



July 28, 2025

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

**Re: Closure Request**  
**Poker Lake Unit CVX JV BS 02H**  
**API Number 30-015-37147**  
**Incident Number NAB1625934302**  
**Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Closure Request* as a follow-up to the *Deferral Request* dated March 20, 2020. The *Deferral Request* was approved by the New Mexico Oil Conservation Division (NMOCD) on June 9, 2020. This *Closure Request* documents the excavation and soil sampling activities completed at the Poker Lake Unit (PLU) CVX JV BS 02H, formerly named PLU Big Sinks 11 Federal Battery (Site) following final plugging and abandonment of the well and removal of the surface production equipment from the deferred area. Based on the additional remediation activities described below, XTO is submitting this *Closure Request* and requesting no further action and closure for Incident Number NAB1625934302.

## **SITE DESCRIPTION AND RELEASE BACKGROUND**

The Site is located in Unit P, Section 11, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.225776°, -103.846785°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 13, 2016, a Victaulic check valve cap failed on the LACT unit resulting in the release of approximately 79 barrels (bbls) of crude oil onto the well pad surface. A vacuum truck was used to recover approximately 42 bbls of released fluid. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on September 14, 2016. The release was assigned Remediation Permit (RP) Number 2RP-3887 and Incident Number NAB1625934302.

The release was included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement was to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The Site was characterized to determine the applicability of Table I Closure Criteria for Soils Impacted by a Release, of 19.15.29 NMAC. Results from the characterization desktop review were detailed in the approved *Deferral Request*. Potential Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

Between February 2018 and December 2019, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the September 13, 2016, crude oil release. Impacted soil was excavated to the maximum extent possible; however, an estimated 800 cubic yards of impacted soil were left in place to comply with XTO safety policy regarding earth-moving activities within 2-feet of active tanks and production equipment. The impacted soil left in place was laterally and vertically delineated to below the Site Closure Criteria. Additional details regarding the delineation and excavation activities can be referenced in the original March 10, 2020, *Deferral Request*.

On June 9, 2020, the *Deferral Request* was approved by the NMOCD. The *Deferral Request* is included as an attachment to this report.

## EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

The Site was plugged and abandoned (P&A) on November 6, 2024, and all surface production equipment was removed from the Site.

During March 2025, Ensolum personnel were at the Site to oversee excavation activities to address the deferred, impacted soil that was left in place around former production equipment, as indicated by March 2019 and December 2019 excavation sidewall samples SW06, SW07, SW16, SW17, and SW18. The 2019 excavation extent and relevant soil sample locations are presented on Figure 2. The 2019 excavation activities and laboratory analytical results for the 2019 excavation floor samples FS01 through FS26 and sidewall samples SW01 through SW18 are detailed in the attached *Deferral Request*. The 2025 excavation activities were performed using a track hoe and transport vehicles. 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. The excavation was completed to depths ranging from 8 feet to 19 feet below ground surface (bgs).

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. 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. Composite soil samples FS27 through FS61 were collected from the floor of the excavation at depths ranging from 8 feet to 19 feet bgs. Composite soil samples SW19 through SW46 were collected from the sidewalls of the excavation at depths ranging from the ground surface to a maximum of 19 feet bgs. The excavation extent and soil sample locations are presented on Figure 2. Photographic documentation of the excavation activities is included in Appendix A.

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 constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM 4500.

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Laboratory analytical results for the excavation floor samples and excavation sidewall samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for excavation floor samples FS37, FS38, FS48, FS53, FS54, FS56, FS57, FS60 and excavation sidewall samples SW20, SW30, SW37, and SW38 initially exceeded the Site Closure Criteria for TPH and/or chloride; additional soil was removed from these areas and subsequent floor samples FS37A, FS38A, FS48A, FS53A, FS54A, FS56A, FS57A, FS60A and sidewall samples SW20, SW30, SW37, and SW38 were in compliance. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix B.

The excavation area measured approximately 6,970 square feet. Approximately 3,000 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico. Disposal manifests are available upon request.

## RECLAMATION ACTIVITIES

Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled with locally procured soil. One representative 5-point composite sample (BS01) was collected from the topsoil backfill material. The backfill soil sample was handled and analyzed following the same procedures as described above. Laboratory analytical results for the backfill soil sample confirmed compliance with the NMOCD requirement for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical report is included as Appendix B.

Following backfill activities, the well pad was leveled, and the surface was prepared for final pad reclamation activities. The well pad will be seeded during 2025 when temperatures and precipitation are the most conducive to vegetation growth. The reclaimed well pad will be seeded with the BLM loamy sites seed mix #1 at the rate specified in pounds of pure live seed (PLS) per acre.

Species/Cultivar	PLS/Acre
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Plains love grass ( <i>Eragrostis intermedia</i> )	0.5
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

The seed mix will be applied via drill seeding or broadcast seeding. If broadcast seeding is selected, the PLS/acre will be doubled and the seed will be raked in by chaining or dragging the Site. Photographs of the backfilled excavation area are provided in Appendix A.

The Site will be monitored for vegetation growth to ensure that reclamation activities were successful. Focus for this phase will be to prevent erosion and site degradation, and to monitor for and treat invasive and noxious weed species.

- Erosion control of the newly reclaimed areas includes prompt revegetation and contouring of the surface to prevent concentrated surface water flow.
- Annual inspections will take place at the location to assess revegetation progress until vegetation is consistent with local natural vegetation density.
- If necessary, an additional application of the BLM seed mix will be applied.
- Noxious and invasive weeds will be identified and treated by a licensed contracted herbicide applicator or mechanically removed.

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A *Revegetation Report* will be submitted to the NMOCD once vegetation growth in the reclaimed area has uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.29.13 D.(3).

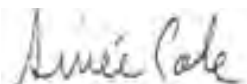
## CLOSURE REQUEST

Excavation activities were conducted at the Site to address the impacted soil resulting from the September 13, 2016, crude oil release. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation is required. A copy of the *Deferral Request*, detailing the 2019 excavation activities, is included as Appendix C.

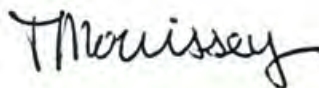
Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1625934302.

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

Sincerely,  
**Ensolum, LLC**



Aimee Cole  
Senior Managing Scientist



Tacoma Morrissey  
Senior Managing Geologist

cc: Colton Brown, XTO  
Kaylan Dirkx, XTO  
BLM

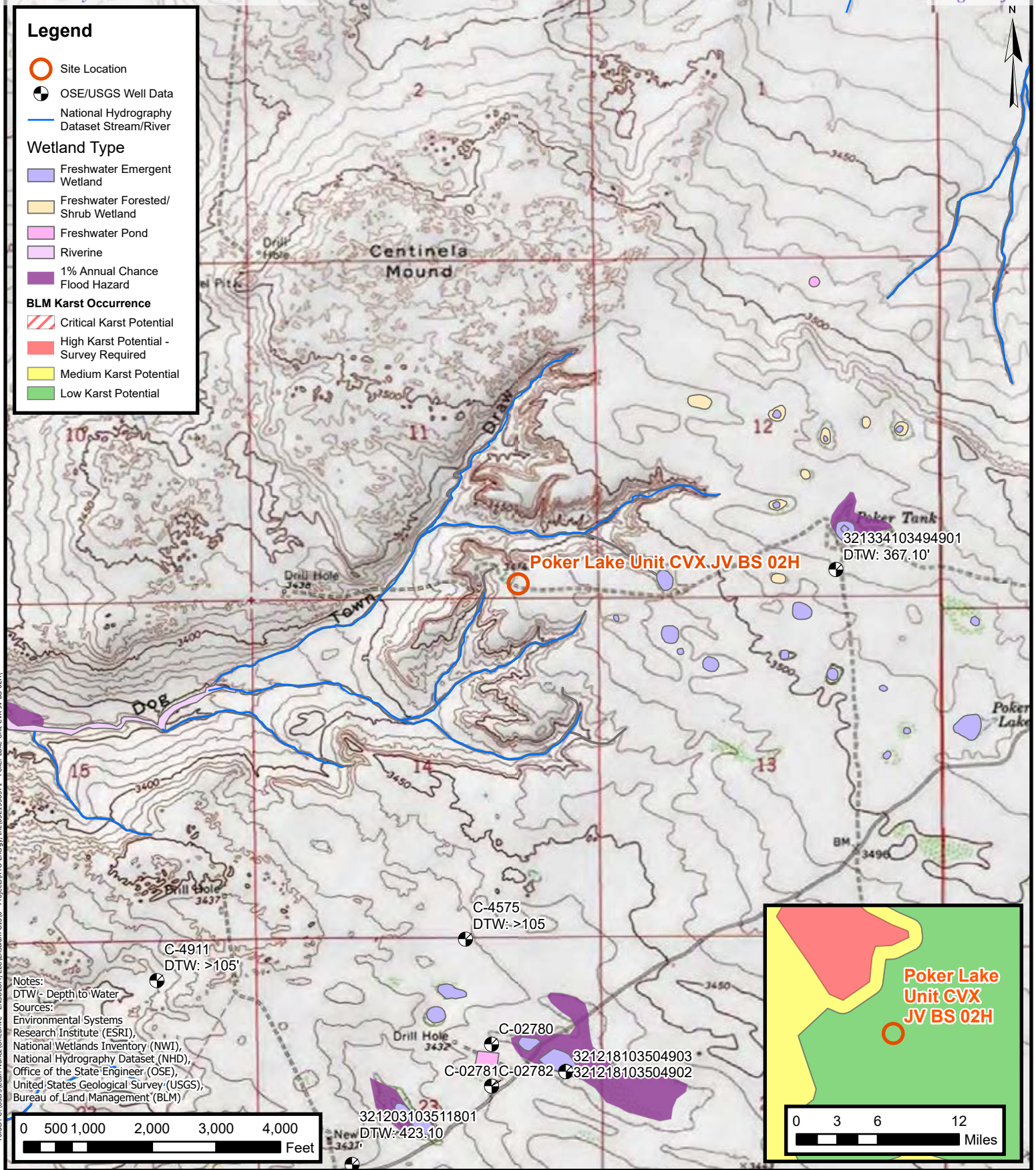
### Appendices:

Figure 1	Site Receptor Map
Figure 2	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	March 10, 2020, <i>Deferral Request</i>





