07:20	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			12/12/23 01:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/12/23 01:18	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/12/23 01:18	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		12/11/23 12:05	12/12/23 01:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	160	S1+	70 - 130			12/11/23 12:05	12/12/23 01:18	1
o-Terphenyl	153	S1+	70 - 130			12/11/23 12:05	12/12/23 01:18	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH04B
Date Collected: 12/06/23 12:20
Date Received: 12/07/23 15:22
Sample Depth: 6'

Lab Sample ID: 890-5755-9
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3180		24.8	mg/Kg			12/12/23 12:19	5

Client Sample ID: PH04C
Date Collected: 12/06/23 12:25
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-10
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 07:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	282	S1+	70 - 130			12/12/23 08:16	12/13/23 07:46	1
1,4-Difluorobenzene (Surr)	116		70 - 130			12/12/23 08:16	12/13/23 07:46	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			12/13/23 07:46	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			12/12/23 01:39	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		12/11/23 12:05	12/12/23 01:39	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		12/11/23 12:05	12/12/23 01:39	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/11/23 12:05	12/12/23 01:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	173	S1+	70 - 130			12/11/23 12:05	12/12/23 01:39	1
o-Terphenyl	164	S1+	70 - 130			12/11/23 12:05	12/12/23 01:39	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.1		5.04	mg/Kg			12/12/23 12:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH05A

Lab Sample ID: 890-5755-11

Date Collected: 12/06/23 10:40

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 10:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 10:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 10:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 10:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 10:43	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 08:16	12/13/23 10:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	126		70 - 130	12/12/23 08:16	12/13/23 10:43	1
1,4-Difluorobenzene (Surr)	69	S1-	70 - 130	12/12/23 08:16	12/13/23 10:43	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			12/13/23 10:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/23 02:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 02:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 02:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 02:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	167	S1+	70 - 130	12/11/23 12:05	12/12/23 02:21	1
o-Terphenyl	157	S1+	70 - 130	12/11/23 12:05	12/12/23 02:21	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1030		5.02	mg/Kg			12/12/23 12:31	1

Client Sample ID: PH05B

Lab Sample ID: 890-5755-12

Date Collected: 12/06/23 10:50

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 4'

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		12/12/23 08:16	12/13/23 11:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 11:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 11:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 11:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 11:09	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 11:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	12/12/23 08:16	12/13/23 11:09	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH05B
Date Collected: 12/06/23 10:50
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-12
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	93		70 - 130	12/12/23 08:16	12/13/23 11:09	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			12/13/23 11:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/12/23 02:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 02:42	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 02:42	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 02:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	164	S1+	70 - 130	12/11/23 12:05	12/12/23 02:42	1
o-Terphenyl	162	S1+	70 - 130	12/11/23 12:05	12/12/23 02:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	108		4.97	mg/Kg			12/12/23 12:49	1

Client Sample ID: PH06A
Date Collected: 12/06/23 12:50
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-13
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 11:35	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 11:35	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 11:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 11:35	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 11:35	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 11:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	12/12/23 08:16	12/13/23 11:35	1
1,4-Difluorobenzene (Surr)	83		70 - 130	12/12/23 08:16	12/13/23 11:35	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			12/13/23 11:35	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			12/12/23 03:04	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH06A
Date Collected: 12/06/23 12:50
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-13
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	<49.7	U	49.7	mg/Kg		12/11/23 12:05	12/12/23 03:04	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		12/11/23 12:05	12/12/23 03:04	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		12/11/23 12:05	12/12/23 03:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	202	S1+	70 - 130			12/11/23 12:05	12/12/23 03:04	1
o-Terphenyl	188	S1+	70 - 130			12/11/23 12:05	12/12/23 03:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1210		4.99	mg/Kg			12/12/23 12:56	1

Client Sample ID: PH06B
Date Collected: 12/06/23 13:00
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-14
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 12:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130			12/12/23 08:16	12/13/23 12:02	1
1,4-Difluorobenzene (Surr)	94		70 - 130			12/12/23 08:16	12/13/23 12:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/13/23 12:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/12/23 03:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 03:25	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 03:25	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 03:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	191	S1+	70 - 130			12/11/23 12:05	12/12/23 03:25	1
o-Terphenyl	175	S1+	70 - 130			12/11/23 12:05	12/12/23 03:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH06B
Date Collected: 12/06/23 13:00
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-14
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.5		5.00	mg/Kg			12/12/23 13:14	1

Client Sample ID: PH07A
Date Collected: 12/06/23 13:50
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-15
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 12:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			12/12/23 08:16	12/13/23 12:28	1
1,4-Difluorobenzene (Surr)	92		70 - 130			12/12/23 08:16	12/13/23 12:28	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			12/13/23 12:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			12/12/23 03:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		12/11/23 12:05	12/12/23 03:46	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		12/11/23 12:05	12/12/23 03:46	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		12/11/23 12:05	12/12/23 03:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	172	S1+	70 - 130			12/11/23 12:05	12/12/23 03:46	1
o-Terphenyl	158	S1+	70 - 130			12/11/23 12:05	12/12/23 03:46	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4590		24.9	mg/Kg			12/12/23 13:20	5

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH07B

Lab Sample ID: 890-5755-16

Date Collected: 12/06/23 14:00

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 4'

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		12/12/23 08:16	12/13/23 12:54	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 12:54	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 12:54	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		12/12/23 08:16	12/13/23 12:54	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 12:54	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		12/12/23 08:16	12/13/23 12:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/12/23 08:16	12/13/23 12:54	1
1,4-Difluorobenzene (Surr)	62	S1-	70 - 130	12/12/23 08:16	12/13/23 12:54	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			12/13/23 12:54	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			12/12/23 04:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/12/23 04:08	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/12/23 04:08	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/11/23 12:05	12/12/23 04:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	174	S1+	70 - 130	12/11/23 12:05	12/12/23 04:08	1
o-Terphenyl	161	S1+	70 - 130	12/11/23 12:05	12/12/23 04:08	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70.6		5.04	mg/Kg			12/12/23 13:26	1

Client Sample ID: PH08

Lab Sample ID: 890-5755-17

Date Collected: 12/06/23 14:05

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 13:21	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 13:21	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 13:21	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		12/12/23 08:16	12/13/23 13:21	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/12/23 08:16	12/13/23 13:21	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		12/12/23 08:16	12/13/23 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	37	S1-	70 - 130	12/12/23 08:16	12/13/23 13:21	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH08
Date Collected: 12/06/23 14:05
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-17
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	107		70 - 130	12/12/23 08:16	12/13/23 13:21	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			12/13/23 13:21	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			12/12/23 04:33	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		12/11/23 12:05	12/12/23 04:33	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		12/11/23 12:05	12/12/23 04:33	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/11/23 12:05	12/12/23 04:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	170	S1+	70 - 130	12/11/23 12:05	12/12/23 04:33	1
o-Terphenyl	157	S1+	70 - 130	12/11/23 12:05	12/12/23 04:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1970		25.0	mg/Kg			12/12/23 13:32	5

Client Sample ID: PH08A
Date Collected: 12/06/23 14:15
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-18
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/13/23 08:16	12/13/23 17:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/13/23 08:16	12/13/23 17:07	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/13/23 08:16	12/13/23 17:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/13/23 08:16	12/13/23 17:07	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/13/23 08:16	12/13/23 17:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/13/23 08:16	12/13/23 17:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	144	S1+	70 - 130	12/13/23 08:16	12/13/23 17:07	1
1,4-Difluorobenzene (Surr)	86		70 - 130	12/13/23 08:16	12/13/23 17:07	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			12/13/23 17:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/23 04:54	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH08A
Date Collected: 12/06/23 14:15
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-18
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 04:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 04:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 12:05	12/12/23 04:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	167	S1+	70 - 130			12/11/23 12:05	12/12/23 04:54	1
o-Terphenyl	158	S1+	70 - 130			12/11/23 12:05	12/12/23 04:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	235		5.03	mg/Kg			12/12/23 13:39	1

Client Sample ID: PH09A
Date Collected: 12/07/23 09:25
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-19
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 08:16	12/13/23 17:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	156	S1+	70 - 130			12/12/23 08:16	12/13/23 17:33	1
1,4-Difluorobenzene (Surr)	84		70 - 130			12/12/23 08:16	12/13/23 17:33	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			12/13/23 17:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/12/23 05:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 05:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 05:15	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/11/23 12:05	12/12/23 05:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	168	S1+	70 - 130			12/11/23 12:05	12/12/23 05:15	1
o-Terphenyl	154	S1+	70 - 130			12/11/23 12:05	12/12/23 05:15	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH09A
Date Collected: 12/07/23 09:25
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-19
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	213		5.03	mg/Kg			12/12/23 13:45	1

Client Sample ID: PH09B
Date Collected: 12/07/23 09:30
Date Received: 12/07/23 15:22
Sample Depth: 3'

Lab Sample ID: 890-5755-20
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 17:59	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 17:59	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 17:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 17:59	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 08:16	12/13/23 17:59	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 08:16	12/13/23 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	12/12/23 08:16	12/13/23 17:59	1
1,4-Difluorobenzene (Surr)	131	S1+	70 - 130	12/12/23 08:16	12/13/23 17:59	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			12/13/23 17:59	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			12/12/23 05:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/11/23 12:05	12/12/23 05:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/11/23 12:05	12/12/23 05:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/11/23 12:05	12/12/23 05:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	162	S1+	70 - 130	12/11/23 12:05	12/12/23 05:36	1
o-Terphenyl	148	S1+	70 - 130	12/11/23 12:05	12/12/23 05:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27.9		5.01	mg/Kg			12/12/23 13:51	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH10
Date Collected: 12/07/23 10:15
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-21
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:21	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 14:14	12/13/23 04:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:21	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 14:14	12/13/23 04:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	12/12/23 14:14	12/13/23 04:21	1
1,4-Difluorobenzene (Surr)	117		70 - 130	12/12/23 14:14	12/13/23 04:21	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			12/13/23 04:21	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			12/11/23 21:43	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		12/11/23 14:20	12/11/23 21:43	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		12/11/23 14:20	12/11/23 21:43	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		12/11/23 14:20	12/11/23 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	12/11/23 14:20	12/11/23 21:43	1
o-Terphenyl	132	S1+	70 - 130	12/11/23 14:20	12/11/23 21:43	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1540	F1	24.8	mg/Kg			12/12/23 15:32	5

Client Sample ID: PH10A
Date Collected: 12/07/23 10:35
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-22
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 14:14	12/13/23 04:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 04:41	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 14:14	12/13/23 04:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	12/12/23 14:14	12/13/23 04:41	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH10A
Date Collected: 12/07/23 10:35
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-22
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	116		70 - 130	12/12/23 14:14	12/13/23 04:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			12/13/23 04:41	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			12/11/23 22:48	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		12/11/23 14:20	12/11/23 22:48	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		12/11/23 14:20	12/11/23 22:48	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		12/11/23 14:20	12/11/23 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	127		70 - 130	12/11/23 14:20	12/11/23 22:48	1
o-Terphenyl	140	S1+	70 - 130	12/11/23 14:20	12/11/23 22:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.3		5.00	mg/Kg			12/12/23 19:01	1

Client Sample ID: PH11
Date Collected: 12/07/23 10:40
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-23
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 06:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 06:32	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 06:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 06:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 06:32	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 06:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	12/12/23 14:14	12/13/23 06:32	1
1,4-Difluorobenzene (Surr)	110		70 - 130	12/12/23 14:14	12/13/23 06:32	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			12/13/23 06:32	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			12/11/23 23:10	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH11
Date Collected: 12/07/23 10:40
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-23
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	<49.9	U	49.9	mg/Kg		12/11/23 14:20	12/11/23 23:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/11/23 14:20	12/11/23 23:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/11/23 14:20	12/11/23 23:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130			12/11/23 14:20	12/11/23 23:10	1
o-Terphenyl	153	S1+	70 - 130			12/11/23 14:20	12/11/23 23:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	844		4.99	mg/Kg			12/12/23 19:07	1

Client Sample ID: PH11A
Date Collected: 12/07/23 10:55
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-24
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		12/12/23 14:14	12/13/23 06:53	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/12/23 14:14	12/13/23 06:53	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/12/23 14:14	12/13/23 06:53	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/12/23 14:14	12/13/23 06:53	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/12/23 14:14	12/13/23 06:53	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/12/23 14:14	12/13/23 06:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			12/12/23 14:14	12/13/23 06:53	1
1,4-Difluorobenzene (Surr)	111		70 - 130			12/12/23 14:14	12/13/23 06:53	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			12/13/23 06:53	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			12/11/23 23:32	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		12/11/23 14:20	12/11/23 23:32	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 14:20	12/11/23 23:32	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 14:20	12/11/23 23:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130			12/11/23 14:20	12/11/23 23:32	1
o-Terphenyl	121		70 - 130			12/11/23 14:20	12/11/23 23:32	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH11A
Date Collected: 12/07/23 10:55
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-24
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	50.9		4.95	mg/Kg			12/12/23 19:13	1

Client Sample ID: PH12
Date Collected: 12/07/23 11:00
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-25
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 07:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			12/12/23 14:14	12/13/23 07:13	1
1,4-Difluorobenzene (Surr)	116		70 - 130			12/12/23 14:14	12/13/23 07:13	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			12/13/23 07:13	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			12/11/23 23:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		12/11/23 14:20	12/11/23 23:53	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 14:20	12/11/23 23:53	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 14:20	12/11/23 23:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130			12/11/23 14:20	12/11/23 23:53	1
o-Terphenyl	134	S1+	70 - 130			12/11/23 14:20	12/11/23 23:53	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1530		24.9	mg/Kg			12/12/23 19:19	5

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH12A

Lab Sample ID: 890-5755-26

Date Collected: 12/07/23 11:20

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 4'

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		12/12/23 14:14	12/13/23 07:34	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/12/23 14:14	12/13/23 07:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 07:34	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/12/23 14:14	12/13/23 07:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	12/12/23 14:14	12/13/23 07:34	1
1,4-Difluorobenzene (Surr)	120		70 - 130	12/12/23 14:14	12/13/23 07:34	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			12/13/23 07:34	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			12/12/23 00:14	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		12/11/23 14:20	12/12/23 00:14	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		12/11/23 14:20	12/12/23 00:14	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		12/11/23 14:20	12/12/23 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130	12/11/23 14:20	12/12/23 00:14	1
o-Terphenyl	131	S1+	70 - 130	12/11/23 14:20	12/12/23 00:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.0		4.95	mg/Kg			12/12/23 19:38	1

Client Sample ID: PH13A

Lab Sample ID: 890-5755-27

Date Collected: 12/07/23 12:25

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 3'

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		12/12/23 14:14	12/13/23 07:54	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/12/23 14:14	12/13/23 07:54	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/12/23 14:14	12/13/23 07:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/12/23 14:14	12/13/23 07:54	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/12/23 14:14	12/13/23 07:54	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/12/23 14:14	12/13/23 07:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	12/12/23 14:14	12/13/23 07:54	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH13A
Date Collected: 12/07/23 12:25
Date Received: 12/07/23 15:22
Sample Depth: 3'

Lab Sample ID: 890-5755-27
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	121		70 - 130	12/12/23 14:14	12/13/23 07:54	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			12/13/23 07:54	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			12/12/23 00:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 00:35	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 00:35	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	117		70 - 130	12/11/23 14:20	12/12/23 00:35	1
o-Terphenyl	127		70 - 130	12/11/23 14:20	12/12/23 00:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	229		5.05	mg/Kg			12/12/23 19:44	1