FIGURES



**ENSOLUM**  
Environmental, Engineering and Hydrogeologic Consultants

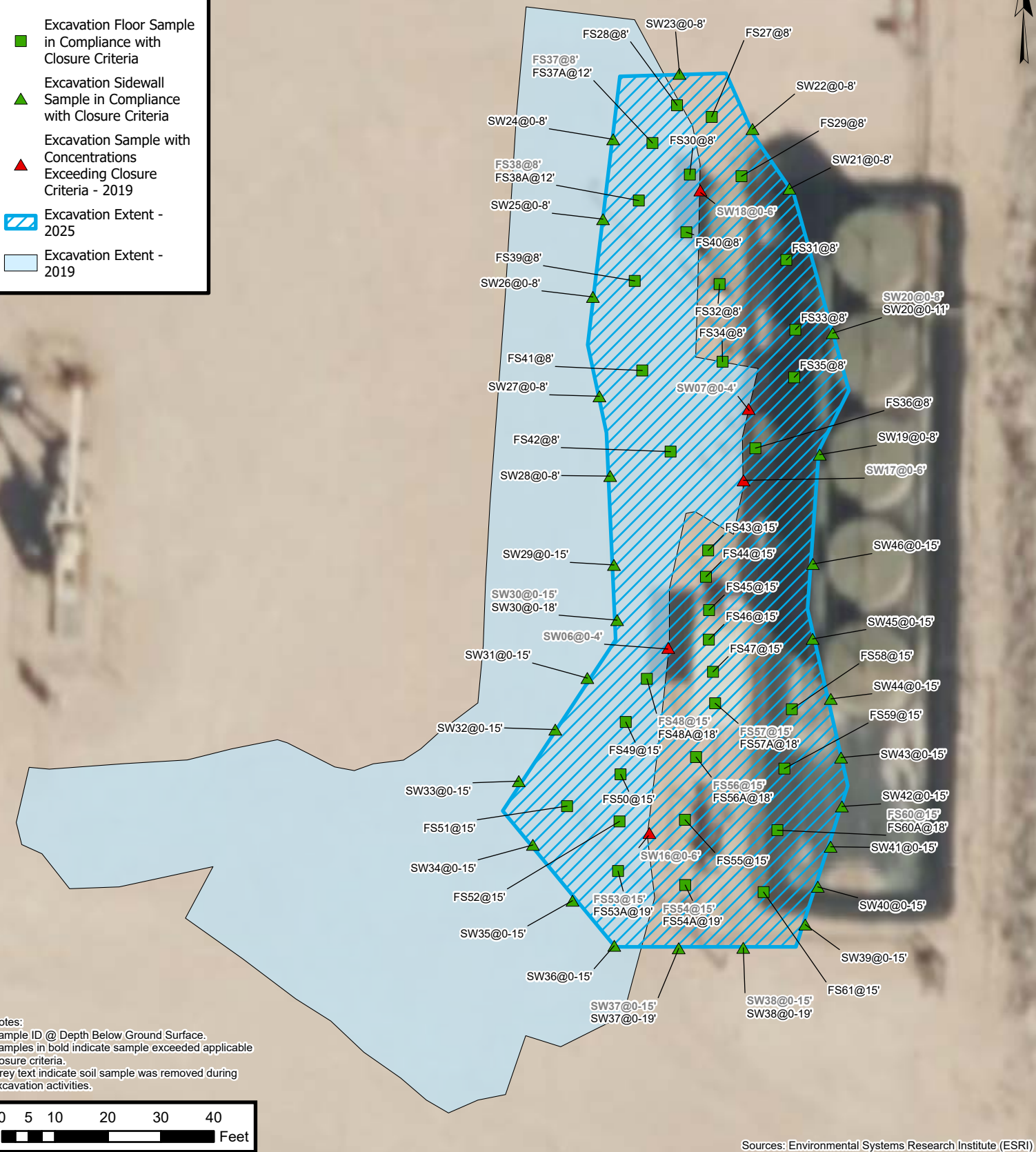
**Site Receptor Map**  
XTO Energy, Inc  
Poker Lake Unit CVX JV BS 02H  
Incident Number: NAB1625934302  
Unit P, Section 11, T 24S, R 30E  
Eddy County, New Mexico

**FIGURE**  
**1**



Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Excavation Sample with Concentrations Exceeding Closure Criteria - 2019
- Excavation Extent - 2025
- Excavation Extent - 2019



Excavation Soil Sample Locations

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Unit P, Section 11, T 24S, R 30E  
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FIGURE

2



TABLES

**TABLE1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
Poker Lake Unit CVX JV BS 02H  
XTO Energy, Inc.  
Eddy County, New Mexico

Sample Designation	Sample Date	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 Reclamation Requirement for the top four feet			NE	NE	NE	NE	NE	NE	100	600
Excavation Floor Samples										
FS27	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS28	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS29	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS30	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS31	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS32	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS33	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
FS34	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
FS35	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS36	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS37	03/12/2025	8	<0.050	<0.300	<10.0	754	171	754	925	32.0
FS37A	03/26/2025	12	<0.050	<0.300	<10.0	10.8	<10.0	10.8	10.8	<16.0
FS38	03/12/2025	8	<0.050	<0.300	<10.0	842	203	842	1,045	32.0
FS38A	03/26/2025	12	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS39	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	14.4	<10.0	14.4	112
FS40	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS41	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS42	03/12/2025	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS43	03/12/2025	15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS44	03/12/2025	15	<0.050	<0.300	<10.0	23.2	<10.0	23.2	23.2	48.0
FS45	03/12/2025	15	<0.050	<0.300	<10.0	27.1	<10.0	27.1	27.1	48.0
FS46	03/12/2025	15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS47	03/12/2025	15	<0.050	<0.300	<10.0	36.7	<10.0	36.7	36.7	48.0



<b>TABLE1</b> <b>SOIL SAMPLE ANALYTICAL RESULTS</b> Poker Lake Unit CVX JV BS 02H XTO Energy, Inc. Eddy County, New Mexico										
Sample Designation	Sample Date	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 Reclamation Requirement for the top four feet			NE	NE	NE	NE	NE	NE	100	600
FS48	03/13/2025	15	<0.050	<0.300	<10.0	115	25.6	115	141	64.0
FS48A	03/26/2025	18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS49	03/13/2025	15	<0.050	<0.300	<10.0	10.3	<10.0	10.3	10.3	48.0
FS50	03/13/2025	15	<0.050	<0.300	<10.0	16.1	<10.0	16.1	16.1	32.0
FS51	03/13/2025	15	<0.050	<0.300	<10.0	32.0	<10.0	32.0	32.0	32.0
FS52	03/13/2025	15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS53	03/13/2025	15	<0.050	<0.300	<10.0	141	31.0	141	172	48.0
FS53A	03/26/2025	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS54	03/13/2025	15	<0.050	<0.300	<10.0	227	65.8	227	293	32.0
FS54A	03/26/2025	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS55	03/13/2025	15	<0.050	<0.300	<10.0	77.9	19.2	77.9	97.1	32.0
FS56	03/13/2025	15	<0.050	<0.300	<10.0	462	102	462	564	16.0
FS56A	03/26/2025	18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS57	03/13/2025	15	<0.050	<0.300	<10.0	333	64.3	333	397	48.0
FS57A	03/26/2025	18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS58	03/13/2025	15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS59	03/13/2025	15	<0.050	<0.300	<10.0	37.5	<10.0	37.5	37.5	32.0
FS60	03/13/2025	15	<0.050	<0.300	13.9	1,060	187	1,060	1,261	16.0
FS60A	03/26/2025	18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS61	03/13/2025	15	<0.050	<0.300	<10.0	<10.0	10.9	<10.0	10.9	32.0
Excavation Sidewall Samples										
SW19	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW20	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	896
SW20	03/26/2025	0-11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SW21	03/12/2025	0-8	<0.050	<0.300	<10.0	10.5	<10.0	10.5	10.5	336

**TABLE1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Poker Lake Unit CVX JV BS 02H  
 XTO Energy, Inc.  
 Eddy County, New Mexico

Sample Designation	Sample Date	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 Reclamation Requirement for the top four feet			NE	NE	NE	NE	NE	NE	100	600
SW22	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW23	03/12/2025	0-8	<0.050	<0.300	<10.0	11.2	<10.0	11.2	11.2	80.0
SW24	03/12/2025	0-8	<0.050	<0.300	<10.0	10.7	<10.0	10.7	10.7	48.0
SW25	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW26	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW27	03/12/2025	0-8	<0.050	<0.300	<10.0	25.2	<10.0	25.2	25.2	64.0
SW28	03/12/2025	0-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW29	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW30	03/13/2025	0-15	<0.050	<0.300	<10.0	83.0	19.8	83.0	103	32.0
SW30	03/26/2025	0-18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW31	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW32	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW33	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW34	03/13/2025	0-15	<0.050	<0.300	<10.0	20.2	<10.0	20.2	20.2	16.0
SW35	03/13/2025	0-15	<0.050	<0.300	<10.0	23.1	<10.0	23.1	23.1	<16.0
SW36	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW37	03/13/2025	0-15	<0.050	<0.300	<10.0	641	173	641	814	32.0
SW37	03/26/2025	0-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW38	03/13/2025	0-15	<0.050	<0.300	<10.0	123	37.7	123	161	48.0
SW38	03/26/2025	0-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW39	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW40	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW41	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW42	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

<b>TABLE1</b> <b>SOIL SAMPLE ANALYTICAL RESULTS</b> Poker Lake Unit CVX JV BS 02H XTO Energy, Inc. Eddy County, New Mexico										
Sample Designation	Sample Date	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 Reclamation Requirement for the top four feet			NE	NE	NE	NE	NE	NE	100	600
SW43	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW44	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW45	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW46	03/13/2025	0-15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Backfill Confirmation Sample										
BS01	05/13/2025	0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

&lt; : Indicates result less than the stated laboratory reporting limit

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NA: Not Analyzed

NE: Not Established

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria and/or reclamation standard where applicable.

Grey text represents samples that have been excavated.



## APPENDIX A

### Photographic Log

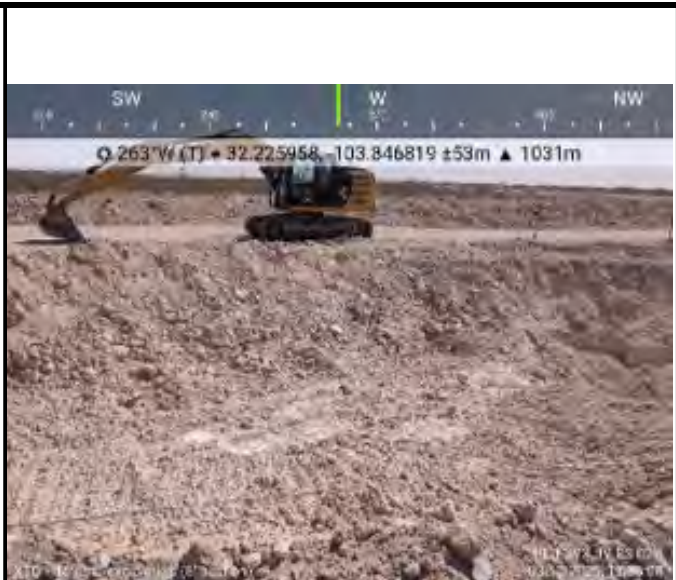
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**Photographic Log**

XTO Energy, Inc.  
Poker Lake Unit CVX JV BS 02H  
NAB1625934302



Photograph: 1                      Date: 3/12/2025  
Description: Deferral excavation extent 15' deep  
View: Northwest



Photograph: 2                      Date: 3/12/2025  
Description: Deferral excavation (8' section)  
View: West



Photograph: 3                      Date: 3/26/2025  
Description: Excavation extent 15-19'  
View: Southwest



Photograph: 4                      Date: 5/29/2025  
Description: Backfilled Excavation  
View: West





## APPENDIX B

### Laboratory Analytical Reports & Chain of Custody Documentation

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

---

May 16, 2025

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU CVX JV BS 02H

Enclosed are the results of analyses for samples received by the laboratory on 05/15/25 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a light gray rectangular background.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	05/15/2025	Sampling Date:	05/13/2025
Reported:	05/16/2025	Sampling Type:	Soil
Project Name:	PLU CVX JV BS 02H	Sampling Condition:	Cool & Intact
Project Number:	03E1558571 ( RECLAMATION )	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.2258606, -103.8471069		

**Sample ID: BS 01 0 (H252936-01)**

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	05/16/2025	ND	2.15	108	2.00	1.47		
Toluene*	<0.050	0.050	05/16/2025	ND	2.26	113	2.00	2.38		
Ethylbenzene*	<0.050	0.050	05/16/2025	ND	2.14	107	2.00	1.22		
Total Xylenes*	<0.150	0.150	05/16/2025	ND	6.40	107	6.00	1.22		
Total BTEX	<0.300	0.300	05/16/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	05/16/2025	ND	480	120	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	05/15/2025	ND	188	93.9	200	1.42		
DRO >C10-C28*	<10.0	10.0	05/15/2025	ND	199	99.4	200	1.51		
EXT DRO >C28-C36	<10.0	10.0	05/15/2025	ND						

Surrogate: 1-Chlorooctane 97.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.8 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

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

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

---

### 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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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

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



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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

† Cardinal cannot accept verbal changes. Please email changes to [coley.keene@cardinallabsnm.com](mailto:coley.keene@cardinallabsnm.com)





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

---

March 05, 2025

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU CVX JV BS 02H

Enclosed are the results of analyses for samples received by the laboratory on 03/04/25 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in dark ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 27 6' (H251276-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2	
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3	
Total BTEX	<0.300	0.300	03/04/2025	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	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	605	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	204	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 86.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 102 % 40.6-153

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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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 28 4' (H251276-02)**

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2		
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3		
Total BTX	<0.300	0.300	03/04/2025	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	112	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	427	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	167	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 88.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.8 % 40.6-153

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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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 29 4' (H251276-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2		
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3		
Total BTEX	<0.300	0.300	03/04/2025	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	128	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	228	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	87.4	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 88.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.4 % 40.6-153

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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 30 6' (H251276-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2		
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3		
Total BTEx	<0.300	0.300	03/04/2025	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	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	234	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	93.6	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 87.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.1 % 40.6-153

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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 31 6' (H251276-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2		
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3		
Total BTEX	<0.300	0.300	03/04/2025	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	32.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	25.3	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	<10.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 90.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 92.7 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 32 4' (H251276-06)**

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2		
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3		
Total BTEX	<0.300	0.300	03/04/2025	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	64.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	256	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	77.2	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 89.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 33 4' (H251276-07)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2	GC-NC
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3	
Total BTEX	<0.300	0.300	03/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 125 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	18.5	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	2860	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	633	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 91.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 148 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 34 4' (H251276-08)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2	
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3	
Total BTEX	<0.300	0.300	03/04/2025	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	32.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	160	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	56.7	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 91.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 96.2 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 35 6' (H251276-09)**

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	1.91	95.6	2.00	11.2	GC-NC
Toluene*	<0.050	0.050	03/04/2025	ND	2.23	112	2.00	10.8	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.29	114	2.00	12.2	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	7.03	117	6.00	12.3	
Total BTX	<0.300	0.300	03/04/2025	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	32.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	15.6	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	1310	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	282	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 97.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 117 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 36 6' (H251276-10)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35		
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25		
Total BTEX	<0.300	0.300	03/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	257	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	71.1	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 84.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 91.3 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 19 0-6' (H251276-11)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35	
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25	
Total BTEx	<0.300	0.300	03/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 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	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	1050	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	297	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 87.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 101 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 20 0-4' (H251276-12)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35	
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25	
Total BTEx	<0.300	0.300	03/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 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	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	215	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	70.4	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 86.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 91.2 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 21 0-6' (H251276-13)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35	
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25	
Total BTEX	<0.300	0.300	03/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	427	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	91.0	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 88.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.6 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 22 0-4' (H251276-14)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35		
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25		
Total BTEX	<0.300	0.300	03/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 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	48.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	196	97.8	200	5.62	
DRO >C10-C28*	953	10.0	03/04/2025	ND	191	95.7	200	6.13	
EXT DRO >C28-C36	348	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 90.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.1 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 23 0-6' (H251276-15)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35	
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07	GC-NC
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25	
Total BTEx	<0.300	0.300	03/04/2025	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	16.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	10.3	10.0	03/04/2025	ND	214	107	200	4.48	
DRO >C10-C28*	1910	10.0	03/04/2025	ND	195	97.4	200	4.69	QM-07
EXT DRO >C28-C36	713	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 90.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.4 % 40.6-153

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 24 0-6' (H251276-16)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35		
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25		
Total BTEX	<0.300	0.300	03/04/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	214	107	200	4.48	
DRO >C10-C28*	684	10.0	03/04/2025	ND	195	97.4	200	4.69	
EXT DRO >C28-C36	271	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 85.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 74.1 % 40.6-153

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 25 0-6' (H251276-17)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35		
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25		
Total BTEX	<0.300	0.300	03/04/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	214	107	200	4.48	
DRO >C10-C28*	14.9	10.0	03/04/2025	ND	195	97.4	200	4.69	
EXT DRO >C28-C36	19.6	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 83.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 26 0-6' (H251276-18)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35		
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86		
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07		
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25		
Total BTEx	<0.300	0.300	03/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 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	16.0	16.0	03/05/2025	ND	480	120	400	18.2		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	214	107	200	4.48	
DRO >C10-C28*	16.8	10.0	03/04/2025	ND	195	97.4	200	4.69	
EXT DRO >C28-C36	10.1	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 79.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/04/2025  
 Reported: 03/05/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/03/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 27 0-6' (H251276-19)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/04/2025	ND	2.04	102	2.00	4.35	
Toluene*	<0.050	0.050	03/04/2025	ND	2.11	106	2.00	3.86	
Ethylbenzene*	<0.050	0.050	03/04/2025	ND	2.05	103	2.00	3.07	
Total Xylenes*	<0.150	0.150	03/04/2025	ND	6.02	100	6.00	3.25	
Total BTEx	<0.300	0.300	03/04/2025	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	48.0	16.0	03/05/2025	ND	480	120	400	18.2	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/04/2025	ND	214	107	200	4.48	
DRO >C10-C28*	505	10.0	03/04/2025	ND	195	97.4	200	4.69	
EXT DRO >C28-C36	169	10.0	03/04/2025	ND					

Surrogate: 1-Chlorooctane 92.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 83.0 % 40.6-153

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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.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

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: <u>Ensolum, LLC</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: <u>Aimee Cole</u>				P.O. #:															
Address: <u>3122 National Parks Hwy</u>				Company: <u>XTO Energy Inc.</u>															
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn: <u>Amy Ruth</u>															
Phone #: <u>720-384-7365</u> Fax #:				Address: <u>3104 E. Greene St.</u>															
Project #: <u>03E1558571</u> Project Owner: <u>XTO</u>				City: <u>Carlsbad</u>															
Project Name: <u>PLU CVX JV BS 02H</u>				State: <u>NM</u> Zip: <u>88220</u>															
Project Location: <u>32.2258606, -103.8471069</u>				Phone #:															
Sampler Name: <u>Azad Vojdani</u>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX				PRESERV.	SAMPLING		BTEX	TPH	CHLORIDE					
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME				
<u>H251276</u>																			
<u>1</u>	<u>FS27</u>	<u>6</u>	<u>C</u>				<u>✓</u>				<u>✓</u>			<u>03-03-25</u>	<u>0936</u>	<u>✓</u>			
<u>2</u>	<u>FS28</u>	<u>4</u>					<u>✓</u>				<u>✓</u>				<u>0944</u>	<u>✓</u>			
<u>3</u>	<u>FS29</u>	<u>4</u>					<u>✓</u>				<u>✓</u>				<u>0948</u>	<u>✓</u>			
<u>4</u>	<u>FS30</u>	<u>6</u>					<u>✓</u>				<u>✓</u>				<u>0955</u>	<u>✓</u>			
<u>5</u>	<u>FS31</u>	<u>6</u>					<u>✓</u>				<u>✓</u>				<u>1004</u>	<u>✓</u>			
<u>6</u>	<u>FS32</u>	<u>4</u>					<u>✓</u>				<u>✓</u>				<u>1008</u>	<u>✓</u>			
<u>7</u>	<u>FS33</u>	<u>4</u>					<u>✓</u>				<u>✓</u>				<u>1022</u>	<u>✓</u>			
<u>8</u>	<u>FS34</u>	<u>4</u>					<u>✓</u>				<u>✓</u>				<u>1024</u>	<u>✓</u>			
<u>9</u>	<u>FS35</u>	<u>6</u>					<u>✓</u>				<u>✓</u>				<u>1027</u>	<u>✓</u>			
<u>10</u>	<u>FS36</u>	<u>6</u>	<u>✓</u>				<u>✓</u>				<u>✓</u>				<u>1028</u>	<u>✓</u>			

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Relinquished By: <u>[Signature]</u>	Date: <u>03-04-25</u> Time: <u>1405</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address: <u>TMorrissey@ensolum.com, Acole@ensolum.com, AVojdani@ensolum.com</u>
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: <u>-1.2</u> Corrected Temp. °C: <u>-0.9</u>	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	REMARKS: <u>API 30-016-07147 AFE PA 2024 08097 EXP 01 Incident # NAB1625934302</u>
	CHECKED BY: (Initials) <u>[Signature]</u>	Turnaround Time: <u>24 Hrs</u> Thermometer ID: <u>#444</u> Correction Factor: <u>+0.36</u>	Bacteria (only) Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>

† Cardinal cannot accept verbal changes. Please email changes to [coley.keene@cardinallabsnm.com](mailto:coley.keene@cardinallabsnm.com)



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

2

Company Name: <u>Ensolum, LLC</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>								
Project Manager: <u>Aimee Cole</u>				P.O. #:												
Address: <u>3122 National Parks Hwy</u>				Company: <u>XTO Energy Inc.</u>												
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn: <u>Amy Ruth</u>												
Phone #: <u>720-384-7365</u> Fax #:				Address: <u>3104 E. Greene St.</u>												
Project #: <u>03E1558571</u> Project Owner: <u>XTO</u>				City: <u>Carlsbad</u>												
Project Name: <u>PLU CVX JV BS 02H</u>				State: <u>NM</u> Zip: <u>88220</u>												
Project Location: <u>32.2258606, -103.8471069</u>				Phone #:												
Sampler Name: <u>Azad Vojdani</u>				Fax #:												
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	Sample Depth (feet)	GRAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING		BTEX	TPH	CHLORIDE	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE	ICE / COOL				OTHER :
<u>H251274</u>																
<u>11</u>	<u>SW19</u>	<u>0-6</u>	<u>C</u>	<u>1</u>			<u>✓</u>					<u>✓</u>		<u>08-02-25</u>	<u>0930</u>	<u>✓</u>
<u>12</u>	<u>SW20</u>	<u>0-4</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1950</u>	<u>✓</u>
<u>13</u>	<u>SW21</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1001</u>	<u>✓</u>
<u>14</u>	<u>SW22</u>	<u>0-4</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1016</u>	<u>✓</u>
<u>15</u>	<u>SW23</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1042</u>	<u>✓</u>
<u>16</u>	<u>SW24</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1046</u>	<u>✓</u>
<u>17</u>	<u>SW25</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1050</u>	<u>✓</u>
<u>18</u>	<u>SW26</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1053</u>	<u>✓</u>
<u>19</u>	<u>SW27</u>	<u>0-6</u>	<u>✓</u>	<u>1</u>			<u>✓</u>					<u>✓</u>			<u>1057</u>	<u>✓</u>

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Relinquished By: <u>[Signature]</u>	Date: <u>03-04-25</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By: <u>[Signature]</u>	Time: <u>1405</u>	Received By: <u>[Signature]</u>	All Results are emailed. Please provide Email address:
	Date:		<u>TMorrissey@ensolum.com, ACole@ensolum.com, AVojdani@ensolum.com</u>
	Time:		REMARKS:
Delivered By: (Circle One)	Observed Temp. °C: <u>-1.2</u>	Sample Condition	Turnaround Time: <u>24 Hrs</u>
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <u>-0.9</u>	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
		Checked By: <u>[Signature]</u>	Bacteria (only) Sample Condition
			Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
			Observed Temp. °C
			Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

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March 19, 2025

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU CVX JV BS 02H

Enclosed are the results of analyses for samples received by the laboratory on 03/13/25 13:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at

[www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 27 8'	H251496-01	Soil	12-Mar-25 10:37	13-Mar-25 13:05
FS 28 8'	H251496-02	Soil	12-Mar-25 10:38	13-Mar-25 13:05
FS 29 8'	H251496-03	Soil	12-Mar-25 10:39	13-Mar-25 13:05
FS 30 8'	H251496-04	Soil	12-Mar-25 10:41	13-Mar-25 13:05
FS 31 8'	H251496-05	Soil	12-Mar-25 10:43	13-Mar-25 13:05
FS 32 8'	H251496-06	Soil	12-Mar-25 10:44	13-Mar-25 13:05
FS 33 8'	H251496-07	Soil	12-Mar-25 10:47	13-Mar-25 13:05
FS 34 8'	H251496-08	Soil	12-Mar-25 10:48	13-Mar-25 13:05
FS 35 8'	H251496-09	Soil	12-Mar-25 10:50	13-Mar-25 13:05
FS 36 8'	H251496-10	Soil	12-Mar-25 10:51	13-Mar-25 13:05
FS 37 8'	H251496-11	Soil	12-Mar-25 12:21	13-Mar-25 13:05
FS 38 8'	H251496-12	Soil	12-Mar-25 12:37	13-Mar-25 13:05
FS 39 8'	H251496-13	Soil	12-Mar-25 12:39	13-Mar-25 13:05
FS 40 8'	H251496-14	Soil	12-Mar-25 12:40	13-Mar-25 13:05
FS 41 8'	H251496-15	Soil	12-Mar-25 12:42	13-Mar-25 13:05
FS 42 8'	H251496-16	Soil	12-Mar-25 12:42	13-Mar-25 13:05
SW 19 0-8'	H251496-17	Soil	12-Mar-25 12:12	13-Mar-25 13:05
SW 20 0-8'	H251496-18	Soil	12-Mar-25 12:14	13-Mar-25 13:05
SW 21 0-8'	H251496-19	Soil	12-Mar-25 12:16	13-Mar-25 13:05
SW 22 0-8'	H251496-20	Soil	12-Mar-25 12:18	13-Mar-25 13:05
SW 23 0-8'	H251496-21	Soil	12-Mar-25 00:00	13-Mar-25 13:05
SW 24 0-8'	H251496-22	Soil	12-Mar-25 00:00	13-Mar-25 13:05
SW 25 0-8'	H251496-23	Soil	12-Mar-25 00:00	13-Mar-25 13:05
SW 26 0-8'	H251496-24	Soil	12-Mar-25 00:00	13-Mar-25 13:05
SW 27 0-8'	H251496-25	Soil	12-Mar-25 00:00	13-Mar-25 13:05
SW 28 0-8'	H251496-26	Soil	12-Mar-25 00:00	13-Mar-25 13:05
FS 43 15'	H251496-27	Soil	12-Mar-25 00:00	13-Mar-25 13:05