Client Sample ID: PH13B
Date Collected: 12/07/23 12:30
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-28
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/12/23 14:14	12/13/23 08:15	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/12/23 14:14	12/13/23 08:15	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/12/23 14:14	12/13/23 08:15	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/12/23 14:14	12/13/23 08:15	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/12/23 14:14	12/13/23 08:15	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/12/23 14:14	12/13/23 08:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/12/23 14:14	12/13/23 08:15	1
1,4-Difluorobenzene (Surr)	117		70 - 130	12/12/23 14:14	12/13/23 08:15	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/13/23 08:15	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			12/12/23 00:57	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH13B
Date Collected: 12/07/23 12:30
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-28
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	<50.5	U	50.5	mg/Kg		12/11/23 14:20	12/12/23 00:57	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		12/11/23 14:20	12/12/23 00:57	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/11/23 14:20	12/12/23 00:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130			12/11/23 14:20	12/12/23 00:57	1
o-Terphenyl	125		70 - 130			12/11/23 14:20	12/12/23 00:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.7		5.01	mg/Kg			12/12/23 19:50	1

Client Sample ID: PH14
Date Collected: 12/07/23 12:55
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Lab Sample ID: 890-5755-29
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 09:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130			12/12/23 14:14	12/13/23 09:42	1
1,4-Difluorobenzene (Surr)	113		70 - 130			12/12/23 14:14	12/13/23 09:42	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			12/13/23 09:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/23 01:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 01:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 01:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 01:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	116		70 - 130			12/11/23 14:20	12/12/23 01:18	1
o-Terphenyl	128		70 - 130			12/11/23 14:20	12/12/23 01:18	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH14

Lab Sample ID: 890-5755-29

Date Collected: 12/07/23 12:55
Date Received: 12/07/23 15:22
Sample Depth: 0.5'

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100		25.2	mg/Kg			12/12/23 19:56	5

Client Sample ID: PH14A

Lab Sample ID: 890-5755-30

Date Collected: 12/07/23 13:10
Date Received: 12/07/23 15:22
Sample Depth: 3'

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/12/23 14:14	12/13/23 10:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			12/12/23 14:14	12/13/23 10:02	1
1,4-Difluorobenzene (Surr)	120		70 - 130			12/12/23 14:14	12/13/23 10:02	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			12/13/23 10:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			12/12/23 01:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/11/23 14:20	12/12/23 01:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		12/11/23 14:20	12/12/23 01:39	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/11/23 14:20	12/12/23 01:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130			12/11/23 14:20	12/12/23 01:39	1
o-Terphenyl	133	S1+	70 - 130			12/11/23 14:20	12/12/23 01:39	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.0		4.98	mg/Kg			12/12/23 20:02	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH15

Lab Sample ID: 890-5755-31

Date Collected: 12/07/23 12:35

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:23	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:23	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 14:14	12/13/23 10:23	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:23	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 14:14	12/13/23 10:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	12/12/23 14:14	12/13/23 10:23	1
1,4-Difluorobenzene (Surr)	124		70 - 130	12/12/23 14:14	12/13/23 10:23	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/13/23 10:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/23 02:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 02:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 02:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 02:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130	12/11/23 14:20	12/12/23 02:21	1
o-Terphenyl	158	S1+	70 - 130	12/11/23 14:20	12/12/23 02:21	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	478		5.00	mg/Kg			12/12/23 20:08	1

Client Sample ID: PH15A

Lab Sample ID: 890-5755-32

Date Collected: 12/07/23 12:45

Matrix: Solid

Date Received: 12/07/23 15:22

Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/12/23 14:14	12/13/23 10:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/12/23 14:14	12/13/23 10:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/12/23 14:14	12/13/23 10:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	12/12/23 14:14	12/13/23 10:43	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH15A
Date Collected: 12/07/23 12:45
Date Received: 12/07/23 15:22
Sample Depth: 2'

Lab Sample ID: 890-5755-32
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	120		70 - 130	12/12/23 14:14	12/13/23 10:43	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			12/13/23 10:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			12/12/23 02:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		12/11/23 14:20	12/12/23 02:42	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		12/11/23 14:20	12/12/23 02:42	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		12/11/23 14:20	12/12/23 02:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	143	S1+	70 - 130	12/11/23 14:20	12/12/23 02:42	1
o-Terphenyl	156	S1+	70 - 130	12/11/23 14:20	12/12/23 02:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42.1		4.95	mg/Kg			12/12/23 20:27	1

Client Sample ID: PH16A
Date Collected: 12/07/23 10:00
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-33
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		12/13/23 10:58	12/14/23 06:06	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/13/23 10:58	12/14/23 06:06	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/13/23 10:58	12/14/23 06:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/13/23 10:58	12/14/23 06:06	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/13/23 10:58	12/14/23 06:06	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/13/23 10:58	12/14/23 06:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130	12/13/23 10:58	12/14/23 06:06	1
1,4-Difluorobenzene (Surr)	78		70 - 130	12/13/23 10:58	12/14/23 06:06	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			12/14/23 06:06	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			12/12/23 03:04	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH16A
Date Collected: 12/07/23 10:00
Date Received: 12/07/23 15:22
Sample Depth: 4'

Lab Sample ID: 890-5755-33
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	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 03:04	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 03:04	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/11/23 14:20	12/12/23 03:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			12/11/23 14:20	12/12/23 03:04	1
o-Terphenyl	128		70 - 130			12/11/23 14:20	12/12/23 03:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7950		50.5	mg/Kg			12/12/23 20:33	10

Client Sample ID: PH16B
Date Collected: 12/07/23 10:10
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-34
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/13/23 14:21	12/14/23 10:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			12/13/23 14:21	12/14/23 10:48	1
1,4-Difluorobenzene (Surr)	116		70 - 130			12/13/23 14:21	12/14/23 10:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/14/23 10:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/12/23 03:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 03:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 03:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/12/23 03:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130			12/11/23 14:20	12/12/23 03:25	1
o-Terphenyl	126		70 - 130			12/11/23 14:20	12/12/23 03:25	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH16B
Date Collected: 12/07/23 10:10
Date Received: 12/07/23 15:22
Sample Depth: 8'

Lab Sample ID: 890-5755-34
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.3		4.95	mg/Kg			12/12/23 20:51	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

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)
880-36696-A-1-B MS	Matrix Spike	96	109
880-36696-A-1-C MSD	Matrix Spike Duplicate	284 S1+	115
890-5747-A-1-C MS	Matrix Spike	100	104
890-5747-A-1-D MSD	Matrix Spike Duplicate	244 S1+	117
890-5755-1	PH01A	60 S1-	85
890-5755-1 MS	PH01A	171 S1+	83
890-5755-1 MSD	PH01A	71	105
890-5755-2	PH01B	82	112
890-5755-3	PH02A	68 S1-	83
890-5755-4	PH02B	117	60 S1-
890-5755-5	PH02C	74	140 S1+
890-5755-6	PH03A	81	80
890-5755-7	PH03B	103	116
890-5755-8	PH04A	98	102
890-5755-9	PH04B	102	83
890-5755-10	PH04C	282 S1+	116
890-5755-11	PH05A	126	69 S1-
890-5755-12	PH05B	128	93
890-5755-13	PH06A	104	83
890-5755-14	PH06B	125	94
890-5755-15	PH07A	113	92
890-5755-16	PH07B	102	62 S1-
890-5755-17	PH08	37 S1-	107
890-5755-18	PH08A	144 S1+	86
890-5755-19	PH09A	156 S1+	84
890-5755-20	PH09B	66 S1-	131 S1+
890-5755-21	PH10	94	117
890-5755-22	PH10A	95	116
890-5755-23	PH11	83	110
890-5755-24	PH11A	95	111
890-5755-25	PH12	91	116
890-5755-26	PH12A	96	120
890-5755-27	PH13A	91	121
890-5755-28	PH13B	102	117
890-5755-29	PH14	101	113
890-5755-30	PH14A	90	120
890-5755-31	PH15	84	124
890-5755-32	PH15A	91	120
890-5755-33	PH16A	75	78
890-5755-34	PH16B	96	116
890-5771-A-13-B MS	Matrix Spike	97	90
890-5771-A-13-C MSD	Matrix Spike Duplicate	61 S1-	101
LCS 880-68939/1-A	Lab Control Sample	105	108
LCS 880-68962/1-A	Lab Control Sample	139 S1+	72
LCS 880-69014/1-A	Lab Control Sample	96	108
LCS 880-69028/1-A	Lab Control Sample	92	106
LCSD 880-68939/2-A	Lab Control Sample Dup	109	107
LCSD 880-68962/2-A	Lab Control Sample Dup	153 S1+	102
LCSD 880-69014/2-A	Lab Control Sample Dup	94	105

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Surrogate Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
LCSD 880-69028/2-A	Lab Control Sample Dup	97	108
MB 880-68892/5-A	Method Blank	96	129
MB 880-68922/5-A	Method Blank	73	90
MB 880-68939/5-A	Method Blank	97	126
MB 880-68962/5-A	Method Blank	87	84
MB 880-68998/5-A	Method Blank	67 S1-	93
MB 880-69014/5-A	Method Blank	68 S1-	90
MB 880-69015/5-A	Method Blank	112	141 S1+
MB 880-69028/5-A	Method Blank	113	141 S1+

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5755-1	PH01A	157 S1+	152 S1+
890-5755-1 MS	PH01A	189 S1+	141 S1+
890-5755-1 MSD	PH01A	198 S1+	151 S1+
890-5755-2	PH01B	168 S1+	156 S1+
890-5755-3	PH02A	173 S1+	171 S1+
890-5755-4	PH02B	167 S1+	153 S1+
890-5755-5	PH02C	172 S1+	159 S1+
890-5755-6	PH03A	164 S1+	151 S1+
890-5755-7	PH03B	161 S1+	155 S1+
890-5755-8	PH04A	172 S1+	160 S1+
890-5755-9	PH04B	160 S1+	153 S1+
890-5755-10	PH04C	173 S1+	164 S1+
890-5755-11	PH05A	167 S1+	157 S1+
890-5755-12	PH05B	164 S1+	162 S1+
890-5755-13	PH06A	202 S1+	188 S1+
890-5755-14	PH06B	191 S1+	175 S1+
890-5755-15	PH07A	172 S1+	158 S1+
890-5755-16	PH07B	174 S1+	161 S1+
890-5755-17	PH08	170 S1+	157 S1+
890-5755-18	PH08A	167 S1+	158 S1+
890-5755-19	PH09A	168 S1+	154 S1+
890-5755-20	PH09B	162 S1+	148 S1+
890-5755-21	PH10	120	132 S1+
890-5755-21 MS	PH10	125	123
890-5755-21 MSD	PH10	125	121
890-5755-22	PH10A	127	140 S1+
890-5755-23	PH11	143 S1+	153 S1+
890-5755-24	PH11A	110	121
890-5755-25	PH12	121	134 S1+
890-5755-26	PH12A	117	131 S1+
890-5755-27	PH13A	117	127

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Surrogate Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

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)
890-5755-28	PH13B	114	125
890-5755-29	PH14	116	128
890-5755-30	PH14A	108	133 S1+
890-5755-31	PH15	143 S1+	158 S1+
890-5755-32	PH15A	143 S1+	156 S1+
890-5755-33	PH16A	118	128
890-5755-34	PH16B	115	126
LCS 880-68817/2-A	Lab Control Sample	115	130
LCS 880-68850/2-A	Lab Control Sample	99	112
LCSD 880-68817/3-A	Lab Control Sample Dup	98	97
LCSD 880-68850/3-A	Lab Control Sample Dup	110	127
MB 880-68817/1-A	Method Blank	243 S1+	241 S1+
MB 880-68850/1-A	Method Blank	174 S1+	209 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 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-68892/5-A

Matrix: Solid

Analysis Batch: 68889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 68892

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:20	12/12/23 13:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:20	12/12/23 13:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:20	12/12/23 13:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 11:20	12/12/23 13:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:20	12/12/23 13:31	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 11:20	12/12/23 13:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	12/12/23 11:20	12/12/23 13:31	1
1,4-Difluorobenzene (Surr)	129		70 - 130	12/12/23 11:20	12/12/23 13:31	1

Lab Sample ID: MB 880-68922/5-A

Matrix: Solid

Analysis Batch: 68890

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 68922

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:18	12/12/23 13:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:18	12/12/23 13:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:18	12/12/23 13:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 11:18	12/12/23 13:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 11:18	12/12/23 13:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 11:18	12/12/23 13:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130	12/12/23 11:18	12/12/23 13:53	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/12/23 11:18	12/12/23 13:53	1

Lab Sample ID: MB 880-68939/5-A

Matrix: Solid

Analysis Batch: 68889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 68939

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 01:08	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 01:08	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 01:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 14:14	12/13/23 01:08	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 14:14	12/13/23 01:08	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 14:14	12/13/23 01:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/12/23 14:14	12/13/23 01:08	1
1,4-Difluorobenzene (Surr)	126		70 - 130	12/12/23 14:14	12/13/23 01:08	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: LCS 880-68939/1-A
Matrix: Solid
Analysis Batch: 68889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68939

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1114		mg/Kg		111	70 - 130
Toluene	0.100	0.08287		mg/Kg		83	70 - 130
Ethylbenzene	0.100	0.09277		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1932		mg/Kg		97	70 - 130
o-Xylene	0.100	0.08630		mg/Kg		86	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-68939/2-A
Matrix: Solid
Analysis Batch: 68889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 68939

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1109		mg/Kg		111	70 - 130	0	35
Toluene	0.100	0.08644		mg/Kg		86	70 - 130	4	35
Ethylbenzene	0.100	0.08159		mg/Kg		82	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1643		mg/Kg		82	70 - 130	16	35
o-Xylene	0.100	0.08991		mg/Kg		90	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 880-36696-A-1-B MS
Matrix: Solid
Analysis Batch: 68889

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 68939

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1	0.0998	0.05769	F1	mg/Kg		58	70 - 130
Toluene	<0.00201	U F1 F2	0.0998	0.04349	F1	mg/Kg		43	70 - 130
Ethylbenzene	<0.00201	U F1	0.0998	0.04087	F1	mg/Kg		41	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1017	F1	mg/Kg		50	70 - 130
o-Xylene	<0.00201	U F1 F2	0.0998	0.04858	F1	mg/Kg		48	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-36696-A-1-C MSD
Matrix: Solid
Analysis Batch: 68889

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 68939

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0994	0.04872	F1	mg/Kg		49	70 - 130	17	35
Toluene	<0.00201	U F1 F2	0.0994	0.02324	F1 F2	mg/Kg		23	70 - 130	61	35
Ethylbenzene	<0.00201	U F1	0.0994	0.04013	F1	mg/Kg		40	70 - 130	2	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: 880-36696-A-1-C MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 68889

Prep Batch: 68939

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.1209	F1	mg/Kg		60	70 - 130	17	35
o-Xylene	<0.00201	U F1 F2	0.0994	0.07162	F2	mg/Kg		71	70 - 130	38	35
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	284	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	115		70 - 130								

Lab Sample ID: MB 880-68962/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 68890

Prep Batch: 68962

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
MB MB								
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
4-Bromofluorobenzene (Surr)	87		70 - 130	12/12/23 08:16	12/13/23 03:24	1		
1,4-Difluorobenzene (Surr)	84		70 - 130	12/12/23 08:16	12/13/23 03:24	1		

Lab Sample ID: LCS 880-68962/1-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 68890

Prep Batch: 68962

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1074		mg/Kg		107	70 - 130
Toluene	0.100	0.1037		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1131		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	0.200	0.2241		mg/Kg		112	70 - 130
o-Xylene	0.100	0.1162		mg/Kg		116	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130				
1,4-Difluorobenzene (Surr)	72		70 - 130				

Lab Sample ID: LCSD 880-68962/2-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 68890