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

FS 44	15'	H251496-28	Soil	12-Mar-25 00:00	13-Mar-25 13:05
FS 45	15'	H251496-29	Soil	12-Mar-25 00:00	13-Mar-25 13:05
FS 46	15'	H251496-30	Soil	12-Mar-25 00:00	13-Mar-25 13:05
FS 47	15'	H251496-31	Soil	12-Mar-25 13:25	13-Mar-25 13:05

03/19/25 - Client changed the sample IDs on -17 thru -26 (see COC). This is the revised report and will replace the one sent on 03/14/25.

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 27 8'**  
**H251496-01 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050	0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		92.0 %	71.5-134		5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane		97.3 %	44.4-145		5031329	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane		103 %	40.6-153		5031329	MS	13-Mar-25	8015B	
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Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 28 8'**  
**H251496-02 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			91.6 %		71.5-134	5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			97.9 %		44.4-145	5031329	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			98.0 %		40.6-153	5031329	MS	13-Mar-25	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 29 8'**  
**H251496-03 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			91.1 %	71.5-134		5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			103 %	44.4-145		5031329	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			106 %	40.6-153		5031329	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 30 8'**  
**H251496-04 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			93.1 %		71.5-134	5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			99.8 %		44.4-145	5031329	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			102 %		40.6-153	5031329	MS	13-Mar-25	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 31 8'**  
**H251496-05 (Soil)**

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

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			93.1 %	71.5-134		5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %	44.4-145		5031329	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			104 %	40.6-153		5031329	MS	13-Mar-25	8015B	
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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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 32 8'**  
**H251496-06 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			93.4 %		71.5-134	5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %		44.4-145	5031329	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			102 %		40.6-153	5031329	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 33 8'**  
**H251496-07 (Soil)**

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

<b>Chloride</b>	<b>416</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			90.9 %		71.5-134	5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			105 %		44.4-145	5031329	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			108 %		40.6-153	5031329	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 34 8'**  
**H251496-08 (Soil)**

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

<b>Chloride</b>	<b>336</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			93.2 %		71.5-134	5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %		44.4-145	5031329	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			104 %		40.6-153	5031329	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 35 8'**  
**H251496-09 (Soil)**

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

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031333	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031333	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			92.1 %	71.5-134		5031333	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031329	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %	44.4-145		5031329	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			104 %	40.6-153		5031329	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 36 8'**  
**H251496-10 (Soil)**

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

Chloride	80.0		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	QM-07
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	QM-07
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	QM-07
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	QM-07
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134 5031334 JH 13-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane 97.1 % 44.4-145 5031331 MS 13-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 92.2 % 40.6-153 5031331 MS 13-Mar-25 8015B

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 37 8'**  
**H251496-11 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>754</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>171</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			87.6 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			101 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 38 8'**  
**H251496-12 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031422	KV	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>842</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>203</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			91.6 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			112 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 39 8'**  
**H251496-13 (Soil)**

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

<b>Chloride</b>	<b>112</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			109 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>14.4</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			96.7 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			91.4 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 40 8'**  
**H251496-14 (Soil)**

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

Chloride	80.0		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			97.0 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			91.2 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 41 8'**  
**H251496-15 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			96.6 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			91.1 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 42 8'**  
**H251496-16 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			101 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			94.8 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 19 0-8'**  
**H251496-17 (Soil)**

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

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050	0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	105 %	71.5-134	5031334	JH	13-Mar-25	8021B
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B

Surrogate: 1-Chlorooctane	97.5 %	44.4-145	5031331	MS	13-Mar-25	8015B
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Surrogate: 1-Chlorooctadecane	91.0 %	40.6-153	5031331	MS	13-Mar-25	8015B
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 20 0-8'**  
**H251496-18 (Soil)**

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

<b>Chloride</b>	<b>896</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134 5031334 JH 13-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane 97.2 % 44.4-145 5031331 MS 13-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 92.2 % 40.6-153 5031331 MS 13-Mar-25 8015B

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 21 0-8'**  
**H251496-19 (Soil)**

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

<b>Chloride</b>	<b>336</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134 5031334 JH 13-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>10.5</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane 97.4 % 44.4-145 5031331 MS 13-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 89.7 % 40.6-153 5031331 MS 13-Mar-25 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 22 0-8'**  
**H251496-20 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			95.3 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			90.2 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 23 0-8'**  
**H251496-21 (Soil)**

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

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %		71.5-134	5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>11.2</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			82.6 %		44.4-145	5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			78.7 %		40.6-153	5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 24 0-8'**  
**H251496-22 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<b>10.7</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			83.7 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			77.8 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 25 0-8'**  
**H251496-23 (Soil)**

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

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134 5031334 JH 13-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane 93.9 % 44.4-145 5031331 MS 13-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 89.0 % 40.6-153 5031331 MS 13-Mar-25 8015B

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 26 0-8'**  
**H251496-24 (Soil)**

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

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			91.9 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			85.9 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 27 0-8'**  
**H251496-25 (Soil)**

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

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>25.2</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			97.6 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			93.7 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**SW 28 0-8'**  
**H251496-26 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031334	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031334	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		5031334	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			89.1 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			80.3 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

FS 43 15'  
H251496-27 (Soil)

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

Chloride	32.0		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031335	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		5031335	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			93.5 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			87.1 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 44 15'**  
**H251496-28 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031335	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			108 %		71.5-134	5031335	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
DRO >C10-C28*	<b>23.2</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			93.2 %		44.4-145	5031331	MS	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			87.6 %		40.6-153	5031331	MS	13-Mar-25	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 45 15'**  
**H251496-29 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031335	JH	13-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		5031335	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>27.1</b>		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031331	MS	13-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			92.5 %	44.4-145		5031331	MS	13-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			88.5 %	40.6-153		5031331	MS	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**FS 46 15'**  
**H251496-30 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Toluene*	<0.050	0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	5031335	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	107 %	71.5-134	5031335	JH	13-Mar-25	8021B
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B
DRO >C10-C28*	<10.0	10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B

Surrogate: 1-Chlorooctane	96.8 %	44.4-145	5031332	ms	13-Mar-25	8015B
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Surrogate: 1-Chlorooctadecane	94.3 %	40.6-153	5031332	ms	13-Mar-25	8015B
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

FS 47 15'  
H251496-31 (Soil)

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

Chloride	48.0		16.0	mg/kg	4	5031425	CT	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031335	JH	13-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031335	JH	13-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %	71.5-134		5031335	JH	13-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B	
DRO >C10-C28*	36.7		10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031332	ms	13-Mar-25	8015B	

Surrogate: 1-Chlorooctane			91.5 %	44.4-145		5031332	ms	13-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			92.3 %	40.6-153		5031332	ms	13-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031422 - 1:4 DI Water****Blank (5031422-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	ND	16.0	mg/kg							
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**LCS (5031422-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	432	16.0	mg/kg	400		108	80-120			
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**LCS Dup (5031422-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	
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**Batch 5031425 - 1:4 DI Water****Blank (5031425-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	ND	16.0	mg/kg							
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**LCS (5031425-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	416	16.0	mg/kg	400		104	80-120			
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**LCS Dup (5031425-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	448	16.0	mg/kg	400		112	80-120	7.41	20	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031333 - Volatiles****Blank (5031333-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	ND		mg/kg	0.0500		92.8	71.5-134			

**LCS (5031333-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	2.26	0.050	mg/kg	2.00		113	82.8-130			
Toluene	2.24	0.050	mg/kg	2.00		112	86-128			
Ethylbenzene	2.14	0.050	mg/kg	2.00		107	85.9-128			
m,p-Xylene	4.21	0.100	mg/kg	4.00		105	89-129			
o-Xylene	2.07	0.050	mg/kg	2.00		103	86.1-125			
Total Xylenes	6.28	0.150	mg/kg	6.00		105	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0450		mg/kg	0.0500		89.9	71.5-134			

**LCS Dup (5031333-BSD1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	2.16	0.050	mg/kg	2.00		108	82.8-130	4.63	15.8	
Toluene	2.15	0.050	mg/kg	2.00		107	86-128	4.27	15.9	
Ethylbenzene	2.05	0.050	mg/kg	2.00		102	85.9-128	4.61	16	
m,p-Xylene	4.02	0.100	mg/kg	4.00		100	89-129	4.56	16.2	
o-Xylene	1.98	0.050	mg/kg	2.00		98.8	86.1-125	4.52	16.7	
Total Xylenes	6.00	0.150	mg/kg	6.00		99.9	88.2-128	4.55	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0454		mg/kg	0.0500		90.8	71.5-134			

**Batch 5031334 - Volatiles****Blank (5031334-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031334 - Volatiles****Blank (5031334-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0534		mg/kg	0.0500		107	71.5-134			

**LCS (5031334-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	2.17	0.050	mg/kg	2.00		108	82.8-130			
Toluene	2.17	0.050	mg/kg	2.00		108	86-128			
Ethylbenzene	2.15	0.050	mg/kg	2.00		107	85.9-128			
m,p-Xylene	4.39	0.100	mg/kg	4.00		110	89-129			
o-Xylene	2.11	0.050	mg/kg	2.00		106	86.1-125			
Total Xylenes	6.50	0.150	mg/kg	6.00		108	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0491		mg/kg	0.0500		98.2	71.5-134			

**LCS Dup (5031334-BS1)**

Prepared: 13-Mar-25 Analyzed: 14-Mar-25

Benzene	1.97	0.050	mg/kg	2.00		98.4	82.8-130	9.55	15.8	
Toluene	2.05	0.050	mg/kg	2.00		102	86-128	5.87	15.9	
Ethylbenzene	2.03	0.050	mg/kg	2.00		101	85.9-128	5.85	16	
m,p-Xylene	4.15	0.100	mg/kg	4.00		104	89-129	5.69	16.2	
o-Xylene	1.99	0.050	mg/kg	2.00		99.6	86.1-125	5.79	16.7	
Total Xylenes	6.14	0.150	mg/kg	6.00		102	88.2-128	5.72	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0497		mg/kg	0.0500		99.4	71.5-134			

**Batch 5031335 - Volatiles****Blank (5031335-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0539		mg/kg	0.0500		108	71.5-134			

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031335 - Volatiles****LCS (5031335-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	2.05	0.050	mg/kg	2.00		102	82.8-130		
Toluene	2.26	0.050	mg/kg	2.00		113	86-128		
Ethylbenzene	2.25	0.050	mg/kg	2.00		113	85.9-128		
m,p-Xylene	4.66	0.100	mg/kg	4.00		117	89-129		
o-Xylene	2.23	0.050	mg/kg	2.00		111	86.1-125		
Total Xylenes	6.89	0.150	mg/kg	6.00		115	88.2-128		
Surrogate: 4-Bromofluorobenzene (PID)	0.0497		mg/kg	0.0500		99.3	71.5-134		