Prep Batch: 68962

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09112		mg/Kg		91	70 - 130	16	35
Toluene	0.100	0.1029		mg/Kg		103	70 - 130	1	35
Ethylbenzene	0.100	0.09753		mg/Kg		98	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1967		mg/Kg		98	70 - 130	13	35
o-Xylene	0.100	0.1089		mg/Kg		109	70 - 130	7	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	153	S1+	70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-5755-1 MS
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: PH01A
Prep Type: Total/NA
Prep Batch: 68962

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Benzene	<0.00199	U F1 F2	0.0996	0.08501		mg/Kg		85		70 - 130
Toluene	<0.00199	U F1 F2	0.0996	0.08455		mg/Kg		85		70 - 130
Ethylbenzene	<0.00199	U F1 F2	0.0996	0.09732		mg/Kg		98		70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.199	0.1891		mg/Kg		95		70 - 130
o-Xylene	<0.00199	U F1 F2	0.0996	0.09599		mg/Kg		96		70 - 130

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	171	S1+	70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: 890-5755-1 MSD
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: PH01A
Prep Type: Total/NA
Prep Batch: 68962

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Benzene	<0.00199	U F1 F2	0.0990	0.03829	F1 F2	mg/Kg		39		70 - 130	76	35
Toluene	<0.00199	U F1 F2	0.0990	0.03103	F1 F2	mg/Kg		31		70 - 130	93	35
Ethylbenzene	<0.00199	U F1 F2	0.0990	0.04294	F1 F2	mg/Kg		43		70 - 130	78	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.198	0.06600	F1 F2	mg/Kg		33		70 - 130	97	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.04725	F1 F2	mg/Kg		48		70 - 130	68	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	71		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: MB 880-68998/5-A
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68998

Analyte	MB		RL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier								
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1

Surrogate	MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	67	S1-	70 - 130	12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/13/23 10:32	12/13/23 12:07	12/13/23 12:07		1

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: MB 880-69014/5-A
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69014

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:58	12/13/23 23:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:58	12/13/23 23:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:58	12/13/23 23:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/13/23 10:58	12/13/23 23:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 10:58	12/13/23 23:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/13/23 10:58	12/13/23 23:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	68	S1-	70 - 130	12/13/23 10:58	12/13/23 23:16	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/13/23 10:58	12/13/23 23:16	1

Lab Sample ID: LCS 880-69014/1-A
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69014

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08356		mg/Kg		84	70 - 130
Toluene	0.100	0.07786		mg/Kg		78	70 - 130
Ethylbenzene	0.100	0.08620		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1762		mg/Kg		88	70 - 130
o-Xylene	0.100	0.08457		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-69014/2-A
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69014

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08480		mg/Kg		85	70 - 130	1	35
Toluene	0.100	0.08267		mg/Kg		83	70 - 130	6	35
Ethylbenzene	0.100	0.09053		mg/Kg		91	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1845		mg/Kg		92	70 - 130	5	35
o-Xylene	0.100	0.08822		mg/Kg		88	70 - 130	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

Lab Sample ID: 890-5771-A-13-B MS
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 69014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.0996	0.06935		mg/Kg		70	70 - 130
Toluene	<0.00199	U F1	0.0996	0.06316	F1	mg/Kg		63	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: 890-5771-A-13-B MS
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 69014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1	0.0996	0.06372	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.199	0.1271	F1	mg/Kg		64	70 - 130
o-Xylene	<0.00199	U F1 F2	0.0996	0.06044	F1	mg/Kg		61	70 - 130

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

Lab Sample ID: 890-5771-A-13-C MSD
Matrix: Solid
Analysis Batch: 68975

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 69014

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00199	U F1	0.0990	0.06445	F1	mg/Kg		65	70 - 130	7	35
Toluene	<0.00199	U F1	0.0990	0.05536	F1	mg/Kg		55	70 - 130	13	35
Ethylbenzene	<0.00199	U F1	0.0990	0.04694	F1	mg/Kg		47	70 - 130	30	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.198	0.08746	F1 F2	mg/Kg		44	70 - 130	37	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.04073	F1 F2	mg/Kg		41	70 - 130	39	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	61	S1-	70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: MB 880-69015/5-A
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69015

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 11:03	12/13/23 15:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 11:03	12/13/23 15:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 11:03	12/13/23 15:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/13/23 11:03	12/13/23 15:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 11:03	12/13/23 15:02	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/13/23 11:03	12/13/23 15:02	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	12/13/23 11:03	12/13/23 15:02	1
1,4-Difluorobenzene (Surr)	141	S1+	70 - 130	12/13/23 11:03	12/13/23 15:02	1

Lab Sample ID: MB 880-69028/5-A
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69028

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 14:21	12/14/23 02:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 14:21	12/14/23 02:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 14:21	12/14/23 02:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/13/23 14:21	12/14/23 02:41	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: MB 880-69028/5-A
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69028

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 14:21	12/14/23 02:41	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/13/23 14:21	12/14/23 02:41	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	113		70 - 130	12/13/23 14:21	12/14/23 02:41	1
1,4-Difluorobenzene (Surr)	141	S1+	70 - 130	12/13/23 14:21	12/14/23 02:41	1

Lab Sample ID: LCS 880-69028/1-A
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	0.100	0.08509		mg/Kg		85	70 - 130
Ethylbenzene	0.100	0.08159		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	0.200	0.1863		mg/Kg		93	70 - 130
o-Xylene	0.100	0.08154		mg/Kg		82	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: LCSD 880-69028/2-A
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69028

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Benzene	0.100	0.1042		mg/Kg		104	70 - 130	4	35
Toluene	0.100	0.08453		mg/Kg		85	70 - 130	1	35
Ethylbenzene	0.100	0.07365		mg/Kg		74	70 - 130	10	35
m-Xylene & p-Xylene	0.200	0.1618		mg/Kg		81	70 - 130	14	35
o-Xylene	0.100	0.08573		mg/Kg		86	70 - 130	5	35

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-5747-A-1-C MS
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 69028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00199	U F1 F2	0.0996	0.07359			74	70 - 130	
Ethylbenzene	<0.00199	U F1	0.0996	0.07405			74	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1682			84	70 - 130	
o-Xylene	<0.00199	U F1 F2	0.0996	0.07904			79	70 - 130	

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: 890-5747-A-1-C MS
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 69028

Surrogate	%Recovery	MS MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-5747-A-1-D MSD
Matrix: Solid
Analysis Batch: 68997

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 69028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.07294		mg/Kg		74	70 - 130	16	35
Toluene	<0.00199	U F1 F2	0.0990	0.04141	F1 F2	mg/Kg		42	70 - 130	56	35
Ethylbenzene	<0.00199	U F1	0.0990	0.06515	F1	mg/Kg		66	70 - 130	13	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.2366		mg/Kg		119	70 - 130	34	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.1315	F1 F2	mg/Kg		132	70 - 130	50	35

Surrogate	%Recovery	MSD MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	244	S1+	70 - 130
1,4-Difluorobenzene (Surr)	117		70 - 130

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

Lab Sample ID: MB 880-68817/1-A
Matrix: Solid
Analysis Batch: 68745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68817

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		12/11/23 12:04	12/11/23 20:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 12:04	12/11/23 20:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 12:04	12/11/23 20:38	1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	243	S1+	70 - 130	12/11/23 12:04	12/11/23 20:38	1
o-Terphenyl	241	S1+	70 - 130	12/11/23 12:04	12/11/23 20:38	1

Lab Sample ID: LCS 880-68817/2-A
Matrix: Solid
Analysis Batch: 68745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	880.7		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	957.3		mg/Kg		96	70 - 130

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

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: LCSD 880-68817/3-A
Matrix: Solid
Analysis Batch: 68745

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 68817

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Gasoline Range Organics (GRO)-C6-C10	1000	876.7		mg/Kg		88	70 - 130	0	20	
Diesel Range Organics (Over C10-C28)	1000	969.1		mg/Kg		97	70 - 130	1	20	
		LCSD	LCSD							
Surrogate		%Recovery	Qualifier	Limits						
1-Chlorooctane		98		70 - 130						
o-Terphenyl		97		70 - 130						

Lab Sample ID: 890-5755-1 MS
Matrix: Solid
Analysis Batch: 68745

Client Sample ID: PH01A
Prep Type: Total/NA
Prep Batch: 68817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	994	989.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<50.3	U F1	994	1658	F1	mg/Kg		164	70 - 130
		MS	MS						
Surrogate		%Recovery	Qualifier	Limits					
1-Chlorooctane		189	S1+	70 - 130					
o-Terphenyl		141	S1+	70 - 130					

Lab Sample ID: 890-5755-1 MSD
Matrix: Solid
Analysis Batch: 68745

Client Sample ID: PH01A
Prep Type: Total/NA
Prep Batch: 68817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	994	1103		mg/Kg		108	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.3	U F1	994	1779	F1	mg/Kg		176	70 - 130	7	20
		MSD	MSD								
Surrogate		%Recovery	Qualifier	Limits							
1-Chlorooctane		198	S1+	70 - 130							
o-Terphenyl		151	S1+	70 - 130							

Lab Sample ID: MB 880-68850/1-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68850

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		12/11/23 14:20	12/11/23 20:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/11/23 20:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 14:20	12/11/23 20:38	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: MB 880-68850/1-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68850

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	174	S1+	70 - 130	12/11/23 14:20	12/11/23 20:38	1
o-Terphenyl	209	S1+	70 - 130	12/11/23 14:20	12/11/23 20:38	1

Lab Sample ID: LCS 880-68850/2-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68850

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	1000	1055		mg/Kg		106	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	934.3		mg/Kg		93	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	99		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: LCSD 880-68850/3-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 68850

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	
							Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	1000	1086		mg/Kg		109	70 - 130	3	20	
Diesel Range Organics (Over C10-C28)	1000	963.6		mg/Kg		96	70 - 130	3	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	110		70 - 130
o-Terphenyl	127		70 - 130

Lab Sample ID: 890-5755-21 MS
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: PH10
Prep Type: Total/NA
Prep Batch: 68850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
									Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1010	903.2		mg/Kg		85	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	1014		mg/Kg		97	70 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	125		70 - 130
o-Terphenyl	123		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

Lab Sample ID: 890-5755-21 MSD
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: PH10
Prep Type: Total/NA
Prep Batch: 68850

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1010	917.7		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	1018		mg/Kg		97	70 - 130	0	20
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1-Chlorooctane	125		70 - 130								
o-Terphenyl	121		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-68801/1-A
Matrix: Solid
Analysis Batch: 68836

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			12/11/23 20:54	1

Lab Sample ID: LCS 880-68801/2-A
Matrix: Solid
Analysis Batch: 68836

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	266.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-68801/3-A
Matrix: Solid
Analysis Batch: 68836

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	265.3		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 890-5755-1 MS
Matrix: Solid
Analysis Batch: 68836

Client Sample ID: PH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2800	F1	1260	4197	F1	mg/Kg		111	90 - 110

Lab Sample ID: 890-5755-1 MSD
Matrix: Solid
Analysis Batch: 68836

Client Sample ID: PH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2800	F1	1260	4229	F1	mg/Kg		113	90 - 110	1	20

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5755-11 MS
Matrix: Solid
Analysis Batch: 68836

Client Sample ID: PH05A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1030		251	1263	4	mg/Kg		91	90 - 110

Lab Sample ID: 890-5755-11 MSD
Matrix: Solid
Analysis Batch: 68836

Client Sample ID: PH05A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1030		251	1262	4	mg/Kg		91	90 - 110	0	20

Lab Sample ID: MB 880-68803/1-A
Matrix: Solid
Analysis Batch: 68918

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			12/12/23 15:13	1

Lab Sample ID: LCS 880-68803/2-A
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.1		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-68803/3-A
Matrix: Solid
Analysis Batch: 68918

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	260.4		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-5755-21 MS
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: PH10
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1540	F1	1240	2949	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-5755-21 MSD
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: PH10
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1540	F1	1240	2952	F1	mg/Kg		114	90 - 110	0	20

Lab Sample ID: 890-5755-31 MS
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: PH15
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	478		250	705.9		mg/Kg		91	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-5755-31 MSD
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: PH15
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	478		250	705.2		mg/Kg		91	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 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

GC VOA

Analysis Batch: 68889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Total/NA	Solid	8021B	68939
890-5755-22	PH10A	Total/NA	Solid	8021B	68939
890-5755-23	PH11	Total/NA	Solid	8021B	68939
890-5755-24	PH11A	Total/NA	Solid	8021B	68939
890-5755-25	PH12	Total/NA	Solid	8021B	68939
890-5755-26	PH12A	Total/NA	Solid	8021B	68939
890-5755-27	PH13A	Total/NA	Solid	8021B	68939
890-5755-28	PH13B	Total/NA	Solid	8021B	68939
890-5755-29	PH14	Total/NA	Solid	8021B	68939
890-5755-30	PH14A	Total/NA	Solid	8021B	68939
890-5755-31	PH15	Total/NA	Solid	8021B	68939
890-5755-32	PH15A	Total/NA	Solid	8021B	68939
MB 880-68892/5-A	Method Blank	Total/NA	Solid	8021B	68892
MB 880-68939/5-A	Method Blank	Total/NA	Solid	8021B	68939
LCS 880-68939/1-A	Lab Control Sample	Total/NA	Solid	8021B	68939
LCSD 880-68939/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	68939
880-36696-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	68939
880-36696-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	68939

Analysis Batch: 68890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	8021B	68962
890-5755-2	PH01B	Total/NA	Solid	8021B	68962
890-5755-3	PH02A	Total/NA	Solid	8021B	68962
890-5755-4	PH02B	Total/NA	Solid	8021B	68962
890-5755-5	PH02C	Total/NA	Solid	8021B	68962
890-5755-6	PH03A	Total/NA	Solid	8021B	68962
890-5755-7	PH03B	Total/NA	Solid	8021B	68962
890-5755-8	PH04A	Total/NA	Solid	8021B	68962
890-5755-9	PH04B	Total/NA	Solid	8021B	68962
890-5755-10	PH04C	Total/NA	Solid	8021B	68962
890-5755-11	PH05A	Total/NA	Solid	8021B	68962
890-5755-12	PH05B	Total/NA	Solid	8021B	68962
890-5755-13	PH06A	Total/NA	Solid	8021B	68962
890-5755-14	PH06B	Total/NA	Solid	8021B	68962
890-5755-15	PH07A	Total/NA	Solid	8021B	68962
890-5755-16	PH07B	Total/NA	Solid	8021B	68962
890-5755-17	PH08	Total/NA	Solid	8021B	68962
890-5755-18	PH08A	Total/NA	Solid	8021B	68962
890-5755-19	PH09A	Total/NA	Solid	8021B	68962
890-5755-20	PH09B	Total/NA	Solid	8021B	68962
MB 880-68922/5-A	Method Blank	Total/NA	Solid	8021B	68922
MB 880-68962/5-A	Method Blank	Total/NA	Solid	8021B	68962
LCS 880-68962/1-A	Lab Control Sample	Total/NA	Solid	8021B	68962
LCSD 880-68962/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	68962
890-5755-1 MS	PH01A	Total/NA	Solid	8021B	68962
890-5755-1 MSD	PH01A	Total/NA	Solid	8021B	68962

Prep Batch: 68892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-68892/5-A	Method Blank	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