**LCS Dup (5031335-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

Benzene	2.12	0.050	mg/kg	2.00		106	82.8-130	3.34	15.8
Toluene	2.34	0.050	mg/kg	2.00		117	86-128	3.16	15.9
Ethylbenzene	2.35	0.050	mg/kg	2.00		118	85.9-128	4.26	16
m,p-Xylene	4.88	0.100	mg/kg	4.00		122	89-129	4.51	16.2
o-Xylene	2.34	0.050	mg/kg	2.00		117	86.1-125	4.83	16.7
Total Xylenes	7.21	0.150	mg/kg	6.00		120	88.2-128	4.61	16.3
Surrogate: 4-Bromofluorobenzene (PID)	0.0496		mg/kg	0.0500		99.3	71.5-134		

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031329 - General Prep - Organics****Blank (5031329-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	45.8		mg/kg	50.0		91.6	44.4-145			
Surrogate: 1-Chlorooctadecane	46.1		mg/kg	50.0		92.2	40.6-153			

**LCS (5031329-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	213	10.0	mg/kg	200		107	81.5-123			
DRO >C10-C28	193	10.0	mg/kg	200		96.6	77.7-122			
Total TPH C6-C28	406	10.0	mg/kg	400		102	80.9-121			
Surrogate: 1-Chlorooctane	45.9		mg/kg	50.0		91.8	44.4-145			
Surrogate: 1-Chlorooctadecane	46.9		mg/kg	50.0		93.8	40.6-153			

**LCS Dup (5031329-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	220	10.0	mg/kg	200		110	81.5-123	2.96	13	
DRO >C10-C28	195	10.0	mg/kg	200		97.7	77.7-122	1.12	15.6	
Total TPH C6-C28	415	10.0	mg/kg	400		104	80.9-121	2.09	18.5	
Surrogate: 1-Chlorooctane	52.1		mg/kg	50.0		104	44.4-145			
Surrogate: 1-Chlorooctadecane	50.6		mg/kg	50.0		101	40.6-153			

**Batch 5031331 - General Prep - Organics****Blank (5031331-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	43.7		mg/kg	50.0		87.4	44.4-145			
Surrogate: 1-Chlorooctadecane	39.6		mg/kg	50.0		79.3	40.6-153			

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch 5031331 - General Prep - Organics****LCS (5031331-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	196	10.0	mg/kg	200		98.1	81.5-123		
DRO >C10-C28	197	10.0	mg/kg	200		98.3	77.7-122		
Total TPH C6-C28	393	10.0	mg/kg	400		98.2	80.9-121		
Surrogate: 1-Chlorooctane	44.9		mg/kg	50.0		89.7	44.4-145		
Surrogate: 1-Chlorooctadecane	42.6		mg/kg	50.0		85.2	40.6-153		

**LCS Dup (5031331-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	204	10.0	mg/kg	200		102	81.5-123	3.83	13
DRO >C10-C28	204	10.0	mg/kg	200		102	77.7-122	3.68	15.6
Total TPH C6-C28	408	10.0	mg/kg	400		102	80.9-121	3.75	18.5
Surrogate: 1-Chlorooctane	48.9		mg/kg	50.0		97.8	44.4-145		
Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.6	40.6-153		

**Batch 5031332 - General Prep - Organics****Blank (5031332-BLK1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	42.5		mg/kg	50.0		85.1	44.4-145		
Surrogate: 1-Chlorooctadecane	40.2		mg/kg	50.0		80.3	40.6-153		

**LCS (5031332-BS1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	205	10.0	mg/kg	200		102	81.5-123		
DRO >C10-C28	194	10.0	mg/kg	200		97.1	77.7-122		
Total TPH C6-C28	399	10.0	mg/kg	400		99.8	80.9-121		
Surrogate: 1-Chlorooctane	44.1		mg/kg	50.0		88.2	44.4-145		
Surrogate: 1-Chlorooctadecane	42.7		mg/kg	50.0		85.4	40.6-153		

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
19-Mar-25 08:33

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch 5031332 - General Prep - Organics****LCS Dup (5031332-BSD1)**

Prepared &amp; Analyzed: 13-Mar-25

GRO C6-C10	213	10.0	mg/kg	200		106	81.5-123	3.81	13	
DRO >C10-C28	206	10.0	mg/kg	200		103	77.7-122	5.87	15.6	
Total TPH C6-C28	419	10.0	mg/kg	400		105	80.9-121	4.82	18.5	
Surrogate: 1-Chlorooctane	48.1		mg/kg	50.0		96.2	44.4-145			
Surrogate: 1-Chlorooctadecane	46.0		mg/kg	50.0		92.0	40.6-153			

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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

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

---

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC										BILL TO		ANALYSIS REQUEST										
Project Manager: Aimee Cole										P.O. #:												
Address: 3122 National Parks Hwy										Company: XTO Energy Inc.												
City: Carlsbad State: NM Zip: 88220										Attn: Amy Ruth												
Phone #: 720-384-7365 Fax #:										Address: 3104 E. Greene St.												
Project #: 03E1558571 Project Owner: XTO										City: Carlsbad												
Project Name: PLU CVX JV BS 02H										State: NM Zip: 88220												
Project Location: 32.2258606, -103.8471069										Phone #:												
Sampler Name: Azad Vojdani										Fax #:												
FOR LAB USE ONLY																						
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING		BTEX	TPH	CHLORIDE							
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL				OTHER :	DATE	TIME				
H051496																						
1	F527	8'	✓	1			✓					✓		03-12-25	1037	✓	✓	✓				
2	F528						✓					✓			1038	✓	✓	✓				
3	F529						✓					✓			1039	✓	✓	✓				
4	F530						✓					✓			1041	✓	✓	✓				
5	F531						✓					✓			1043	✓	✓	✓				
6	F532						✓					✓			1044	✓	✓	✓				
7	F533						✓					✓			1047	✓	✓	✓				
8	F534						✓					✓			1048	✓	✓	✓				
9	F535						✓					✓			1050	✓	✓	✓				
10	F536						✓					✓			1051	✓	✓	✓				

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Relinquished By:	Date: 3-13-25 Time: 1:30S	Received By:	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: TMorrissey@ensolum.com, Acole@ensolum.com, AVojdani@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 0.1°C Corrected Temp. °C: 0.4°C	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) 
Turnaround Time: 24 Hrs		Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C
Thermometer ID: #443		Correction Factor: -0.3°C	

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



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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2

<b>Company Name:</b> Ensolum, LLC <b>Project Manager:</b> Aimee Cole <b>Address:</b> 3122 National Parks Hwy <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> 720-384-7365 <b>Fax #:</b> <b>Project #:</b> 03E1558571 <b>Project Owner:</b> XTO <b>Project Name:</b> PLU CVX JV BS 02H <b>Project Location:</b> 32.2258606, -103.8471069 <b>Sampler Name:</b> Azad Vojdani				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																			
				<b>P.O. #:</b> <b>Company:</b> XTO Energy Inc. <b>Attn:</b> Amy Ruth <b>Address:</b> 3104 E. Greene St. <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> <b>Fax #:</b>																							
FOR LAB USE ONLY				MATRIX				PRESERV.				SAMPLING															
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	CHLORIDE									
H251496																											
11	FS37	8'	C	1			✓				✓			6-12-25	12:1	✓	✓	✓									
12	FS38						✓				✓				12:37	✓	✓	✓									
13	FS39						✓				✓				12:39	✓	✓	✓									
14	FS40						✓				✓				12:40	✓	✓	✓									
15	FS41						✓				✓				12:42	✓	✓	✓									
16	FS42						✓				✓				12:42	✓	✓	✓									
17	SWX 19*	6-8					✓				✓				12:12	✓	✓	✓									
18	SWX 20						✓				✓				12:14	✓	✓	✓									
19	SWX 21						✓				✓				12:16	✓	✓	✓									
20	SWX 22						✓				✓				12:18	✓	✓	✓									

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<b>Relinquished By:</b> 		<b>Date:</b> 3-13-25 <b>Time:</b> 1:30P		<b>Received By:</b> 		<b>Verbal Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Add'l Phone #:</b> All Results are emailed. Please provide Email address: TMorrissey@ensolum.com, ACole@ensolum.com, AVojdani@ensolum.com	
<b>Relinquished By:</b>		<b>Date:</b> <b>Time:</b>		<b>Received By:</b>		<b>REMARKS:</b> *Customer requested ID changes to 3/14/25 API:30-015-37147      AFE: PA.2024.08097.EXP.01	

<b>Delivered By: (Circle One)</b> Sampler - UPS - Bus - Other:	<b>Observed Temp. °C</b> 0.1 <b>Corrected Temp. °C</b> 0.4	<b>Sample Condition</b> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>CHECKED BY:</b> (Initials) 	<b>Turnaround Time:</b> 24 HRS <b>Thermometer ID:</b> #113 <b>Correction Factor:</b> 0.5°C	<b>Standard</b> <input type="checkbox"/> <b>Rush</b> <input checked="" type="checkbox"/> <b>Bacteria (only)</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Sample Condition</b> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Observed Temp. °C</b> <b>Corrected Temp. °C</b>
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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

3

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																					
Project Manager: Aimee Cole				P.O. #:																									
Address: 3122 National Parks Hwy				Company: XTO Energy Inc.																									
City: Carlsbad State: NM Zip: 88220				Attn: Amy Ruth																									
Phone #: 720-384-7365 Fax #:				Address: 3104 E. Greene St.																									
Project #: 03E1558571 Project Owner: XTO				City: Carlsbad																									
Project Name: PLU CVX JV BS 02H				State: NM Zip: 88220																									
Project Location: 32.2258606, -103.8471069				Phone #:																									
Sampler Name: Azad Vojdani				Fax #:																									
FOR LAB USE ONLY				MATRIX				PRESERV.				SAMPLING																	
Lab I.D.	Sample I.D.	Sample Depth (feet)	GRAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	BTEX	TPH	CHLORIDE											
H251496	SW 23	0-8	C	1										03-12-25		✓	✓	✓											
21	SW 24															✓	✓	✓											
22	SW 25															✓	✓	✓											
23	SW 26															✓	✓	✓											
24	SW 27															✓	✓	✓											
25	SW 28															✓	✓	✓											
26	FS 43	15'														✓	✓	✓											
27	FS 44															✓	✓	✓											
28	FS 45															✓	✓	✓											
29	FS 46															✓	✓	✓											

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Relinquished By:	Date: 3-13-25	Received By:	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 1305		All Results are emailed. Please provide Email address:	
Relinquished By:	Date:	Received By:	TMorrissey@ensolum.com, Acole@ensolum.com, AVojdani@ensolum.com	
	Time:		REMARKS: *Customer request ID changes	
Delivered By: (Circle One)	Observed Temp. °C: 0.1	Sample Condition	Turnaround Time:	Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C: 0.4	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	24 Hrs	Bacteria (only) Sample Condition
		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Thermometer ID: 113	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
			Correction Factor: -0.5°C	Observed Temp. °C
				Corrected Temp. °C

FORM-006 R 3-2-10/07/21

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### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4

Company Name: Ensolum, LLC										Project Manager: Aimee Cole										Address: 3122 National Parks Hwy										City: Carlsbad State: NM Zip: 88220										Phone #: 720-384-7365 Fax #:										Project #: 03E1558571 Project Owner: XTO										Project Name: PLU CVX JV BS 02H										Project Location: 32.2258606, -103.8471069										Sampler Name: Azad Vojdani																																																																																																													
P.O. #:										Company: XTO Energy Inc.										Attn: Amy Ruth										Address: 3104 E. Greene 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										PRESERV.										SAMPLING										DATE										TIME										BTEX										TPH										CHLORIDE																																																																					
H257496										31										FS47										15										C 1										GROUNDWATER										WASTEWATER										SOIL										OIL										SLUDGE										OTHER:										ACID/BASE:										ICE / COOL										OTHER:										03-12-25										1325										✓										✓										✓									