GC VOA

Prep Batch: 68922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-68922/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 68939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Total/NA	Solid	5035	
890-5755-22	PH10A	Total/NA	Solid	5035	
890-5755-23	PH11	Total/NA	Solid	5035	
890-5755-24	PH11A	Total/NA	Solid	5035	
890-5755-25	PH12	Total/NA	Solid	5035	
890-5755-26	PH12A	Total/NA	Solid	5035	
890-5755-27	PH13A	Total/NA	Solid	5035	
890-5755-28	PH13B	Total/NA	Solid	5035	
890-5755-29	PH14	Total/NA	Solid	5035	
890-5755-30	PH14A	Total/NA	Solid	5035	
890-5755-31	PH15	Total/NA	Solid	5035	
890-5755-32	PH15A	Total/NA	Solid	5035	
MB 880-68939/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-68939/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-68939/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-36696-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-36696-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 68962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	5035	
890-5755-2	PH01B	Total/NA	Solid	5035	
890-5755-3	PH02A	Total/NA	Solid	5035	
890-5755-4	PH02B	Total/NA	Solid	5035	
890-5755-5	PH02C	Total/NA	Solid	5035	
890-5755-6	PH03A	Total/NA	Solid	5035	
890-5755-7	PH03B	Total/NA	Solid	5035	
890-5755-8	PH04A	Total/NA	Solid	5035	
890-5755-9	PH04B	Total/NA	Solid	5035	
890-5755-10	PH04C	Total/NA	Solid	5035	
890-5755-11	PH05A	Total/NA	Solid	5035	
890-5755-12	PH05B	Total/NA	Solid	5035	
890-5755-13	PH06A	Total/NA	Solid	5035	
890-5755-14	PH06B	Total/NA	Solid	5035	
890-5755-15	PH07A	Total/NA	Solid	5035	
890-5755-16	PH07B	Total/NA	Solid	5035	
890-5755-17	PH08	Total/NA	Solid	5035	
890-5755-18	PH08A	Total/NA	Solid	5035	
890-5755-19	PH09A	Total/NA	Solid	5035	
890-5755-20	PH09B	Total/NA	Solid	5035	
MB 880-68962/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-68962/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-68962/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5755-1 MS	PH01A	Total/NA	Solid	5035	
890-5755-1 MSD	PH01A	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

GC VOA

Analysis Batch: 68975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-33	PH16A	Total/NA	Solid	8021B	69014
MB 880-68998/5-A	Method Blank	Total/NA	Solid	8021B	68998
MB 880-69014/5-A	Method Blank	Total/NA	Solid	8021B	69014
LCS 880-69014/1-A	Lab Control Sample	Total/NA	Solid	8021B	69014
LCSD 880-69014/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69014
890-5771-A-13-B MS	Matrix Spike	Total/NA	Solid	8021B	69014
890-5771-A-13-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	69014

Analysis Batch: 68997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-34	PH16B	Total/NA	Solid	8021B	69028
MB 880-69015/5-A	Method Blank	Total/NA	Solid	8021B	69015
MB 880-69028/5-A	Method Blank	Total/NA	Solid	8021B	69028
LCS 880-69028/1-A	Lab Control Sample	Total/NA	Solid	8021B	69028
LCSD 880-69028/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69028
890-5747-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	69028
890-5747-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	69028

Prep Batch: 68998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-68998/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 69012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	Total BTEX	
890-5755-2	PH01B	Total/NA	Solid	Total BTEX	
890-5755-3	PH02A	Total/NA	Solid	Total BTEX	
890-5755-4	PH02B	Total/NA	Solid	Total BTEX	
890-5755-5	PH02C	Total/NA	Solid	Total BTEX	
890-5755-6	PH03A	Total/NA	Solid	Total BTEX	
890-5755-7	PH03B	Total/NA	Solid	Total BTEX	
890-5755-8	PH04A	Total/NA	Solid	Total BTEX	
890-5755-9	PH04B	Total/NA	Solid	Total BTEX	
890-5755-10	PH04C	Total/NA	Solid	Total BTEX	
890-5755-11	PH05A	Total/NA	Solid	Total BTEX	
890-5755-12	PH05B	Total/NA	Solid	Total BTEX	
890-5755-13	PH06A	Total/NA	Solid	Total BTEX	
890-5755-14	PH06B	Total/NA	Solid	Total BTEX	
890-5755-15	PH07A	Total/NA	Solid	Total BTEX	
890-5755-16	PH07B	Total/NA	Solid	Total BTEX	
890-5755-17	PH08	Total/NA	Solid	Total BTEX	
890-5755-18	PH08A	Total/NA	Solid	Total BTEX	
890-5755-19	PH09A	Total/NA	Solid	Total BTEX	
890-5755-20	PH09B	Total/NA	Solid	Total BTEX	
890-5755-21	PH10	Total/NA	Solid	Total BTEX	
890-5755-22	PH10A	Total/NA	Solid	Total BTEX	
890-5755-23	PH11	Total/NA	Solid	Total BTEX	
890-5755-24	PH11A	Total/NA	Solid	Total BTEX	
890-5755-25	PH12	Total/NA	Solid	Total BTEX	
890-5755-26	PH12A	Total/NA	Solid	Total BTEX	
890-5755-27	PH13A	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

GC VOA (Continued)

Analysis Batch: 69012 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-28	PH13B	Total/NA	Solid	Total BTEX	
890-5755-29	PH14	Total/NA	Solid	Total BTEX	
890-5755-30	PH14A	Total/NA	Solid	Total BTEX	
890-5755-31	PH15	Total/NA	Solid	Total BTEX	
890-5755-32	PH15A	Total/NA	Solid	Total BTEX	
890-5755-33	PH16A	Total/NA	Solid	Total BTEX	
890-5755-34	PH16B	Total/NA	Solid	Total BTEX	

Prep Batch: 69014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-33	PH16A	Total/NA	Solid	5035	
MB 880-69014/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69014/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-69014/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5771-A-13-B MS	Matrix Spike	Total/NA	Solid	5035	
890-5771-A-13-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 69015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-69015/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 69028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-34	PH16B	Total/NA	Solid	5035	
MB 880-69028/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69028/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 880-69028/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5747-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-5747-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 68745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	8015B NM	68817
890-5755-2	PH01B	Total/NA	Solid	8015B NM	68817
890-5755-3	PH02A	Total/NA	Solid	8015B NM	68817
890-5755-4	PH02B	Total/NA	Solid	8015B NM	68817
890-5755-5	PH02C	Total/NA	Solid	8015B NM	68817
890-5755-6	PH03A	Total/NA	Solid	8015B NM	68817
890-5755-7	PH03B	Total/NA	Solid	8015B NM	68817
890-5755-8	PH04A	Total/NA	Solid	8015B NM	68817
890-5755-9	PH04B	Total/NA	Solid	8015B NM	68817
890-5755-10	PH04C	Total/NA	Solid	8015B NM	68817
890-5755-11	PH05A	Total/NA	Solid	8015B NM	68817
890-5755-12	PH05B	Total/NA	Solid	8015B NM	68817
890-5755-13	PH06A	Total/NA	Solid	8015B NM	68817
890-5755-14	PH06B	Total/NA	Solid	8015B NM	68817
890-5755-15	PH07A	Total/NA	Solid	8015B NM	68817
890-5755-16	PH07B	Total/NA	Solid	8015B NM	68817
890-5755-17	PH08	Total/NA	Solid	8015B NM	68817

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

GC Semi VOA (Continued)

Analysis Batch: 68745 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-18	PH08A	Total/NA	Solid	8015B NM	68817
890-5755-19	PH09A	Total/NA	Solid	8015B NM	68817
890-5755-20	PH09B	Total/NA	Solid	8015B NM	68817
MB 880-68817/1-A	Method Blank	Total/NA	Solid	8015B NM	68817
LCS 880-68817/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	68817
LCSD 880-68817/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	68817
890-5755-1 MS	PH01A	Total/NA	Solid	8015B NM	68817
890-5755-1 MSD	PH01A	Total/NA	Solid	8015B NM	68817

Analysis Batch: 68747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Total/NA	Solid	8015B NM	68850
890-5755-22	PH10A	Total/NA	Solid	8015B NM	68850
890-5755-23	PH11	Total/NA	Solid	8015B NM	68850
890-5755-24	PH11A	Total/NA	Solid	8015B NM	68850
890-5755-25	PH12	Total/NA	Solid	8015B NM	68850
890-5755-26	PH12A	Total/NA	Solid	8015B NM	68850
890-5755-27	PH13A	Total/NA	Solid	8015B NM	68850
890-5755-28	PH13B	Total/NA	Solid	8015B NM	68850
890-5755-29	PH14	Total/NA	Solid	8015B NM	68850
890-5755-30	PH14A	Total/NA	Solid	8015B NM	68850
890-5755-31	PH15	Total/NA	Solid	8015B NM	68850
890-5755-32	PH15A	Total/NA	Solid	8015B NM	68850
890-5755-33	PH16A	Total/NA	Solid	8015B NM	68850
890-5755-34	PH16B	Total/NA	Solid	8015B NM	68850
MB 880-68850/1-A	Method Blank	Total/NA	Solid	8015B NM	68850
LCS 880-68850/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	68850
LCSD 880-68850/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	68850
890-5755-21 MS	PH10	Total/NA	Solid	8015B NM	68850
890-5755-21 MSD	PH10	Total/NA	Solid	8015B NM	68850

Prep Batch: 68817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	8015NM Prep	
890-5755-2	PH01B	Total/NA	Solid	8015NM Prep	
890-5755-3	PH02A	Total/NA	Solid	8015NM Prep	
890-5755-4	PH02B	Total/NA	Solid	8015NM Prep	
890-5755-5	PH02C	Total/NA	Solid	8015NM Prep	
890-5755-6	PH03A	Total/NA	Solid	8015NM Prep	
890-5755-7	PH03B	Total/NA	Solid	8015NM Prep	
890-5755-8	PH04A	Total/NA	Solid	8015NM Prep	
890-5755-9	PH04B	Total/NA	Solid	8015NM Prep	
890-5755-10	PH04C	Total/NA	Solid	8015NM Prep	
890-5755-11	PH05A	Total/NA	Solid	8015NM Prep	
890-5755-12	PH05B	Total/NA	Solid	8015NM Prep	
890-5755-13	PH06A	Total/NA	Solid	8015NM Prep	
890-5755-14	PH06B	Total/NA	Solid	8015NM Prep	
890-5755-15	PH07A	Total/NA	Solid	8015NM Prep	
890-5755-16	PH07B	Total/NA	Solid	8015NM Prep	
890-5755-17	PH08	Total/NA	Solid	8015NM Prep	
890-5755-18	PH08A	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

GC Semi VOA (Continued)

Prep Batch: 68817 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-19	PH09A	Total/NA	Solid	8015NM Prep	
890-5755-20	PH09B	Total/NA	Solid	8015NM Prep	
MB 880-68817/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-68817/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-68817/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5755-1 MS	PH01A	Total/NA	Solid	8015NM Prep	
890-5755-1 MSD	PH01A	Total/NA	Solid	8015NM Prep	

Prep Batch: 68850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Total/NA	Solid	8015NM Prep	
890-5755-22	PH10A	Total/NA	Solid	8015NM Prep	
890-5755-23	PH11	Total/NA	Solid	8015NM Prep	
890-5755-24	PH11A	Total/NA	Solid	8015NM Prep	
890-5755-25	PH12	Total/NA	Solid	8015NM Prep	
890-5755-26	PH12A	Total/NA	Solid	8015NM Prep	
890-5755-27	PH13A	Total/NA	Solid	8015NM Prep	
890-5755-28	PH13B	Total/NA	Solid	8015NM Prep	
890-5755-29	PH14	Total/NA	Solid	8015NM Prep	
890-5755-30	PH14A	Total/NA	Solid	8015NM Prep	
890-5755-31	PH15	Total/NA	Solid	8015NM Prep	
890-5755-32	PH15A	Total/NA	Solid	8015NM Prep	
890-5755-33	PH16A	Total/NA	Solid	8015NM Prep	
890-5755-34	PH16B	Total/NA	Solid	8015NM Prep	
MB 880-68850/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-68850/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-68850/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5755-21 MS	PH10	Total/NA	Solid	8015NM Prep	
890-5755-21 MSD	PH10	Total/NA	Solid	8015NM Prep	

Analysis Batch: 68926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Total/NA	Solid	8015 NM	
890-5755-2	PH01B	Total/NA	Solid	8015 NM	
890-5755-3	PH02A	Total/NA	Solid	8015 NM	
890-5755-4	PH02B	Total/NA	Solid	8015 NM	
890-5755-5	PH02C	Total/NA	Solid	8015 NM	
890-5755-6	PH03A	Total/NA	Solid	8015 NM	
890-5755-7	PH03B	Total/NA	Solid	8015 NM	
890-5755-8	PH04A	Total/NA	Solid	8015 NM	
890-5755-9	PH04B	Total/NA	Solid	8015 NM	
890-5755-10	PH04C	Total/NA	Solid	8015 NM	
890-5755-11	PH05A	Total/NA	Solid	8015 NM	
890-5755-12	PH05B	Total/NA	Solid	8015 NM	
890-5755-13	PH06A	Total/NA	Solid	8015 NM	
890-5755-14	PH06B	Total/NA	Solid	8015 NM	
890-5755-15	PH07A	Total/NA	Solid	8015 NM	
890-5755-16	PH07B	Total/NA	Solid	8015 NM	
890-5755-17	PH08	Total/NA	Solid	8015 NM	
890-5755-18	PH08A	Total/NA	Solid	8015 NM	
890-5755-19	PH09A	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5755-1
SDG: 03C1558292

GC Semi VOA (Continued)

Analysis Batch: 68926 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-20	PH09B	Total/NA	Solid	8015 NM	
890-5755-21	PH10	Total/NA	Solid	8015 NM	
890-5755-22	PH10A	Total/NA	Solid	8015 NM	
890-5755-23	PH11	Total/NA	Solid	8015 NM	
890-5755-24	PH11A	Total/NA	Solid	8015 NM	
890-5755-25	PH12	Total/NA	Solid	8015 NM	
890-5755-26	PH12A	Total/NA	Solid	8015 NM	
890-5755-27	PH13A	Total/NA	Solid	8015 NM	
890-5755-28	PH13B	Total/NA	Solid	8015 NM	
890-5755-29	PH14	Total/NA	Solid	8015 NM	
890-5755-30	PH14A	Total/NA	Solid	8015 NM	
890-5755-31	PH15	Total/NA	Solid	8015 NM	
890-5755-32	PH15A	Total/NA	Solid	8015 NM	
890-5755-33	PH16A	Total/NA	Solid	8015 NM	
890-5755-34	PH16B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 68801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Soluble	Solid	DI Leach	
890-5755-2	PH01B	Soluble	Solid	DI Leach	
890-5755-3	PH02A	Soluble	Solid	DI Leach	
890-5755-4	PH02B	Soluble	Solid	DI Leach	
890-5755-5	PH02C	Soluble	Solid	DI Leach	
890-5755-6	PH03A	Soluble	Solid	DI Leach	
890-5755-7	PH03B	Soluble	Solid	DI Leach	
890-5755-8	PH04A	Soluble	Solid	DI Leach	
890-5755-9	PH04B	Soluble	Solid	DI Leach	
890-5755-10	PH04C	Soluble	Solid	DI Leach	
890-5755-11	PH05A	Soluble	Solid	DI Leach	
890-5755-12	PH05B	Soluble	Solid	DI Leach	
890-5755-13	PH06A	Soluble	Solid	DI Leach	
890-5755-14	PH06B	Soluble	Solid	DI Leach	
890-5755-15	PH07A	Soluble	Solid	DI Leach	
890-5755-16	PH07B	Soluble	Solid	DI Leach	
890-5755-17	PH08	Soluble	Solid	DI Leach	
890-5755-18	PH08A	Soluble	Solid	DI Leach	
890-5755-19	PH09A	Soluble	Solid	DI Leach	
890-5755-20	PH09B	Soluble	Solid	DI Leach	
MB 880-68801/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-68801/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-68801/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5755-1 MS	PH01A	Soluble	Solid	DI Leach	
890-5755-1 MSD	PH01A	Soluble	Solid	DI Leach	
890-5755-11 MS	PH05A	Soluble	Solid	DI Leach	
890-5755-11 MSD	PH05A	Soluble	Solid	DI Leach	