**PLEASE NOTE:** Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the services. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss or use of data, or other damages, arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.											
Relinquished By: 		Date: 3/3/25 Time: 1:30P		Received By: 		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address: TMorrissey@ensulum.com, Acoole@ensulum.com, AVojdani@ensulum.com					
Relinquished By: 		Date: Time:		Received By:		REMARKS: API:30-015-37147 AFE: PA.2024.08097 EXP.01					
Delivered By: (Circle One)		Observed Temp. °C 0.1°C		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) 		Turnaround Time: 24 Hrs Thermometer ID: #613 Correction Factor: -0.6°C		Standard Rush <input checked="" type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C	
Sampler - UPS - Bus - Other:		Corrected Temp. °C 0.4°C		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No				#140 10:30		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)





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

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March 31, 2025

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU CVX JV BS 02H

Enclosed are the results of analyses for samples received by the laboratory on 03/14/25 9:22.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

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

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

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

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

Sincerely,

A handwritten signature in dark ink, appearing to read "Coley D. Keene", 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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 48 15'	H251524-01	Soil	13-Mar-25 14:19	14-Mar-25 09:22
FS 49 15'	H251524-02	Soil	13-Mar-25 14:21	14-Mar-25 09:22
FS 50 15'	H251524-03	Soil	13-Mar-25 14:23	14-Mar-25 09:22
FS 51 15'	H251524-04	Soil	13-Mar-25 14:25	14-Mar-25 09:22
FS 52 15'	H251524-05	Soil	13-Mar-25 14:26	14-Mar-25 09:22
FS 53 15'	H251524-06	Soil	13-Mar-25 14:28	14-Mar-25 09:22
FS 54 15'	H251524-07	Soil	13-Mar-25 14:30	14-Mar-25 09:22
FS 55 15'	H251524-08	Soil	13-Mar-25 14:32	14-Mar-25 09:22
FS 56 15'	H251524-09	Soil	13-Mar-25 14:35	14-Mar-25 09:22
FS 57 15'	H251524-10	Soil	13-Mar-25 14:36	14-Mar-25 09:22
FS 58 15'	H251524-11	Soil	13-Mar-25 14:38	14-Mar-25 09:22
FS 59 15'	H251524-12	Soil	13-Mar-25 14:39	14-Mar-25 09:22
FS 60 15'	H251524-13	Soil	13-Mar-25 14:41	14-Mar-25 09:22
FS 61 15'	H251524-14	Soil	13-Mar-25 14:42	14-Mar-25 09:22
SW 29 0-15'	H251524-15	Soil	13-Mar-25 09:38	14-Mar-25 09:22
SW 30 0-15'	H251524-16	Soil	13-Mar-25 09:40	14-Mar-25 09:22
SW 31 0-15'	H251524-17	Soil	13-Mar-25 13:38	14-Mar-25 09:22
SW 32 0-15'	H251524-18	Soil	13-Mar-25 13:40	14-Mar-25 09:22
SW 33 0-15'	H251524-19	Soil	13-Mar-25 09:46	14-Mar-25 09:22
SW 34 0-15'	H251524-20	Soil	13-Mar-25 09:48	14-Mar-25 09:22
SW 35 0-15'	H251524-21	Soil	13-Mar-25 09:50	14-Mar-25 09:22
SW 36 0-15'	H251524-22	Soil	13-Mar-25 12:12	14-Mar-25 09:22
SW 37 0-15'	H251524-23	Soil	13-Mar-25 09:54	14-Mar-25 09:22
SW 38 0-15'	H251524-24	Soil	13-Mar-25 09:56	14-Mar-25 09:22
SW 39 0-15'	H251524-25	Soil	13-Mar-25 09:59	14-Mar-25 09:22
SW 40 0-15'	H251524-26	Soil	13-Mar-25 10:27	14-Mar-25 09:22
SW 41 0-15'	H251524-27	Soil	13-Mar-25 10:04	14-Mar-25 09:22

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

SW 42 0-15'	H251524-28	Soil	13-Mar-25 13:22	14-Mar-25 09:22
SW 43 0-15'	H251524-29	Soil	13-Mar-25 13:23	14-Mar-25 09:22
SW 44 0-15'	H251524-30	Soil	13-Mar-25 10:20	14-Mar-25 09:22
SW 45 0-15'	H251524-31	Soil	13-Mar-25 13:32	14-Mar-25 09:22
SW 46 0-15'	H251524-32	Soil	13-Mar-25 10:24	14-Mar-25 09:22

03/31/25 - Client changed the sample IDs for -15 thru -32 (see COC). This is the revised report and will replace the one sent on 03/17/25.

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 48 15'**  
**H251524-01 (Soil)**

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

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031401	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %	71.5-134		5031401	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
DRO >C10-C28*	<b>115</b>		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<b>25.6</b>		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			85.0 %	44.4-145		5031358	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			83.3 %	40.6-153		5031358	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 49 15'**  
**H251524-02 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031401	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			112 %		71.5-134	5031401	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>10.3</b>		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			93.7 %		44.4-145	5031358	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			88.5 %		40.6-153	5031358	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 50 15'**  
**H251524-03 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031401	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			112 %		71.5-134	5031401	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
DRO >C10-C28*	16.1		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			84.4 %		44.4-145	5031358	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			78.1 %		40.6-153	5031358	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 51 15'**  
**H251524-04 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031401	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			114 %		71.5-134	5031401	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>32.0</b>		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			81.2 %		44.4-145	5031358	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			76.7 %		40.6-153	5031358	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 52 15'**  
**H251524-05 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031401	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031401	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			114 %		71.5-134	5031401	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031358	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			81.7 %		44.4-145	5031358	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			76.1 %		40.6-153	5031358	MS	14-Mar-25	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 53 15'**  
**H251524-06 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			126 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>141</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>31.0</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			77.1 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			77.1 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 54 15'**  
**H251524-07 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			127 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	227		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	65.8		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			77.8 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			78.1 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 55 15'**  
**H251524-08 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			122 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>77.9</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>19.2</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			78.8 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			73.6 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 56 15'**  
**H251524-09 (Soil)**

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

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	5031444	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			129 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>462</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>102</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			78.2 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			87.4 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 57 15'**  
**H251524-10 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			134 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<b>333</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<b>64.3</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			83.5 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			84.7 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 58 15'**  
**H251524-11 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			122 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			86.4 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			77.6 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 59 15'**  
**H251524-12 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			129 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>37.5</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			87.8 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			81.3 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 60 15'**  
**H251524-13 (Soil)**

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

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021****S-04**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	GC-NC
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 138 % 71.5-134 5031413 JH 14-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10*</b>	<b>13.9</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>1060</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>187</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane 82.4 % 44.4-145 5031408 MS 14-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 96.1 % 40.6-153 5031408 MS 14-Mar-25 8015B

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**FS 61 15'**  
**H251524-14 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			129 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>10.9</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			88.3 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			80.5 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 29 0-15'**  
**H251524-15 (Soil)**

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

Chloride	112		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	126 %		71.5-134			5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane	83.0 %		44.4-145			5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane	75.3 %		40.6-153			5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 30 0-15'**  
**H251524-16 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			119 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<b>83.0</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<b>19.8</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			81.3 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			76.6 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 31 0-15'**  
**H251524-17 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			126 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			79.2 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			72.6 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 32 0-15'**  
**H251524-18 (Soil)**

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

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			124 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			86.6 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			78.9 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 33 0-15'**  
**H251524-19 (Soil)**

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

Chloride	16.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			121 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			87.1 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			78.9 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 34 0-15'**  
**H251524-20 (Soil)**

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

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			123 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>20.2</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			79.7 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			73.0 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 35 0-15'**  
**H251524-21 (Soil)**

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

Chloride	<16.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			119 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	23.1		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			86.9 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			79.1 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 36 0-15'**  
**H251524-22 (Soil)**

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

Chloride	16.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			123 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			66.1 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			64.6 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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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  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 37 0-15'**  
**H251524-23 (Soil)**

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

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			132 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>641</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>173</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

<i>Surrogate: 1-Chlorooctane</i>			81.6 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			90.2 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 38 0-15'**  
**H251524-24 (Soil)**

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

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			130 %	71.5-134		5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>DRO &gt;C10-C28*</b>	<b>123</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>37.7</b>		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			86.7 %	44.4-145		5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			82.4 %	40.6-153		5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 39 0-15'**  
**H251524-25 (Soil)**

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

Chloride	16.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031413	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031413	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			126 %		71.5-134	5031413	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031408	MS	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			83.9 %		44.4-145	5031408	MS	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			75.4 %		40.6-153	5031408	MS	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 40 0-15'**  
**H251524-26 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			118 %	71.5-134		5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			68.5 %	44.4-145		5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			64.9 %	40.6-153		5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 41 0-15'**  
**H251524-27 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %	71.5-134		5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			80.0 %	44.4-145		5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			76.3 %	40.6-153		5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 42 0-15'**  
**H251524-28 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134 5031414 JH 14-Mar-25 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane 78.9 % 44.4-145 5031409 ms 14-Mar-25 8015B

Surrogate: 1-Chlorooctadecane 74.9 % 40.6-153 5031409 ms 14-Mar-25 8015B

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 43 0-15'**  
**H251524-29 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031443	HM	14-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %		71.5-134	5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			80.0 %		44.4-145	5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			75.7 %		40.6-153	5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 44 0-15'**  
**H251524-30 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031449	CT	17-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			119 %		71.5-134	5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			82.3 %		44.4-145	5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			78.2 %		40.6-153	5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 45 0-15'**  
**H251524-31 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031449	CT	17-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			121 %		71.5-134	5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			84.4 %		44.4-145	5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			80.3 %		40.6-153	5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**SW 46 0-15'**  
**H251524-32 (Soil)**

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

Chloride	32.0		16.0	mg/kg	4	5031449	CT	17-Mar-25	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Toluene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	5031414	JH	14-Mar-25	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	5031414	JH	14-Mar-25	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %	71.5-134		5031414	JH	14-Mar-25	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	5031409	ms	14-Mar-25	8015B	

Surrogate: 1-Chlorooctane			81.5 %	44.4-145		5031409	ms	14-Mar-25	8015B	
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Surrogate: 1-Chlorooctadecane			77.6 %	40.6-153		5031409	ms	14-Mar-25	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031443 - 1:4 DI Water****Blank (5031443-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	ND	16.0	mg/kg
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**LCS (5031443-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	448	16.0	mg/kg	400	112	80-120
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**LCS Dup (5031443-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	416	16.0	mg/kg	400	104	80-120	7.41	20
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**Batch 5031444 - 1:4 DI Water****Blank (5031444-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	ND	16.0	mg/kg
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**LCS (5031444-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	416	16.0	mg/kg	400	104	80-120
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**LCS Dup (5031444-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Chloride	448	16.0	mg/kg	400	112	80-120	7.41	20
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**Batch 5031449 - 1:4 DI Water****Blank (5031449-BLK1)**

Prepared: 14-Mar-25 Analyzed: 17-Mar-25

Chloride	ND	16.0	mg/kg
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**LCS (5031449-BS1)**

Prepared: 14-Mar-25 Analyzed: 17-Mar-25

Chloride	416	16.0	mg/kg	400	104	80-120
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031449 - 1:4 DI Water****LCS Dup (5031449-BSD1)**

Prepared: 14-Mar-25 Analyzed: 17-Mar-25

Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031401 - Volatiles****Blank (5031401-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0556		mg/kg	0.0500		111	71.5-134			

**LCS (5031401-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	2.00	0.050	mg/kg	2.00		100	82.8-130			
Toluene	2.11	0.050	mg/kg	2.00		105	86-128			
Ethylbenzene	2.17	0.050	mg/kg	2.00		109	85.9-128			
m,p-Xylene	4.23	0.100	mg/kg	4.00		106	89-129			
o-Xylene	2.12	0.050	mg/kg	2.00		106	86.1-125			
Total Xylenes	6.35	0.150	mg/kg	6.00		106	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0516		mg/kg	0.0500		103	71.5-134			

**LCS Dup (5031401-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	1.91	0.050	mg/kg	2.00		95.5	82.8-130	4.61	15.8	
Toluene	2.08	0.050	mg/kg	2.00		104	86-128	1.54	15.9	
Ethylbenzene	2.15	0.050	mg/kg	2.00		108	85.9-128	0.990	16	
m,p-Xylene	4.17	0.100	mg/kg	4.00		104	89-129	1.47	16.2	
o-Xylene	2.13	0.050	mg/kg	2.00		106	86.1-125	0.333	16.7	
Total Xylenes	6.30	0.150	mg/kg	6.00		105	88.2-128	0.866	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0520		mg/kg	0.0500		104	71.5-134			