Leach Batch: 68803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

HPLC/IC (Continued)

Leach Batch: 68803 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-22	PH10A	Soluble	Solid	DI Leach	
890-5755-23	PH11	Soluble	Solid	DI Leach	
890-5755-24	PH11A	Soluble	Solid	DI Leach	
890-5755-25	PH12	Soluble	Solid	DI Leach	
890-5755-26	PH12A	Soluble	Solid	DI Leach	
890-5755-27	PH13A	Soluble	Solid	DI Leach	
890-5755-28	PH13B	Soluble	Solid	DI Leach	
890-5755-29	PH14	Soluble	Solid	DI Leach	
890-5755-30	PH14A	Soluble	Solid	DI Leach	
890-5755-31	PH15	Soluble	Solid	DI Leach	
890-5755-32	PH15A	Soluble	Solid	DI Leach	
890-5755-33	PH16A	Soluble	Solid	DI Leach	
890-5755-34	PH16B	Soluble	Solid	DI Leach	
MB 880-68803/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-68803/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-68803/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5755-21 MS	PH10	Soluble	Solid	DI Leach	
890-5755-21 MSD	PH10	Soluble	Solid	DI Leach	
890-5755-31 MS	PH15	Soluble	Solid	DI Leach	
890-5755-31 MSD	PH15	Soluble	Solid	DI Leach	

Analysis Batch: 68836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-1	PH01A	Soluble	Solid	300.0	68801
890-5755-2	PH01B	Soluble	Solid	300.0	68801
890-5755-3	PH02A	Soluble	Solid	300.0	68801
890-5755-4	PH02B	Soluble	Solid	300.0	68801
890-5755-5	PH02C	Soluble	Solid	300.0	68801
890-5755-6	PH03A	Soluble	Solid	300.0	68801
890-5755-7	PH03B	Soluble	Solid	300.0	68801
890-5755-8	PH04A	Soluble	Solid	300.0	68801
890-5755-9	PH04B	Soluble	Solid	300.0	68801
890-5755-10	PH04C	Soluble	Solid	300.0	68801
890-5755-11	PH05A	Soluble	Solid	300.0	68801
890-5755-12	PH05B	Soluble	Solid	300.0	68801
890-5755-13	PH06A	Soluble	Solid	300.0	68801
890-5755-14	PH06B	Soluble	Solid	300.0	68801
890-5755-15	PH07A	Soluble	Solid	300.0	68801
890-5755-16	PH07B	Soluble	Solid	300.0	68801
890-5755-17	PH08	Soluble	Solid	300.0	68801
890-5755-18	PH08A	Soluble	Solid	300.0	68801
890-5755-19	PH09A	Soluble	Solid	300.0	68801
890-5755-20	PH09B	Soluble	Solid	300.0	68801
MB 880-68801/1-A	Method Blank	Soluble	Solid	300.0	68801
LCS 880-68801/2-A	Lab Control Sample	Soluble	Solid	300.0	68801
LCSD 880-68801/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	68801
890-5755-1 MS	PH01A	Soluble	Solid	300.0	68801
890-5755-1 MSD	PH01A	Soluble	Solid	300.0	68801
890-5755-11 MS	PH05A	Soluble	Solid	300.0	68801
890-5755-11 MSD	PH05A	Soluble	Solid	300.0	68801

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

HPLC/IC

Analysis Batch: 68918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5755-21	PH10	Soluble	Solid	300.0	68803
890-5755-22	PH10A	Soluble	Solid	300.0	68803
890-5755-23	PH11	Soluble	Solid	300.0	68803
890-5755-24	PH11A	Soluble	Solid	300.0	68803
890-5755-25	PH12	Soluble	Solid	300.0	68803
890-5755-26	PH12A	Soluble	Solid	300.0	68803
890-5755-27	PH13A	Soluble	Solid	300.0	68803
890-5755-28	PH13B	Soluble	Solid	300.0	68803
890-5755-29	PH14	Soluble	Solid	300.0	68803
890-5755-30	PH14A	Soluble	Solid	300.0	68803
890-5755-31	PH15	Soluble	Solid	300.0	68803
890-5755-32	PH15A	Soluble	Solid	300.0	68803
890-5755-33	PH16A	Soluble	Solid	300.0	68803
890-5755-34	PH16B	Soluble	Solid	300.0	68803
MB 880-68803/1-A	Method Blank	Soluble	Solid	300.0	68803
LCS 880-68803/2-A	Lab Control Sample	Soluble	Solid	300.0	68803
LCSD 880-68803/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	68803
890-5755-21 MS	PH10	Soluble	Solid	300.0	68803
890-5755-21 MSD	PH10	Soluble	Solid	300.0	68803
890-5755-31 MS	PH15	Soluble	Solid	300.0	68803
890-5755-31 MSD	PH15	Soluble	Solid	300.0	68803

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH01A
Date Collected: 12/06/23 11:15
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 03:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 03:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 21:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/11/23 21:43	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/11/23 21:12	CH	EET MID

Client Sample ID: PH01B
Date Collected: 12/06/23 12:30
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 04:17	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 04:17	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 22:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/11/23 22:48	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/11/23 21:31	CH	EET MID

Client Sample ID: PH02A
Date Collected: 12/06/23 11:40
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 04:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 04:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:10	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/11/23 23:10	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/11/23 21:37	CH	EET MID

Client Sample ID: PH02B
Date Collected: 12/06/23 11:45
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 05:09	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 05:09	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH02B
Date Collected: 12/06/23 11:45
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:32	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/11/23 23:32	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/11/23 21:43	CH	EET MID

Client Sample ID: PH02C
Date Collected: 12/06/23 12:35
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 05:36	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 05:36	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:53	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/11/23 23:53	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/11/23 21:49	CH	EET MID

Client Sample ID: PH03A
Date Collected: 12/06/23 13:25
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 06:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 06:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 00:14	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:00	CH	EET MID

Client Sample ID: PH03B
Date Collected: 12/06/23 13:35
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 06:28	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 06:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 00:35	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH03B
Date Collected: 12/06/23 13:35
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:07	CH	EET MID

Client Sample ID: PH04A
Date Collected: 12/06/23 12:15
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 06:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 06:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 00:57	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/12/23 12:13	CH	EET MID

Client Sample ID: PH04B
Date Collected: 12/06/23 12:20
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 07:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 07:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 01:18	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 01:18	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/12/23 12:19	CH	EET MID

Client Sample ID: PH04C
Date Collected: 12/06/23 12:25
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 07:46	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 07:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 01:39	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 01:39	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:25	CH	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH05A
Date Collected: 12/06/23 10:40
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 10:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 10:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 02:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 02:21	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:31	CH	EET MID

Client Sample ID: PH05B
Date Collected: 12/06/23 10:50
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 11:09	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 11:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 02:42	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 02:42	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:49	CH	EET MID

Client Sample ID: PH06A
Date Collected: 12/06/23 12:50
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 11:35	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 11:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 03:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 03:04	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 12:56	CH	EET MID

Client Sample ID: PH06B
Date Collected: 12/06/23 13:00
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 12:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 12:02	SM	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

Client Sample ID: PH06B
Date Collected: 12/06/23 13:00
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			68926	12/12/23 03:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 03:25	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 13:14	CH	EET MID

Client Sample ID: PH07A
Date Collected: 12/06/23 13:50
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 12:28	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 12:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 03:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 03:46	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/12/23 13:20	CH	EET MID

Client Sample ID: PH07B
Date Collected: 12/06/23 14:00
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 12:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 12:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 04:08	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 04:08	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 13:26	CH	EET MID

Client Sample ID: PH08
Date Collected: 12/06/23 14:05
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 13:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 04:33	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 04:33	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH08
Date Collected: 12/06/23 14:05
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68836	12/12/23 13:32	CH	EET MID

Client Sample ID: PH08A
Date Collected: 12/06/23 14:15
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/13/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 17:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 17:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 04:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 04:54	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 13:39	CH	EET MID

Client Sample ID: PH09A
Date Collected: 12/07/23 09:25
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 17:33	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 17:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 05:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 05:15	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 13:45	CH	EET MID

Client Sample ID: PH09B
Date Collected: 12/07/23 09:30
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	68962	12/12/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 17:59	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 17:59	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 05:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	68817	12/11/23 12:05	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68745	12/12/23 05:36	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	68801	12/11/23 11:13	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68836	12/12/23 13:51	CH	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

Client Sample ID: PH10

Lab Sample ID: 890-5755-21

Date Collected: 12/07/23 10:15

Matrix: Solid

Date Received: 12/07/23 15:22

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	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 04:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 04:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 21:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 21:43	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 15:32	CH	EET MID

Client Sample ID: PH10A

Lab Sample ID: 890-5755-22

Date Collected: 12/07/23 10:35

Matrix: Solid

Date Received: 12/07/23 15:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 04:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 04:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 22:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 22:48	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:01	CH	EET MID

Client Sample ID: PH11

Lab Sample ID: 890-5755-23

Date Collected: 12/07/23 10:40

Matrix: Solid

Date Received: 12/07/23 15:22

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	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 06:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 06:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 23:10	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:07	CH	EET MID

Client Sample ID: PH11A

Lab Sample ID: 890-5755-24

Date Collected: 12/07/23 10:55

Matrix: Solid

Date Received: 12/07/23 15:22

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	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 06:53	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 06:53	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH11A
Date Collected: 12/07/23 10:55
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 23:32	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:13	CH	EET MID

Client Sample ID: PH12
Date Collected: 12/07/23 11:00
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 07:13	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 07:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/11/23 23:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 23:53	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 19:19	CH	EET MID

Client Sample ID: PH12A
Date Collected: 12/07/23 11:20
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 07:34	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 07:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:14	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 00:14	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:38	CH	EET MID

Client Sample ID: PH13A
Date Collected: 12/07/23 12:25
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 07:54	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 07:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 00:35	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH13A
Date Collected: 12/07/23 12:25
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:44	CH	EET MID

Client Sample ID: PH13B
Date Collected: 12/07/23 12:30
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 08:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 08:15	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 00:57	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 00:57	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 19:50	CH	EET MID

Client Sample ID: PH14
Date Collected: 12/07/23 12:55
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-29
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 09:42	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 09:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 01:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 01:18	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 19:56	CH	EET MID

Client Sample ID: PH14A
Date Collected: 12/07/23 13:10
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-30
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 10:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 10:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 01:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 01:39	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 20:02	CH	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

Client Sample ID: PH15

Lab Sample ID: 890-5755-31

Date Collected: 12/07/23 12:35

Matrix: Solid

Date Received: 12/07/23 15:22

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	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 10:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 10:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 02:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 02:21	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 20:08	CH	EET MID

Client Sample ID: PH15A

Lab Sample ID: 890-5755-32

Date Collected: 12/07/23 12:45

Matrix: Solid

Date Received: 12/07/23 15:22

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	68939	12/12/23 14:14	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68889	12/13/23 10:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/13/23 10:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 02:42	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 02:42	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 20:27	CH	EET MID

Client Sample ID: PH16A

Lab Sample ID: 890-5755-33

Date Collected: 12/07/23 10:00

Matrix: Solid

Date Received: 12/07/23 15:22

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	69014	12/13/23 10:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68975	12/14/23 06:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/14/23 06:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			68926	12/12/23 03:04	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 03:04	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	68918	12/12/23 20:33	CH	EET MID

Client Sample ID: PH16B

Lab Sample ID: 890-5755-34

Date Collected: 12/07/23 10:10

Matrix: Solid

Date Received: 12/07/23 15:22

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	69028	12/13/23 14:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68997	12/14/23 10:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			69012	12/14/23 10:48	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

Client Sample ID: PH16B
Date Collected: 12/07/23 10:10
Date Received: 12/07/23 15:22

Lab Sample ID: 890-5755-34
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			68926	12/12/23 03:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68850	12/11/23 14:20	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/12/23 03:25	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68918	12/12/23 20:51	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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

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Method Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5755-1
SDG: 03C1558292

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 16 TWR 102H

Job ID: 890-5755-1
 SDG: 03C1558292

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5755-1	PH01A	Solid	12/06/23 11:15	12/07/23 15:22	4'
890-5755-2	PH01B	Solid	12/06/23 12:30	12/07/23 15:22	8'
890-5755-3	PH02A	Solid	12/06/23 11:40	12/07/23 15:22	3'
890-5755-4	PH02B	Solid	12/06/23 11:45	12/07/23 15:22	4'
890-5755-5	PH02C	Solid	12/06/23 12:35	12/07/23 15:22	8'
890-5755-6	PH03A	Solid	12/06/23 13:25	12/07/23 15:22	4'
890-5755-7	PH03B	Solid	12/06/23 13:35	12/07/23 15:22	8'
890-5755-8	PH04A	Solid	12/06/23 12:15	12/07/23 15:22	4'
890-5755-9	PH04B	Solid	12/06/23 12:20	12/07/23 15:22	6'
890-5755-10	PH04C	Solid	12/06/23 12:25	12/07/23 15:22	8'
890-5755-11	PH05A	Solid	12/06/23 10:40	12/07/23 15:22	2'
890-5755-12	PH05B	Solid	12/06/23 10:50	12/07/23 15:22	4'
890-5755-13	PH06A	Solid	12/06/23 12:50	12/07/23 15:22	2'
890-5755-14	PH06B	Solid	12/06/23 13:00	12/07/23 15:22	4'
890-5755-15	PH07A	Solid	12/06/23 13:50	12/07/23 15:22	2'
890-5755-16	PH07B	Solid	12/06/23 14:00	12/07/23 15:22	4'
890-5755-17	PH08	Solid	12/06/23 14:05	12/07/23 15:22	0.5'
890-5755-18	PH08A	Solid	12/06/23 14:15	12/07/23 15:22	2'
890-5755-19	PH09A	Solid	12/07/23 09:25	12/07/23 15:22	2'
890-5755-20	PH09B	Solid	12/07/23 09:30	12/07/23 15:22	3'
890-5755-21	PH10	Solid	12/07/23 10:15	12/07/23 15:22	0.5'
890-5755-22	PH10A	Solid	12/07/23 10:35	12/07/23 15:22	4'
890-5755-23	PH11	Solid	12/07/23 10:40	12/07/23 15:22	0.5'
890-5755-24	PH11A	Solid	12/07/23 10:55	12/07/23 15:22	2'
890-5755-25	PH12	Solid	12/07/23 11:00	12/07/23 15:22	0.5'
890-5755-26	PH12A	Solid	12/07/23 11:20	12/07/23 15:22	4'
890-5755-27	PH13A	Solid	12/07/23 12:25	12/07/23 15:22	3'
890-5755-28	PH13B	Solid	12/07/23 12:30	12/07/23 15:22	4'
890-5755-29	PH14	Solid	12/07/23 12:55	12/07/23 15:22	0.5'
890-5755-30	PH14A	Solid	12/07/23 13:10	12/07/23 15:22	3'
890-5755-31	PH15	Solid	12/07/23 12:35	12/07/23 15:22	0.5'
890-5755-32	PH15A	Solid	12/07/23 12:45	12/07/23 15:22	2'
890-5755-33	PH16A	Solid	12/07/23 10:00	12/07/23 15:22	4'
890-5755-34	PH16B	Solid	12/07/23 10:10	12/07/23 15:22	8'

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Chain of Custody



Environment-Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-2540, Carlsbad, NM (575) 988-3199

Work Order No:

www.xenco.com Page 1 of 4

Project Manager: Ben Bell	Bill to: (if different) Grant Green	Work Order Comments
Company Name: Enspium, LLC	Company Name: XTO Energy	Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
Address: 3122 Nat'l Parks Hwy	Address: 3104 E Greene St	State of Project: Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
City, State ZIP: Carlsbad, NM 88220	City, State ZIP: Carlsbad, NM 88220	Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:
Phone: 989-854-0852	Email: bbell11@enspium.com	

Project Name: PLU 16 TWR 102H	Turn Around	ANALYSIS REQUEST	Preservative Codes
Project Number: 0361550292	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	 890-5755 Chain of Custody	None: NO DI Water: H ₂ O
Project Location: 33-20755-103-18839	Due Date: TAT starts the day received by the lab, if received by 4:30pm		Cool: Cool MeOH: Me
Sampler's Name: Meredith Roberts	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		HCL: HC HINO: HN
P.O. #:	Thermometer ID: 102		H ₂ SO ₄ : H ₂ NaOH: Na
SAMPLE RECEIPT	Wet Ice: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	H ₃ PO ₄ : HP	
Samples Received Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID: 102	NaHSO ₄ : NABIS	
Cooler Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	Correction Factor: 1.0	Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	Temperature Reading: 3.0	Zn Acetate+NaOH: Zn	
Total Containers:	Corrected Temperature: 2.8	NaOH+Ascorbic Acid: SAPC	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Sample Comments
PH01 PH01A	S	12/6/23	1115	4'	G	1	Incident #:
PH01A PH01B			1230	8'			PENDING
PH02 PH02A			1140	3'			
PH02A PH02B			1145	4'			
PH02B PH02C			1235	8'			
PH03 PH03A			1225	4'			
PH03A PH03B			1335	8'			
PH04 PH04A			1215	4'			
PH04A PH04B			1220	6'			
PH04B PH04C			1225	8'			

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 SiO₂ Na Sr Tl Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature) Meredith Roberts	Received by: (Signature) aloben	Relinquished by: (Signature)	Received by: (Signature)
1	15:22 12/6		
3			
5			

Date/Time Date/Time Date/Time Date/Time
 Revised Date: 08/25/2020 Rev. 2002



Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
 Midland, TX (432) 704-5446, San Antonio, TX (210) 309-3334
 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Environment Testing
Xenco



Work Order No:

www.xenco.com Page 2 of 4

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

Project Manager: Ben Belli
 Company Name: Enselum LLC
 Address: 3122 Nat'l Parks Hwy
 City, State ZIP: Carlsbad, NM 88220
 Phone: 989.854.0852
 Email: bbelli@ensolum.com
 Bill to: (if different)
 Company Name: XTO Energy
 Address: 3104 E Greene St
 City, State ZIP: Carlsbad, NM 88220
 Email: bbelli@ensolum.com

Project Name: PLU 16 TWR 102H
 Project Number: 03058892
 Project Location: 3220155-109-18839
 Sampler's Name: Meredith Roberts
 PO #:
 Turn Around: Routine Rush
 Due Date:
 TAT starts the day received by the lab, if received by 4:30pm

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Pres. Code	ANALYSIS REQUEST	Preservative Codes	Sample Comments
							Yes	No				
PH05 PH05A	S	12/6/23	1040	2'	G	1	BTX	X				Incident #:
PH05A PH05B			1050	4'			BTX	X				PENDING
PH06 PH06A			1250	2'								Cost Center:
PH06A PH06B			1300	4'								PENDING
PH07 PH07A			1350	2'								
PH07A PH07B			1400	4'								
PH08			1405	0.5'								
PH08A			1415	2'								
PH09 PH09A		12/7/23	0925	2'								
PH09A PH09B			0936	3'								mroberts@ensolum.com

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 SiO₂ Na Sr Tl Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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Relinquished by: (Signature) *theater* Received by: (Signature) *abebe* Date/Time: 15:22 12/14/23
 Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time: _____

Revised Date: 08/25/2020 Rev. 20202



Chain of Custody

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

Environment Testing
Xenco

Work Order No: _____

www.xenco.com Page 3 of 4

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

Project Manager: Ben Bellil
 Company Name: Envision, LLC
 Address: 3122 Nat'l Parks Hwy
 City, State ZIP: Carlsbad, NM 88220
 Phone: 989.854.0853
 Email: bbellil@envision.com

Bill to: (if different)
 Company Name: Garrett Green
 Address: 7304 E Greene St
 City, State ZIP: Carlsbad, NM 88220
 Email: bbellil@envision.com

Project Name: PLU 16 TWR 102H
 Project Number: 03C1558292
 Project Location: 32.30155, -103.78839
 Sampler's Name: Meredith Roberts
 PO #: _____

SAMPLE RECEIPT
 Samples Received Intact: Yes No
 Cooler Custody Seals: Yes No
 Sample Custody Seals: Yes No
 Total Containers: _____

Turn Around: Routine Rush
 Due Date: TAT starts the day received by the lab, if received by 4:30pm
 Temp Blank: Yes No
 Thermometer ID: _____
 Correction Factor: _____
 Temperature Reading: _____
 Corrected Temperature: _____

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Pres. Code	ANALYSIS REQUEST	Preservative Codes	Sample Comments
							Br	M				
PH10	S	12/1/23	1015	0.5'	G	1	X			None: NO Cool: Cool HCL: HC H ₂ SO ₄ : H ₂ H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	DI Water: H ₂ O MeOH: Me HNO ₃ : HN NaOH: Na	Incident#: PENDING
PH10A			1035	4'			X					Cost Center: PENDING
PH11			1040	0.5'			X					
PH1A			1055	2'			X					
PH12			1100	0.5'			X					
PH12A			1120	4'			X					
PH13			1225	3'			X					
PH13A			1230	4'			X					
PH14			1255	0.5'			X					
PH14A			1310	3'			X					

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 SiO₂ 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

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Relinquished by: (Signature) Meredith Roberts	Received by: (Signature) cbellil	Date/Time 15:22 12/1	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
3					
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Chain of Custody



Environment Testing
Xenco

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

Work Order No:

www.xenco.com Page 4 of 4

Project Manager: Ben Beull
 Company Name: Ensolum, LLC
 Address: 3122 Nat'l Parks Hwy
 City, State ZIP: Carlsbad, NM 88220
 Phone: 989-854-0852
 Email: bbeull@ensolum.com

Bill to: (if different)
 Company Name: Garrett Green
 Address: XTO Energy
 City, State ZIP: 3104 E Greene St
 Carlsbad, NM 88220
 Email: bbeull@ensolum.com

Work Order Comments
 Program: UST/PST PRP Brownfields RRC Superfund
 State of Project: Level III Level IIII PST/AUST TRRP Level IV
 Reporting: Level II Level III ADaPT Other:
 Deliverables: EDD

Project Name:	Project Number:	Project Location:	Sampler's Name:	PO #:	Turn Around		Pres. Code	ANALYSIS REQUEST		Preservative Codes	
					<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush		None: NO	DI Water: H ₂ O		
PLU 16 TWR 102H	030158092	32-20155-103-18839	Meredith Roberts		<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush		Cool: Cool	MeOH: Me		
Temp Blank: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Thermometer ID: _____ Samples Received Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Correction Factor: _____ Cooler Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Sample Custody Seals: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Total Containers: _____					Due Date: TAT starts the day received by the lab, if received by 4:30pm		Parameters		Cool: HCL: HC	HNO ₃ : HN	
SAMPLE RECEIPT					Wet Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Date Sampled: 12/17/23		H ₂ SO ₄ : H ₂	NaOH: Na	
PH15	S	12/17/23	1245	0.5'	G	1		H ₃ PO ₄ : HP	NaHSO ₄ : NABIS		
PH15A			1000	2'				Na ₂ O ₃ : NaSO ₃	Zn Acetate+NaOH: Zn		
PH16			1010	4'				Zn Acetate+NaOH: Zn	NaOH+Ascorbic Acid: SAPC		
PH16A				8'							
PH16B											
Incident #: PENDING Cost Center: PENDING mpbeull@ensolum.com											

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 SiO₂ 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 Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Meredith Roberts	Calvin	15:22 12/17			

Revised Date: 08/25/2020 Rev.: 2020.2



Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5755-1
SDG Number: 03C1558292

Login Number: 5755
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5755-1
SDG Number: 03C1558292

Login Number: 5755
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/11/23 08:54 AM

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

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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 12/18/2023 9:06:21 AM Revision 1

JOB DESCRIPTION

PLU 16 TWR 102H
 03C15582292

JOB NUMBER

890-5757-1

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
12/18/2023 9:06:21 AM
Revision 1

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

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Client: Ensolum
Project/Site: PLU 16 TWR 102H

Laboratory Job ID: 890-5757-1
SDG: 03C15582292

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: PLU 16 TWR 102H

Job ID: 890-5757-1

Job ID: 890-5757-1

Eurofins Carlsbad

Job Narrative 890-5757-1

REVISION

The report being provided is a revision of the original report sent on 12/15/2023. The report (revision 1) is being revised due to Per client email, requesting sample ID edits. Revision needed.

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 12/8/2023 8:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-5757-1), PH02 (890-5757-2), PH03 (890-5757-3), PH04 (890-5757-4), PH05 (890-5757-5), PH06 (890-5757-6), PH07 (890-5757-7), PH09 (890-5757-8), PH13 (890-5757-9) and PH16 (890-5757-10).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-69034/1-A) and (LCSD 880-69034/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH01 (890-5757-1), PH03 (890-5757-3), PH06 (890-5757-6), PH07 (890-5757-7), PH09 (890-5757-8), PH13 (890-5757-9), PH16 (890-5757-10), (890-5757-A-1-D MS) and (890-5757-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-68762 and analytical batch 880-68747 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH03 (890-5757-3), PH04 (890-5757-4), PH13 (890-5757-9), PH16 (890-5757-10) and (890-5758-A-21-C MS). 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 880-68747/20), (CCV 880-68747/31) and (CCV 880-68747/5). Evidence of matrix interferences is not obvious.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-68803 and analytical batch 880-68918 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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Case Narrative

Client: Ensolum
Project: PLU 16 TWR 102H

Job ID: 890-5757-1

Job ID: 890-5757-1 (Continued)

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH01
Date Collected: 12/06/23 10:55
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 21:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 21:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 21:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/13/23 21:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 21:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/13/23 21:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	148	S1+	70 - 130	12/13/23 15:17	12/13/23 21:57	1
1,4-Difluorobenzene (Surr)	117		70 - 130	12/13/23 15:17	12/13/23 21:57	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/13/23 21:57	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			12/11/23 16:38	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		12/11/23 09:44	12/11/23 16:38	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 09:44	12/11/23 16:38	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 09:44	12/11/23 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130	12/11/23 09:44	12/11/23 16:38	1
o-Terphenyl	113		70 - 130	12/11/23 09:44	12/11/23 16:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2930		24.9	mg/Kg			12/11/23 18:56	5

Client Sample ID: PH02
Date Collected: 12/06/23 11:25
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/13/23 15:17	12/13/23 22:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:23	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/13/23 15:17	12/13/23 22:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	12/13/23 15:17	12/13/23 22:23	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH02

Lab Sample ID: 890-5757-2

Date Collected: 12/06/23 11:25

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	90		70 - 130	12/13/23 15:17	12/13/23 22:23	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			12/13/23 22:23	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			12/11/23 17:00	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		12/11/23 09:44	12/11/23 17:00	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		12/11/23 09:44	12/11/23 17:00	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		12/11/23 09:44	12/11/23 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130	12/11/23 09:44	12/11/23 17:00	1
o-Terphenyl	120		70 - 130	12/11/23 09:44	12/11/23 17:00	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4380		24.9	mg/Kg			12/11/23 19:03	5

Client Sample ID: PH03

Lab Sample ID: 890-5757-3

Date Collected: 12/06/23 13:05

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:49	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/13/23 15:17	12/13/23 22:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 22:49	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/13/23 15:17	12/13/23 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	156	S1+	70 - 130	12/13/23 15:17	12/13/23 22:49	1
1,4-Difluorobenzene (Surr)	66	S1-	70 - 130	12/13/23 15:17	12/13/23 22:49	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			12/13/23 22:49	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			12/11/23 17:22	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH03
Date Collected: 12/06/23 13:05
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		12/11/23 09:44	12/11/23 17:22	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		12/11/23 09:44	12/11/23 17:22	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		12/11/23 09:44	12/11/23 17:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	135	S1+	70 - 130			12/11/23 09:44	12/11/23 17:22	1
o-Terphenyl	143	S1+	70 - 130			12/11/23 09:44	12/11/23 17:22	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3490		25.0	mg/Kg			12/12/23 20:57	5

Client Sample ID: PH04
Date Collected: 12/06/23 11:55
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/13/23 23:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			12/13/23 15:17	12/13/23 23:15	1
1,4-Difluorobenzene (Surr)	93		70 - 130			12/13/23 15:17	12/13/23 23:15	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			12/13/23 23:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	55.9		50.4	mg/Kg			12/11/23 17:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		12/11/23 09:44	12/11/23 17:43	1
Diesel Range Organics (Over C10-C28)	55.9		50.4	mg/Kg		12/11/23 09:44	12/11/23 17:43	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		12/11/23 09:44	12/11/23 17:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	123		70 - 130			12/11/23 09:44	12/11/23 17:43	1
o-Terphenyl	136	S1+	70 - 130			12/11/23 09:44	12/11/23 17:43	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH04

Lab Sample ID: 890-5757-4

Date Collected: 12/06/23 11:55

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5260		49.8	mg/Kg			12/12/23 21:03	10

Client Sample ID: PH05

Lab Sample ID: 890-5757-5

Date Collected: 12/06/23 10:30

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		12/13/23 15:17	12/13/23 23:41	1
Toluene	<0.00198	U	0.00198	mg/Kg		12/13/23 15:17	12/13/23 23:41	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		12/13/23 15:17	12/13/23 23:41	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		12/13/23 15:17	12/13/23 23:41	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		12/13/23 15:17	12/13/23 23:41	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		12/13/23 15:17	12/13/23 23:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	12/13/23 15:17	12/13/23 23:41	1
1,4-Difluorobenzene (Surr)	91		70 - 130	12/13/23 15:17	12/13/23 23:41	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			12/13/23 23:41	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			12/11/23 18:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		12/11/23 09:44	12/11/23 18:05	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		12/11/23 09:44	12/11/23 18:05	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		12/11/23 09:44	12/11/23 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130	12/11/23 09:44	12/11/23 18:05	1
o-Terphenyl	127		70 - 130	12/11/23 09:44	12/11/23 18:05	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3510		24.9	mg/Kg			12/12/23 21:10	5

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH06

Lab Sample ID: 890-5757-6

Date Collected: 12/06/23 12:40

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 00:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 00:07	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 00:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/14/23 00:07	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 00:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/14/23 00:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	151	S1+	70 - 130	12/13/23 15:17	12/14/23 00:07	1
1,4-Difluorobenzene (Surr)	112		70 - 130	12/13/23 15:17	12/14/23 00:07	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			12/14/23 00:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/11/23 18:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	12/11/23 09:44	12/11/23 18:27	1
o-Terphenyl	120		70 - 130	12/11/23 09:44	12/11/23 18:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4110		24.8	mg/Kg			12/12/23 21:16	5