**Batch 5031413 - Volatiles****Blank (5031413-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031413 - Volatiles****Blank (5031413-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Total BTEX	ND	0.300	mg/kg							
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Surrogate: 4-Bromofluorobenzene (PID)	0.0625		mg/kg	0.0500		125	71.5-134			
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**LCS (5031413-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	2.14	0.050	mg/kg	2.00		107	82.8-130			
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Toluene	2.15	0.050	mg/kg	2.00		107	86-128			
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Ethylbenzene	2.29	0.050	mg/kg	2.00		114	85.9-128			
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m,p-Xylene	4.75	0.100	mg/kg	4.00		119	89-129			
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o-Xylene	2.33	0.050	mg/kg	2.00		117	86.1-125			
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Total Xylenes	7.08	0.150	mg/kg	6.00		118	88.2-128			
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Surrogate: 4-Bromofluorobenzene (PID)	0.0543		mg/kg	0.0500		109	71.5-134			
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**LCS Dup (5031413-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	2.07	0.050	mg/kg	2.00		103	82.8-130	3.39	15.8	
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Toluene	2.23	0.050	mg/kg	2.00		111	86-128	3.60	15.9	
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Ethylbenzene	2.45	0.050	mg/kg	2.00		122	85.9-128	6.63	16	
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m,p-Xylene	5.02	0.100	mg/kg	4.00		126	89-129	5.65	16.2	
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o-Xylene	2.49	0.050	mg/kg	2.00		124	86.1-125	6.38	16.7	
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Total Xylenes	7.51	0.150	mg/kg	6.00		125	88.2-128	5.89	16.3	
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Surrogate: 4-Bromofluorobenzene (PID)	0.0554		mg/kg	0.0500		111	71.5-134			
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**Batch 5031414 - Volatiles****Blank (5031414-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	ND	0.050	mg/kg							
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Toluene	ND	0.050	mg/kg							
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Ethylbenzene	ND	0.050	mg/kg							
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Total Xylenes	ND	0.150	mg/kg							
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Total BTEX	ND	0.300	mg/kg							
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Surrogate: 4-Bromofluorobenzene (PID)	0.0545		mg/kg	0.0500		109	71.5-134			
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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Volatile Organic Compounds by EPA Method 8021 - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031414 - Volatiles****LCS (5031414-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	2.09	0.050	mg/kg	2.00		104	82.8-130			
Toluene	2.20	0.050	mg/kg	2.00		110	86-128			
Ethylbenzene	2.34	0.050	mg/kg	2.00		117	85.9-128			
m,p-Xylene	4.74	0.100	mg/kg	4.00		118	89-129			
o-Xylene	2.42	0.050	mg/kg	2.00		121	86.1-125			
Total Xylenes	7.16	0.150	mg/kg	6.00		119	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0571		mg/kg	0.0500		114	71.5-134			

**LCS Dup (5031414-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

Benzene	1.87	0.050	mg/kg	2.00		93.5	82.8-130	11.0	15.8	
Toluene	2.06	0.050	mg/kg	2.00		103	86-128	6.41	15.9	
Ethylbenzene	2.32	0.050	mg/kg	2.00		116	85.9-128	0.749	16	
m,p-Xylene	4.72	0.100	mg/kg	4.00		118	89-129	0.403	16.2	
o-Xylene	2.40	0.050	mg/kg	2.00		120	86.1-125	0.980	16.7	
Total Xylenes	7.12	0.150	mg/kg	6.00		119	88.2-128	0.598	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0578		mg/kg	0.0500		116	71.5-134			

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch 5031358 - General Prep - Organics****Blank (5031358-BLK1)**

Prepared: 13-Mar-25 Analyzed: 14-Mar-25

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	44.4-145		
Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.0		83.5	40.6-153		

**LCS (5031358-BS1)**

Prepared: 13-Mar-25 Analyzed: 14-Mar-25

GRO C6-C10	208	10.0	mg/kg	200		104	81.5-123		
DRO >C10-C28	192	10.0	mg/kg	200		95.8	77.7-122		
Total TPH C6-C28	400	10.0	mg/kg	400		99.9	80.9-121		
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.6	44.4-145		
Surrogate: 1-Chlorooctadecane	45.5		mg/kg	50.0		91.1	40.6-153		

**LCS Dup (5031358-BS1)**

Prepared: 13-Mar-25 Analyzed: 14-Mar-25

GRO C6-C10	215	10.0	mg/kg	200		107	81.5-123	3.14	13
DRO >C10-C28	200	10.0	mg/kg	200		99.8	77.7-122	4.12	15.6
Total TPH C6-C28	414	10.0	mg/kg	400		104	80.9-121	3.61	18.5
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		100	44.4-145		
Surrogate: 1-Chlorooctadecane	47.8		mg/kg	50.0		95.6	40.6-153		

**Batch 5031408 - General Prep - Organics****Blank (5031408-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	43.2		mg/kg	50.0		86.4	44.4-145		
Surrogate: 1-Chlorooctadecane	39.2		mg/kg	50.0		78.4	40.6-153		

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch 5031408 - General Prep - Organics****LCS (5031408-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	196	10.0	mg/kg	200		97.8	81.5-123		
DRO >C10-C28	196	10.0	mg/kg	200		98.2	77.7-122		
Total TPH C6-C28	392	10.0	mg/kg	400		98.0	80.9-121		
Surrogate: 1-Chlorooctane	44.8		mg/kg	50.0		89.6	44.4-145		
Surrogate: 1-Chlorooctadecane	42.6		mg/kg	50.0		85.2	40.6-153		

**LCS Dup (5031408-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	210	10.0	mg/kg	200		105	81.5-123	7.05	13
DRO >C10-C28	202	10.0	mg/kg	200		101	77.7-122	2.70	15.6
Total TPH C6-C28	412	10.0	mg/kg	400		103	80.9-121	4.89	18.5
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.3	44.4-145		
Surrogate: 1-Chlorooctadecane	45.3		mg/kg	50.0		90.5	40.6-153		

**Batch 5031409 - General Prep - Organics****Blank (5031409-BLK1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	41.5		mg/kg	50.0		83.0	44.4-145		
Surrogate: 1-Chlorooctadecane	39.0		mg/kg	50.0		78.0	40.6-153		

**LCS (5031409-BS1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	194	10.0	mg/kg	200		97.2	81.5-123		
DRO >C10-C28	183	10.0	mg/kg	200		91.6	77.7-122		
Total TPH C6-C28	378	10.0	mg/kg	400		94.4	80.9-121		
Surrogate: 1-Chlorooctane	42.8		mg/kg	50.0		85.5	44.4-145		
Surrogate: 1-Chlorooctadecane	41.7		mg/kg	50.0		83.4	40.6-153		

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: PLU CVX JV BS 02H  
Project Number: 03E1558571  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
31-Mar-25 14:08

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5031409 - General Prep - Organics****LCS Dup (5031409-BSD1)**

Prepared &amp; Analyzed: 14-Mar-25

GRO C6-C10	213	10.0	mg/kg	200		107	81.5-123	9.16	13	
DRO >C10-C28	206	10.0	mg/kg	200		103	77.7-122	11.7	15.6	
Total TPH C6-C28	419	10.0	mg/kg	400		105	80.9-121	10.4	18.5	
Surrogate: 1-Chlorooctane	48.0		mg/kg	50.0		96.0	44.4-145			
Surrogate: 1-Chlorooctadecane	45.8		mg/kg	50.0		91.6	40.6-153			

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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

---

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: Aimee Cole				P.O. #:				<div>CHLORIDE BTEx TPH</div>											
Address: 3122 National Parks Hwy.				Company: XTO Energy															
City: Carlsbad State: NM Zip: 88220				Attn: Amy Ruth															
Phone #: 720-384-7365 Fax #:				Address: 3104 E. Green St.															
Project #: 03E1558571 Project Owner: XTO Energy				City: Carlsbad															
Project Name: PLU CVX JV BS 02H				State: NM Zip: 88220															
Project Location: 32.2258606, -103.8471069				Phone #:															
Sampler Name: Bowan Simmons				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	MATRIX				PRESERV	SAMPLING										
			# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME					
H257524																			
1	FS44	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:19					
2	FS49	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:21					
3	FS50	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:23					
4	FS51	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:25					
5	FS52	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:26					
6	FS53	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:28					
7	FS54	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:30					
8	FS55	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:32					
9	FS56	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:35					
10	FS57	15	C	/	/	/	/	/	/	/	/	/	3/13/25	14:36					

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Relinquished By:	Date: 3-14-25 Time: 9:00	Received By:	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address:
	Time:		REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 42.2 Corrected Temp. °C: 45.2	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Yes <input type="checkbox"/> No	CHECKED BY: (Initials) AP
Turnaround Time: Standard <input checked="" type="checkbox"/> Rush		Bacteria (only) Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C: Corrected Temp. °C:	
Thermometer ID: #13TH100 Correction Factor: -0.32			

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

AP 3/14/25





Page 46 of 48

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AP 3.14.25

AP 13-14-25



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---

March 28, 2025

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU CVX JV BS 02H

Enclosed are the results of analyses for samples received by the laboratory on 03/27/25 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in dark ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	03/27/2025	Sampling Date:	03/26/2025
Reported:	03/28/2025	Sampling Type:	Soil
Project Name:	PLU CVX JV BS 02H	Sampling Condition:	Cool & Intact
Project Number:	03E1558571 ( RECLAMATION )	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.2258606, -103.8471069		

**Sample ID: FS 37A 12' (H251808-01)**

BTEx 8021B			mg/kg		Analyzed By: JH				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2025	ND	2.10	105	2.00	5.70	
Toluene*	<0.050	0.050	03/27/2025	ND	2.14	107	2.00	5.35	
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.33	116	2.00	5.80	
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.06	118	6.00	5.66	
Total BTEX	<0.300	0.300	03/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
<b>DRO &gt;C10-C28*</b>	<b>10.8</b>	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 88.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 38A 12' (H251808-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.10	105	2.00	5.70		
Toluene*	<0.050	0.050	03/27/2025	ND	2.14	107	2.00	5.35		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.33	116	2.00	5.80		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.06	118	6.00	5.66		
Total BTEX	<0.300	0.300	03/27/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 92.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 90.1 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW 20 0-11' (H251808-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.10	105	2.00	5.70		
Toluene*	<0.050	0.050	03/27/2025	ND	2.14	107	2.00	5.35		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.33	116	2.00	5.80		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.06	118	6.00	5.66		
Total BTEx	<0.300	0.300	03/27/2025	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	128	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 89.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 86.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW 30 0-18' (H251808-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.10	105	2.00	5.70		
Toluene*	<0.050	0.050	03/27/2025	ND	2.14	107	2.00	5.35		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.33	116	2.00	5.80		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.06	118	6.00	5.66		
Total BTEX	<0.300	0.300	03/27/2025	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 48A 18' (H251808-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251		
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54		
Total BTEX	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 125 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 93.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 91.7 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	03/27/2025	Sampling Date:	03/26/2025
Reported:	03/28/2025	Sampling Type:	Soil
Project Name:	PLU CVX JV BS 02H	Sampling Condition:	Cool & Intact
Project Number:	03E1558571 ( RECLAMATION )	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.2258606, -103.8471069		

**Sample ID: SW 37 0-19' (H251808-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251		
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54		
Total BTEX	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 92.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 90.4 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SW 38 0-19' (H251808-07)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251	
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26	
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88	
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54	
Total BTEX	<0.300	0.300	03/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 132 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 93.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 89.9 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	03/27/2025	Sampling Date:	03/26/2025
Reported:	03/28/2025	Sampling Type:	Soil
Project Name:	PLU CVX JV BS 02H	Sampling Condition:	Cool & Intact
Project Number:	03E1558571 ( RECLAMATION )	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.2258606, -103.8471069		