Client Sample ID: PH07

Lab Sample ID: 890-5757-7

Date Collected: 12/06/23 13:40

Matrix: Solid

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:32	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/13/23 15:17	12/14/23 00:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:32	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/13/23 15:17	12/14/23 00:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	143	S1+	70 - 130	12/13/23 15:17	12/14/23 00:32	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH07
Date Collected: 12/06/23 13:40
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-7
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130	12/13/23 15:17	12/14/23 00:32	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			12/14/23 00:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/11/23 18:48	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	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	105		70 - 130	12/11/23 09:44	12/11/23 18:48	1
o-Terphenyl	115		70 - 130	12/11/23 09:44	12/11/23 18:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4220		25.0	mg/Kg			12/12/23 21:22	5

Client Sample ID: PH09
Date Collected: 12/07/23 09:15
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:58	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/13/23 15:17	12/14/23 00:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/14/23 00:58	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/13/23 15:17	12/14/23 00:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	139	S1+	70 - 130	12/13/23 15:17	12/14/23 00:58	1
1,4-Difluorobenzene (Surr)	104		70 - 130	12/13/23 15:17	12/14/23 00:58	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/14/23 00:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/11/23 19:10	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH09

Date Collected: 12/07/23 09:15

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

Lab Sample ID: 890-5757-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 19:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 19:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 09:44	12/11/23 19:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			12/11/23 09:44	12/11/23 19:10	1
o-Terphenyl	120		70 - 130			12/11/23 09:44	12/11/23 19:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2620		25.3	mg/Kg			12/12/23 21:28	5

Client Sample ID: PH13

Date Collected: 12/07/23 12:10

Date Received: 12/08/23 08:10

Sample Depth: 0.5'

Lab Sample ID: 890-5757-9

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/13/23 15:17	12/14/23 01:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130			12/13/23 15:17	12/14/23 01:24	1
1,4-Difluorobenzene (Surr)	79		70 - 130			12/13/23 15:17	12/14/23 01:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/14/23 01:24	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			12/11/23 19:32	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		12/11/23 09:44	12/11/23 19:32	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		12/11/23 09:44	12/11/23 19:32	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		12/11/23 09:44	12/11/23 19:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	128		70 - 130			12/11/23 09:44	12/11/23 19:32	1
o-Terphenyl	139	S1+	70 - 130			12/11/23 09:44	12/11/23 19:32	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH13
Date Collected: 12/07/23 12:10
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-9
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	219		5.04	mg/Kg			12/12/23 14:54	1

Client Sample ID: PH16
Date Collected: 12/07/23 09:40
Date Received: 12/08/23 08:10
Sample Depth: 0.5'

Lab Sample ID: 890-5757-10
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		12/13/23 15:17	12/14/23 01:50	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/13/23 15:17	12/14/23 01:50	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/13/23 15:17	12/14/23 01:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/13/23 15:17	12/14/23 01:50	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/13/23 15:17	12/14/23 01:50	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/13/23 15:17	12/14/23 01:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130	12/13/23 15:17	12/14/23 01:50	1
1,4-Difluorobenzene (Surr)	96		70 - 130	12/13/23 15:17	12/14/23 01:50	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			12/14/23 01:50	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			12/11/23 19:54	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	<49.9	U	49.9	mg/Kg		12/11/23 09:44	12/11/23 19:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/11/23 09:44	12/11/23 19:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/11/23 09:44	12/11/23 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	12/11/23 09:44	12/11/23 19:54	1
o-Terphenyl	136	S1+	70 - 130	12/11/23 09:44	12/11/23 19:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700		50.0	mg/Kg			12/12/23 15:18	10

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Surrogate Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102HJob ID: 890-5757-1
SDG: 03C15582292

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-5757-1	PH01	148 S1+	117
890-5757-1 MS	PH01	179 S1+	82
890-5757-1 MSD	PH01	167 S1+	78
890-5757-2	PH02	125	90
890-5757-3	PH03	156 S1+	66 S1-
890-5757-4	PH04	113	93
890-5757-5	PH05	118	91
890-5757-6	PH06	151 S1+	112
890-5757-7	PH07	143 S1+	67 S1-
890-5757-8	PH09	139 S1+	104
890-5757-9	PH13	138 S1+	79
890-5757-10	PH16	141 S1+	96
LCS 880-69034/1-A	Lab Control Sample	149 S1+	78
LCSD 880-69034/2-A	Lab Control Sample Dup	140 S1+	82
MB 880-68962/5-A	Method Blank	87	84
MB 880-69034/5-A	Method Blank	71	86

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-5757-1	PH01	108	113
890-5757-2	PH02	111	120
890-5757-3	PH03	135 S1+	143 S1+
890-5757-4	PH04	123	136 S1+
890-5757-5	PH05	118	127
890-5757-6	PH06	109	120
890-5757-7	PH07	105	115
890-5757-8	PH09	104	120
890-5757-9	PH13	128	139 S1+
890-5757-10	PH16	124	136 S1+
890-5758-A-21-C MS	Matrix Spike	132 S1+	129
890-5758-A-21-D MSD	Matrix Spike Duplicate	120	120
LCS 880-68762/2-A	Lab Control Sample	95	109
LCSD 880-68762/3-A	Lab Control Sample Dup	105	122
MB 880-68762/1-A	Method Blank	164 S1+	196 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-68962/5-A
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68962

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/12/23 08:16	12/13/23 03:24	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/12/23 08:16	12/13/23 03:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	12/12/23 08:16	12/13/23 03:24	1
1,4-Difluorobenzene (Surr)	84		70 - 130	12/12/23 08:16	12/13/23 03:24	1

Lab Sample ID: MB 880-69034/5-A
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69034

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 21:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 21:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 21:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/13/23 15:17	12/13/23 21:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/23 15:17	12/13/23 21:30	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/13/23 15:17	12/13/23 21:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130	12/13/23 15:17	12/13/23 21:30	1
1,4-Difluorobenzene (Surr)	86		70 - 130	12/13/23 15:17	12/13/23 21:30	1

Lab Sample ID: LCS 880-69034/1-A
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09311		mg/Kg		93	70 - 130
Toluene	0.100	0.1065		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.09859		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.2129		mg/Kg		106	70 - 130
o-Xylene	0.100	0.1130		mg/Kg		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130
1,4-Difluorobenzene (Surr)	78		70 - 130

Lab Sample ID: LCSD 880-69034/2-A
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69034

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08514		mg/Kg		85	70 - 130	9	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

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

Lab Sample ID: LCSD 880-69034/2-A
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69034

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene	0.100	0.09459		mg/Kg		95	70 - 130	12	35
Ethylbenzene	0.100	0.08757		mg/Kg		88	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.1858		mg/Kg		93	70 - 130	14	35
o-Xylene	0.100	0.09335		mg/Kg		93	70 - 130	19	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	140	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 890-5757-1 MS
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 69034

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.1102		mg/Kg		111	70 - 130
Toluene	<0.00199	U	0.0996	0.1160		mg/Kg		116	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.1200		mg/Kg		120	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.2285		mg/Kg		115	70 - 130
o-Xylene	<0.00199	U	0.0996	0.1114		mg/Kg		112	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	179	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 890-5757-1 MSD
Matrix: Solid
Analysis Batch: 68890

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 69034

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.1038		mg/Kg		105	70 - 130	6	35
Toluene	<0.00199	U	0.0990	0.1150		mg/Kg		116	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0990	0.1170		mg/Kg		118	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.2240		mg/Kg		113	70 - 130	2	35
o-Xylene	<0.00199	U	0.0990	0.1123		mg/Kg		113	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	167	S1+	70 - 130
1,4-Difluorobenzene (Surr)	78		70 - 130

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

Lab Sample ID: MB 880-68762/1-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68762

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		12/11/23 07:44	12/11/23 08:12	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

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

Lab Sample ID: MB 880-68762/1-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 68762

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/11/23 07:44	12/11/23 08:12	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/11/23 07:44	12/11/23 08:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	164	S1+	70 - 130	12/11/23 07:44	12/11/23 08:12	1
o-Terphenyl	196	S1+	70 - 130	12/11/23 07:44	12/11/23 08:12	1

Lab Sample ID: LCS 880-68762/2-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 68762

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	1044		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	1000	922.7		mg/Kg		92	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	95		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-68762/3-A
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 68762

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1047		mg/Kg		105	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	1000	931.6		mg/Kg		93	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	105		70 - 130
o-Terphenyl	122		70 - 130

Lab Sample ID: 890-5758-A-21-C MS
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 68762

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	968.7		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	1057		mg/Kg		101	70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	132	S1+	70 - 130
o-Terphenyl	129		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

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

Lab Sample ID: 890-5758-A-21-D MSD
Matrix: Solid
Analysis Batch: 68747

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 68762

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	876.3		mg/Kg		85	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	979.0		mg/Kg		93	70 - 130	8	20
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
1-Chlorooctane	120			70 - 130							
o-Terphenyl	120			70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-68794/1-A
Matrix: Solid
Analysis Batch: 68825

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			12/11/23 14:35	1

Lab Sample ID: LCS 880-68794/2-A
Matrix: Solid
Analysis Batch: 68825

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	255.4		mg/Kg		102	90 - 110

Lab Sample ID: LCSD 880-68794/3-A
Matrix: Solid
Analysis Batch: 68825

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	253.3		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-5744-A-2-C MS
Matrix: Solid
Analysis Batch: 68825

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	185		249	434.6		mg/Kg		100	90 - 110

Lab Sample ID: 890-5744-A-2-D MSD
Matrix: Solid
Analysis Batch: 68825

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	185		249	432.4		mg/Kg		100	90 - 110	1	20

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QC Sample Results

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-68803/1-A
Matrix: Solid
Analysis Batch: 68918

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			12/12/23 15:13	1

Lab Sample ID: LCS 880-68803/2-A
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.1		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-68803/3-A
Matrix: Solid
Analysis Batch: 68918

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	260.4		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-5755-A-21-B MS
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1540	F1	1240	2949	F1	mg/Kg		114	90 - 110

Lab Sample ID: 890-5755-A-21-C MSD
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1540	F1	1240	2952	F1	mg/Kg		114	90 - 110	0	20

Lab Sample ID: 890-5755-A-31-B MS
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	478		250	705.9		mg/Kg		91	90 - 110

Lab Sample ID: 890-5755-A-31-C MSD
Matrix: Solid
Analysis Batch: 68918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	478		250	705.2		mg/Kg		91	90 - 110	0	20

Lab Sample ID: MB 880-68838/1-A
Matrix: Solid
Analysis Batch: 68919

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			12/12/23 14:31	1

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QC Sample Results

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
 SDG: 03C15582292

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 880-68838/2-A
Matrix: Solid
Analysis Batch: 68919

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.2		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-68838/3-A
Matrix: Solid
Analysis Batch: 68919

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	250.6		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-5757-9 MS
Matrix: Solid
Analysis Batch: 68919

Client Sample ID: PH13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	219		252	461.7		mg/Kg		96	90 - 110

Lab Sample ID: 890-5757-9 MSD
Matrix: Solid
Analysis Batch: 68919

Client Sample ID: PH13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	219		252	461.1		mg/Kg		96	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
 SDG: 03C15582292

GC VOA

Analysis Batch: 68890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	8021B	69034
890-5757-2	PH02	Total/NA	Solid	8021B	69034
890-5757-3	PH03	Total/NA	Solid	8021B	69034
890-5757-4	PH04	Total/NA	Solid	8021B	69034
890-5757-5	PH05	Total/NA	Solid	8021B	69034
890-5757-6	PH06	Total/NA	Solid	8021B	69034
890-5757-7	PH07	Total/NA	Solid	8021B	69034
890-5757-8	PH09	Total/NA	Solid	8021B	69034
890-5757-9	PH13	Total/NA	Solid	8021B	69034
890-5757-10	PH16	Total/NA	Solid	8021B	69034
MB 880-68962/5-A	Method Blank	Total/NA	Solid	8021B	68962
MB 880-69034/5-A	Method Blank	Total/NA	Solid	8021B	69034
LCS 880-69034/1-A	Lab Control Sample	Total/NA	Solid	8021B	69034
LCSD 880-69034/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	69034
890-5757-1 MS	PH01	Total/NA	Solid	8021B	69034
890-5757-1 MSD	PH01	Total/NA	Solid	8021B	69034

Prep Batch: 68962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-68962/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 69034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	5035	
890-5757-2	PH02	Total/NA	Solid	5035	
890-5757-3	PH03	Total/NA	Solid	5035	
890-5757-4	PH04	Total/NA	Solid	5035	
890-5757-5	PH05	Total/NA	Solid	5035	
890-5757-6	PH06	Total/NA	Solid	5035	
890-5757-7	PH07	Total/NA	Solid	5035	
890-5757-8	PH09	Total/NA	Solid	5035	
890-5757-9	PH13	Total/NA	Solid	5035	
890-5757-10	PH16	Total/NA	Solid	5035	
MB 880-69034/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-69034/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-69034/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5757-1 MS	PH01	Total/NA	Solid	5035	
890-5757-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 69117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	Total BTEX	
890-5757-2	PH02	Total/NA	Solid	Total BTEX	
890-5757-3	PH03	Total/NA	Solid	Total BTEX	
890-5757-4	PH04	Total/NA	Solid	Total BTEX	
890-5757-5	PH05	Total/NA	Solid	Total BTEX	
890-5757-6	PH06	Total/NA	Solid	Total BTEX	
890-5757-7	PH07	Total/NA	Solid	Total BTEX	
890-5757-8	PH09	Total/NA	Solid	Total BTEX	
890-5757-9	PH13	Total/NA	Solid	Total BTEX	
890-5757-10	PH16	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

GC Semi VOA

Analysis Batch: 68747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	8015B NM	68762
890-5757-2	PH02	Total/NA	Solid	8015B NM	68762
890-5757-3	PH03	Total/NA	Solid	8015B NM	68762
890-5757-4	PH04	Total/NA	Solid	8015B NM	68762
890-5757-5	PH05	Total/NA	Solid	8015B NM	68762
890-5757-6	PH06	Total/NA	Solid	8015B NM	68762
890-5757-7	PH07	Total/NA	Solid	8015B NM	68762
890-5757-8	PH09	Total/NA	Solid	8015B NM	68762
890-5757-9	PH13	Total/NA	Solid	8015B NM	68762
890-5757-10	PH16	Total/NA	Solid	8015B NM	68762
MB 880-68762/1-A	Method Blank	Total/NA	Solid	8015B NM	68762
LCS 880-68762/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	68762
LCS 880-68762/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	68762
890-5758-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	68762
890-5758-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	68762

Prep Batch: 68762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	8015NM Prep	
890-5757-2	PH02	Total/NA	Solid	8015NM Prep	
890-5757-3	PH03	Total/NA	Solid	8015NM Prep	
890-5757-4	PH04	Total/NA	Solid	8015NM Prep	
890-5757-5	PH05	Total/NA	Solid	8015NM Prep	
890-5757-6	PH06	Total/NA	Solid	8015NM Prep	
890-5757-7	PH07	Total/NA	Solid	8015NM Prep	
890-5757-8	PH09	Total/NA	Solid	8015NM Prep	
890-5757-9	PH13	Total/NA	Solid	8015NM Prep	
890-5757-10	PH16	Total/NA	Solid	8015NM Prep	
MB 880-68762/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-68762/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCS 880-68762/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5758-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5758-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 68925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Total/NA	Solid	8015 NM	
890-5757-2	PH02	Total/NA	Solid	8015 NM	
890-5757-3	PH03	Total/NA	Solid	8015 NM	
890-5757-4	PH04	Total/NA	Solid	8015 NM	
890-5757-5	PH05	Total/NA	Solid	8015 NM	
890-5757-6	PH06	Total/NA	Solid	8015 NM	
890-5757-7	PH07	Total/NA	Solid	8015 NM	
890-5757-8	PH09	Total/NA	Solid	8015 NM	
890-5757-9	PH13	Total/NA	Solid	8015 NM	
890-5757-10	PH16	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

HPLC/IC

Leach Batch: 68794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Soluble	Solid	DI Leach	
890-5757-2	PH02	Soluble	Solid	DI Leach	
MB 880-68794/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-68794/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-68794/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5744-A-2-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5744-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 68803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-3	PH03	Soluble	Solid	DI Leach	
890-5757-4	PH04	Soluble	Solid	DI Leach	
890-5757-5	PH05	Soluble	Solid	DI Leach	
890-5757-6	PH06	Soluble	Solid	DI Leach	
890-5757-7	PH07	Soluble	Solid	DI Leach	
890-5757-8	PH09	Soluble	Solid	DI Leach	
MB 880-68803/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-68803/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-68803/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5755-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5755-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-5755-A-31-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5755-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 68825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-1	PH01	Soluble	Solid	300.0	68794
890-5757-2	PH02	Soluble	Solid	300.0	68794
MB 880-68794/1-A	Method Blank	Soluble	Solid	300.0	68794
LCS 880-68794/2-A	Lab Control Sample	Soluble	Solid	300.0	68794
LCSD 880-68794/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	68794
890-5744-A-2-C MS	Matrix Spike	Soluble	Solid	300.0	68794
890-5744-A-2-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	68794

Leach Batch: 68838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-9	PH13	Soluble	Solid	DI Leach	
890-5757-10	PH16	Soluble	Solid	DI Leach	
MB 880-68838/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-68838/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-68838/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5757-9 MS	PH13	Soluble	Solid	DI Leach	
890-5757-9 MSD	PH13	Soluble	Solid	DI Leach	

Analysis Batch: 68918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-3	PH03	Soluble	Solid	300.0	68803
890-5757-4	PH04	Soluble	Solid	300.0	68803
890-5757-5	PH05	Soluble	Solid	300.0	68803
890-5757-6	PH06	Soluble	Solid	300.0	68803
890-5757-7	PH07	Soluble	Solid	300.0	68803

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

HPLC/IC (Continued)

Analysis Batch: 68918 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-8	PH09	Soluble	Solid	300.0	68803
MB 880-68803/1-A	Method Blank	Soluble	Solid	300.0	68803
LCS 880-68803/2-A	Lab Control Sample	Soluble	Solid	300.0	68803
LCSD 880-68803/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	68803
890-5755-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	68803
890-5755-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	68803
890-5755-A-31-B MS	Matrix Spike	Soluble	Solid	300.0	68803
890-5755-A-31-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	68803

Analysis Batch: 68919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5757-9	PH13	Soluble	Solid	300.0	68838
890-5757-10	PH16	Soluble	Solid	300.0	68838
MB 880-68838/1-A	Method Blank	Soluble	Solid	300.0	68838
LCS 880-68838/2-A	Lab Control Sample	Soluble	Solid	300.0	68838
LCSD 880-68838/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	68838
890-5757-9 MS	PH13	Soluble	Solid	300.0	68838
890-5757-9 MSD	PH13	Soluble	Solid	300.0	68838

Lab Chronicle

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
 SDG: 03C15582292

Client Sample ID: PH01
 Date Collected: 12/06/23 10:55
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-1
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 21:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/13/23 21:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 16:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 16:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	68794	12/11/23 10:29	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68825	12/11/23 18:56	CH	EET MID

Client Sample ID: PH02
 Date Collected: 12/06/23 11:25
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-2
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 22:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/13/23 22:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 17:00	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 17:00	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	68794	12/11/23 10:29	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68825	12/11/23 19:03	CH	EET MID

Client Sample ID: PH03
 Date Collected: 12/06/23 13:05
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-3
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 22:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/13/23 22:49	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 17:22	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 17:22	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 20:57	CH	EET MID

Client Sample ID: PH04
 Date Collected: 12/06/23 11:55
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-4
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 23:15	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/13/23 23:15	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Client Sample ID: PH04

Lab Sample ID: 890-5757-4

Date Collected: 12/06/23 11:55

Matrix: Solid

Date Received: 12/08/23 08:10

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			68925	12/11/23 17:43	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 17:43	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	68918	12/12/23 21:03	CH	EET MID

Client Sample ID: PH05

Lab Sample ID: 890-5757-5

Date Collected: 12/06/23 10:30

Matrix: Solid

Date Received: 12/08/23 08:10

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	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/13/23 23:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/13/23 23:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 18:05	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 18:05	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 21:10	CH	EET MID

Client Sample ID: PH06

Lab Sample ID: 890-5757-6

Date Collected: 12/06/23 12:40

Matrix: Solid

Date Received: 12/08/23 08:10

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	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/14/23 00:07	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/14/23 00:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 18:27	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 18:27	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 21:16	CH	EET MID

Client Sample ID: PH07

Lab Sample ID: 890-5757-7

Date Collected: 12/06/23 13:40

Matrix: Solid

Date Received: 12/08/23 08:10

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	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/14/23 00:32	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/14/23 00:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 18:48	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 18:48	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
 SDG: 03C15582292

Client Sample ID: PH07
 Date Collected: 12/06/23 13:40
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-7
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 21:22	CH	EET MID

Client Sample ID: PH09
 Date Collected: 12/07/23 09:15
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-8
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/14/23 00:58	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/14/23 00:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 19:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 19:10	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	68803	12/11/23 11:16	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	68918	12/12/23 21:28	CH	EET MID

Client Sample ID: PH13
 Date Collected: 12/07/23 12:10
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-9
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/14/23 01:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/14/23 01:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 19:32	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 19:32	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	68838	12/11/23 13:30	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	68919	12/12/23 14:54	CH	EET MID

Client Sample ID: PH16
 Date Collected: 12/07/23 09:40
 Date Received: 12/08/23 08:10

Lab Sample ID: 890-5757-10
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	69034	12/13/23 15:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	68890	12/14/23 01:50	SM	EET MID
Total/NA	Analysis	Total BTEX		1			69117	12/14/23 01:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			68925	12/11/23 19:54	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	68762	12/11/23 09:44	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	68747	12/11/23 19:54	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	68838	12/11/23 13:30	SA	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	68919	12/12/23 15:18	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

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

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Method Summary

Client: Ensolum
Project/Site: PLU 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

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 16 TWR 102H

Job ID: 890-5757-1
SDG: 03C15582292

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5757-1	PH01	Solid	12/06/23 10:55	12/08/23 08:10	0.5'
890-5757-2	PH02	Solid	12/06/23 11:25	12/08/23 08:10	0.5'
890-5757-3	PH03	Solid	12/06/23 13:05	12/08/23 08:10	0.5'
890-5757-4	PH04	Solid	12/06/23 11:55	12/08/23 08:10	0.5'
890-5757-5	PH05	Solid	12/06/23 10:30	12/08/23 08:10	0.5'
890-5757-6	PH06	Solid	12/06/23 12:40	12/08/23 08:10	0.5'
890-5757-7	PH07	Solid	12/06/23 13:40	12/08/23 08:10	0.5'
890-5757-8	PH09	Solid	12/07/23 09:15	12/08/23 08:10	0.5'
890-5757-9	PH13	Solid	12/07/23 12:10	12/08/23 08:10	0.5'
890-5757-10	PH16	Solid	12/07/23 09:40	12/08/23 08:10	0.5'

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Chain of Custody

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

Environment Testing
Xenco



Ben Bellill
Ensolium, LLC
 3122 Nat'l Parks Hwy
 Carlsbad, NM 88200
 989-854-0852

Garrett Green
Ensolium, LLC
 3104 E Greene St
 Carlsbad, NM 88220
 bbellill@ensolium.com

Work Order No: _____
 www.xenco.com Page 1 of 1

Project Manager: Ben Bellill
 Company Name: Ensolium, LLC
 Address: 3122 Nat'l Parks Hwy
 City, State ZIP: Carlsbad, NM 88200
 Phone: 989-854-0852

Bill to: (if different)
 Company Name: Garrett Green
 Address: 3104 E Greene St
 City, State ZIP: Carlsbad, NM 88220
 Email: bbellill@ensolium.com

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

Project Name: FLU 16 TWR 102H
 Project Number: 0361538292
 Project Location: 32.20155, -103.78839
 Sampler's Name: Meredith Robert
 P.O. #: _____

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

Temp Blank: Yes No
 Thermometer ID: 1414607
 Correction Factor: 0.2
 Temperature Reading: 1.2
 Corrected Temperature: 1.0

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters		Pres. Code	ANALYSIS REQUEST	Preservative Codes
							Temp	pH			
SS01 PH01	S	12/6/23	1055	0.5'	G	1				None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO: HN H ₂ SO: H ₂ NaOH: Na H ₃ PO: HP NaHSO: NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SACP	
SS02 PH02			1125								
SS03 PH03			1305								
SS04 PH04			1155								
SS05 PH05			1030								
SS06 PH06			1240								
SS07 PH07		12/16/23	1340								
SS09 PH09		12/17/23	0915								
SS13 PH13			1210								
SS16 PH16			0940								

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code	ANALYSIS REQUEST	Preservative Codes
SS01 PH01	S	12/6/23	1055	0.5'	G	1				
SS02 PH02			1125							
SS03 PH03			1305							
SS04 PH04			1155							
SS05 PH05			1030							
SS06 PH06			1240							
SS07 PH07		12/16/23	1340							
SS09 PH09		12/17/23	0915							
SS13 PH13			1210							
SS16 PH16			0940							

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Tl Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Meredith Robert	cabellum	8.10.24			

Sample ID	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Pres. Code	ANALYSIS REQUEST	Preservative Codes
SS01	PH01	12/6/23	1055	0.5'	G	1				
SS02	PH02		1125							
SS03	PH03		1305							
SS04	PH04		1155							
SS05	PH05		1030							
SS06	PH06		1240							
SS07	PH07	12/16/23	1340							
SS09	PH09	12/17/23	0915							
SS13	PH13		1210							
SS16	PH16		0940							



Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5757-1
SDG Number: 03C15582292

Login Number: 5757
List Number: 1
Creator: Lopez, Abraham

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5757-1
SDG Number: 03C15582292

Login Number: 5757
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/11/23 08:54 AM

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

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APPENDIX E

NMOCD Notifications

Collins, Melanie

From: Collins, Melanie
Sent: Monday, November 27, 2023 8:59 AM
To: ocd.enviro (ocd.enviro@emnrd.nm.gov)
Cc: Lambert, Tommee L; Green, Garrett J; Stephens, Louis; Ruth, Amy; DelawareSpills /SM
Subject: 24-Hour Notification XTO Energy PLU 16 Twin Wells Ranch 102H

All,

This is notification of a release greater than 25 barrels that occurred yesterday, 11/26/23, at the PLU 16 Twin Wells Ranch 102H well pad. Coordinates are provided below. Details will be provided with a Form C-141. Please reach out with questions or concerns.

GPS 32.20755, -103.78839

Thank you,

Melanie Collins



Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

From: [Rodgers, Scott, EMNRD](#)
To: [Green, Garrett J](#); [Hamlet, Robert, EMNRD](#); [Maxwell, Ashley, EMNRD](#); [Bratcher, Michael, EMNRD](#)
Cc: [Ben Belill](#); [Tacoma Morrissey](#)
Subject: RE: [EXTERNAL] XTO - Sampling Notification (Week of 12/4/23 - 12/8/23)
Date: Thursday, November 30, 2023 4:19:09 PM

Some people who received this message don't often get email from scott.rodgers@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL**]

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Scott Rodgers • Environmental Specialist
 Environmental Bureau
 EMNRD - Oil Conservation Division
 8801 Horizon Blvd. NE, Suite 260 | Albuquerque, NM 87113
 505.469.1830 | scott.rodgers@emnrd.nm.gov
<http://www.emnrd.nm.gov/ocd>



From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, November 30, 2023 10:55 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Ben Belill <bbelill@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: [EXTERNAL] XTO - Sampling Notification (Week of 12/4/23 - 12/8/23)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO plans to complete final sampling activities at the sites listed below for the week of December 4, 2023, between 8 a.m. and 5 p.m MST.

Thank you,

Site Name	PLU 16 Twin Wells Ranch 102H
Location	D-21-24S-31E; Eddy County, NM
Incident ID	Not Yet Determined
Source & Description of Activities	Soil Sampling

Expected Duration for Activities	2 Days (12.6.23-12.7.23)
Env Consultant	Ensolum
Contractor	Tex Mex
Sampling Notification Required	Yes
Surface Owner	BLM

Site Name	Stan 32 State 71H
Location	L1-32-26S-30E; Eddy County, NM
Incident ID	NRM2004938133
Source & Description of Activities	Groundwater Sampling
Expected Duration for Activities	3 Days (12.4.23-12.6.23)
Env Consultant	Ensolum
Contractor	NA
Sampling Notification Required	Yes
Surface Owner	SLO

Site Name	Nash Unit #046H
Location	C-18-23S-30E; Eddy County, NM
Incident ID	NAB1821139914
Source & Description of Activities	Soil Sampling
Expected Duration for Activities	2 Days (12.7.23-12.8.23)
Env Consultant	Ensolum
Contractor	Tex Mex
Sampling Notification Required	Yes
Surface Owner	SLO

Site Name	Remuda Basin 1
Location	J-24-23S-29E; Eddy County, NM
Incident ID	NAB1836137253
Source & Description of Activities	Soil Sampling
Expected Duration for Activities	5 Days (12.4.23-12.8.23)
Env Consultant	Ensolum
Contractor	Tex Mex
Sampling Notification Required	Yes
Surface Owner	SLO

Garrett Green

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

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

Sante Fe Main Office
Phone: (505) 476-3441

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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

QUESTIONS

Action 406808

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2334249809
Incident Name	NAPP2334249809 PLU 16 TWIN WELLS RANCH 102H @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2300955240] POKER LAKE UNIT 16 TWR CVB

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	PLU 16 TWIN WELLS RANCH 102H
Date Release Discovered	11/26/2023
Surface Owner	Federal

Incident Details	
<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

Nature and Volume of Release	
<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 Pipeline (Any) Produced Water Released: 1,610 BBL Recovered: 1,300 BBL Lost: 310 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 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 11/26/2024
--	--

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QUESTIONS, Page 3

Action 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	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
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (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 1 and 5 (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	No

Remediation Plan

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

Requesting a remediation plan approval with this submission	Yes
<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)	7950
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	08/22/2024
On what date will (or did) the final sampling or liner inspection occur	09/22/2024
On what date will (or was) the remediation complete(d)	09/22/2024
What is the estimated surface area (in square feet) that will be reclaimed	81544
What is the estimated volume (in cubic yards) that will be reclaimed	12000
What is the estimated surface area (in square feet) that will be remediated	81544
What is the estimated volume (in cubic yards) that will be remediated	12000

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 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)

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

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

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	OWL LANDFILL JAL [JEG1635837366]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	No
OR is the off-site disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 11/26/2024
--	--

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 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
<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 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	397533
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	11/08/2024
What was the (estimated) number of samples that were to be gathered	30
What was the sampling surface area in square feet	6000

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	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	82950
What was the total volume (cubic yards) remediated	9220
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	82950
What was the total volume (in cubic yards) reclaimed	9220
Summarize any additional remediation activities not included by answers (above)	Excavation activities were conducted at the Site in accordance with the RWP to address the November 2023 release of produced water. Approved RWP is included in Appendix D. Laboratory analytical results for all excavation soil samples collected indicate COC concentrations were compliant with the Site Closure Criteria. 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 will be recontoured to match pre-existing site conditions

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: 11/26/2024
--	--

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QUESTIONS, Page 7

Action 406808

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 406808

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 406808
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	12/2/2024