**Sample ID: FS 54A 19' (H251808-08)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251		
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54		
Total BTEx	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 133 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 79.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.6 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	03/27/2025	Sampling Date:	03/26/2025
Reported:	03/28/2025	Sampling Type:	Soil
Project Name:	PLU CVX JV BS 02H	Sampling Condition:	Cool & Intact
Project Number:	03E1558571 ( RECLAMATION )	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.2258606, -103.8471069		

**Sample ID: FS 53A 19' (H251808-09)**

BTX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251	
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26	
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88	
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54	
Total BTX	<0.300	0.300	03/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 137 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/28/2025	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	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 88.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 89.2 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 57A 18' (H251808-10)**

BTEx 8021B		mg/kg	Analyzed By: JH					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251	
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26	
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88	
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54	
Total BTEX	<0.300	0.300	03/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 136 % 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	64.0	16.0	03/28/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/27/2025	ND	197	98.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	188	94.0	200	0.608	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 87.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 86.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 56A 18' (H251808-11)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251		
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54		
Total BTEx	<0.300	0.300	03/27/2025	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	64.0	16.0	03/28/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/27/2025	ND	217	109	200	1.31	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	198	99.2	200	2.00	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 96.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.5 % 40.6-153

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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  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 03/27/2025  
 Reported: 03/28/2025  
 Project Name: PLU CVX JV BS 02H  
 Project Number: 03E1558571 ( RECLAMATION )  
 Project Location: XTO 32.2258606, -103.8471069

Sampling Date: 03/26/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: FS 60A 18' (H251808-12)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/27/2025	ND	2.15	108	2.00	0.251		
Toluene*	<0.050	0.050	03/27/2025	ND	2.33	117	2.00	2.26		
Ethylbenzene*	<0.050	0.050	03/27/2025	ND	2.58	129	2.00	2.88		
Total Xylenes*	<0.150	0.150	03/27/2025	ND	7.85	131	6.00	2.54		
Total BTEx	<0.300	0.300	03/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 132 % 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	03/28/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/27/2025	ND	217	109	200	1.31	
DRO >C10-C28*	<10.0	10.0	03/27/2025	ND	198	99.2	200	2.00	
EXT DRO >C28-C36	<10.0	10.0	03/27/2025	ND					

Surrogate: 1-Chlorooctane 94.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Ensolum, LLC</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: <u>Aimee Cole</u>				P.O. #:															
Address: <u>3122 National Parks Hwy</u>				Company: <u>XTO Energy Inc.</u>															
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn: <u>Amy Ruth</u>															
Phone #: <u>720-384-7365</u> Fax #:				Address: <u>3104 E. Greene St.</u>															
Project #: <u>03E1558571</u> Project Owner: <u>XTO</u>				City: <u>Carlsbad</u>															
Project Name: <u>PLU CVX JV BS 02H - Reclamation</u>				State: <u>NM</u> Zip: <u>88220</u>															
Project Location: <u>32.2258606, -103.8471069</u>				Phone #:															
Sampler Name: <u>Azad Vojdani</u>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		BTEX	TPH	CHLORIDE			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER				DATE	TIME	
<u>H251808</u>																			
1	FS37A	12	C	1			✓				✓	✓		03-26-25	0929	✓			
2	FS38A	12					✓				✓	✓				✓			
3	SW20	0-11					✓				✓	✓				✓			
4	SW30	0-18					✓				✓	✓				✓			
5	FS48A	18					✓				✓	✓				✓			
6	SW34	0-19					✓				✓	✓				✓			
7	SW38	0-19					✓				✓	✓				✓			
8	FS54A	19'					✓				✓	✓				✓			
9	FS53A	+8' to 19'					✓				✓	✓				✓			
10	FS57A	18					✓				✓	✓				✓			

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Relinquished By: <u>[Signature]</u>	Date: <u>03-27-25</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By: <u>[Signature]</u>	Date: <u>1300</u>	Received By: <u>[Signature]</u>	All Results are emailed. Please provide Email address:
			TMorrissey@ensolum.com, Acole@ensolum.com, AVojdani@ensolum.com
Delivered By: (Circle One) <u>UPS</u>			REMARKS:
Observed Temp. °C: <u>18</u>			GFCM: 48804902 API: 30-015-37147 AFE: PA.2024.08097.EXP.01
Corrected Temp. °C: <u>012</u>			Turnaround Time: <u>24 HRS</u> Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
Sample Condition: <u>Intact</u>			Bacteria (only) Sample Condition
Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No			Cool <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No
CHECKED BY: (Initials) <u>[Signature]</u>			Thermometer ID: <u>11331110</u>
			Correction Factor: <u>0.5°C @ 30°C</u>

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

AP 32703





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

2

Company Name: <b>Ensolum, LLC</b>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: <b>Aimee Cole</b>				P.O. #:															
Address: <b>3122 National Parks Hwy</b>				Company: <b>XTO Energy Inc.</b>															
City: <b>Carlsbad</b> State: <b>NM</b> Zip: <b>88220</b>				Attn: <b>Amy Ruth</b>															
Phone #: <b>720-384-7365</b> Fax #:				Address: <b>3104 E. Greene St.</b>															
Project #: <b>03E1558571</b> Project Owner: <b>XTO</b>				City: <b>Carlsbad</b>															
Project Name: <b>PLU CVX JV BS 02H - Reclamation</b>				State: <b>NM</b> Zip: <b>88220</b>															
Project Location: <b>32.2258606, -103.8471069</b>				Phone #:															
Sampler Name: <b>Azad Vojdani</b>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV		SAMPLING		BTEX	TPH	CHLORIDE			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE	ICE / COOL	OTHER :				DATE	TIME	
<b>H251808</b>																			
<b>11</b>	<b>F556A</b>	<b>18</b>	<b>C</b>	<b>1</b>			<b>✓</b>					<b>✓</b>		<b>05-26-25</b>	<b>1258</b>	<b>✓</b>			
<b>12</b>	<b>F560A</b>	<b>18</b>	<b>C</b>	<b>1</b>			<b>✓</b>					<b>✓</b>		<b>1335</b>	<b>✓</b>	<b>✓</b>			

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Relinquished By:	Date: <b>3-27-25</b>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date: <b>1320</b>	Received By:	All Results are emailed. Please provide Email address:
			TMorrissey@ensolum.com, ACole@ensolum.com, AVojdani@ensolum.com
Delivered By: (Circle One)			REMARKS:
Sampler - UPS - Bus - Other:			GFCM: 48604902 API: 30-015-37147 AFE: PA.2024.08097.EXP.01
Observed Temp. °C: <b>18.2</b>	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY:	Turnaround Time: <b>24 HRS</b> Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
Corrected Temp. °C: <b>21.2</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Thermometer ID: <b>113</b> # <b>140</b>
			Correction Factor: <b>-0.3</b>
			Bacteria (only) Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>
			Observed Temp. °C: <b>18.2</b>
			Corrected Temp. °C: <b>21.2</b>

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



## APPENDIX C

March 10, 2020, *Deferral Request*

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LT Environmental, Inc.

3300 North "A" Street  
Building 1, Unit 103  
Midland, Texas 79705  
432.704.5178

March 10, 2020

Mr. Bradford Billings  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive, #3  
Santa Fe, New Mexico 87505

**RE: Deferral Request  
Poker Lake Unit Big Sinks 11 Federal Battery  
Remediation Permit Number 2RP-3887  
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment, soil sampling, and excavation activities at the Poker Lake Unit (PLU) Big Sinks 11 Federal Battery (Site) in Unit P, Section 11, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil resulting from a crude oil release at the Site. Based on the results of the soil sampling events, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing.

## **RELEASE BACKGROUND**

On September 13, 2016, a Victaulic check valve cap failed on the LACT unit, causing approximately 79 barrels (bbls) of crude oil to release onto the surface of the well pad. A vacuum truck recovered approximately 42 bbls of oil from the ground surface. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on September 14, 2016, and was assigned Remediation Permit (RP) Number 2RP-3887 (Attachment 1).





## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the NMAC. Depth to groundwater at the Site is estimated to be between greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 321334103494901, located approximately 4,955 feet east of the Site. The water well has a depth to groundwater of approximately 367 feet bgs and a total depth of 500 feet bgs. Ground surface elevation at the water well location is 3,522 feet above mean sea level (AMSL), which is approximately 43 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent stream approximately 250 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low-potential karst area.

## CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 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): 100 mg/kg; and
- Chloride: 600 mg/kg.

## SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

On February 13, 2018, LTE personnel inspected the Site to evaluate the release extent. Surficial hydrocarbon staining was observed in the release area. An LTE scientist collected eight preliminary soil samples (SS01 through SS08) within the release area to assess the lateral extent of impacted soil. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141 and field observations. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location from a depth of 0.5 feet bgs.

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 shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States



Billings, B.  
Page 3

Environmental Protection Agency (USEPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0. The soil sample locations are depicted on Figure 2.

During March and December 2019, LTE personnel returned to the Site to oversee excavation and delineation activities.

Impacted soil was excavated from the release area as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated to depths ranging from 1 foot to 7 feet bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW18 were collected from the sidewalls of the excavation from depths ranging from ground surface to 6 feet bgs. Composite soil samples FS01 through FS26, FS09A, FS10A, FS15A, FS16A, and FS18A were collected from the floor of the excavation from depths ranging from 1 foot to 7 feet bgs. The excavation extent and excavation soil sample locations are depicted on Figure 3.

Further excavation of impacted soil to the east was limited by the presence of active production equipment and pipelines. Potholes were advanced via backhoe at five locations around the production equipment to delineate the maximum extent of impacted soil left in place. Potholes PH01 through PH05 were advanced to a depth of 8 feet bgs. Delineation soil samples were collected from each pothole at depths ranging from 2 foot to 8 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The pothole delineation soil sample locations are depicted on Figure 4.

The excavation and delineation soil samples were collected, handled, and analyzed as described above and submitted to Xenco. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The excavation measured approximately 9,000 square feet in area with a depth of 1 foot to 7 feet bgs. A total of approximately 1,700 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.



## ANALYTICAL RESULTS

Laboratory analytical results indicated that TPH concentrations exceeded the Closure Criteria in preliminary soil samples SS01 through SS08. Based on visible surface staining and laboratory analytical results for the preliminary soil samples, excavation and delineation of impacted soil was conducted.

Laboratory analytical results indicated that TPH concentrations initially exceeded the Closure Criteria in excavation sidewall samples SW01 through SW03, SW05 through SW07, SW09, SW16 through SW18, and excavation floor samples FS01 through FS04, FS09, FS10/FS10A, FS15, FS16, and FS18. Additional impacted soil was removed from these areas, to the extent possible. Laboratory analytical results indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria in final excavation sidewall samples SW04, SW08, and SW10 through SW15 and final excavation floor samples FS05 through FS08, FS09A, FS11 through FS14, FS15A, FS16A, FS17, FS18A, and FS19 through FS26.

Further excavation of impacted soil beyond sidewall samples SW06, SW07, and SW16 through SW18 was limited by the presence of active production equipment and pipelines. XTO safety policy restricts soil disturbing activities to a 2 foot radius of any active production equipment and pipelines. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the process equipment. This policy was enforced on the eastern excavation sidewall where impacted soil was identified within 2 feet of active production equipment and pipelines in excavation sidewall samples SW06, SW07, and SW16 through SW18.

Potholes PH01 through PH05 were advanced around the production equipment to delineate the maximum extent of impacted soil left in place. Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH05 indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the laboratory analytical results for the pothole soil samples, the lateral and vertical extent of impacted soil was delineated.

The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

## DEFERRAL REQUEST

A total of approximately 1,700 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within 2 feet of active production equipment and pipelines. Impacted soil was excavated to the extent possible. Laboratory analytical results for excavation sidewall samples SW06, SW07, and SW16 through SW18, collected at depths ranging from the ground surface to 6 feet bgs, indicated that soil with TPH concentrations exceeding the Closure



Billings, B.  
Page 5

Criteria was left in place within 2 feet of active production equipment and pipelines. The impacted soil remaining in place is delineated vertically and laterally by excavation soil samples SW11, SW15, FS05, FS06, FS16A, FS17, FS18A, and FS19, collected from the sidewalls and floor of the final excavation extent, and the delineation soil samples collected from potholes PH01 through PH05. An estimated 800 cubic yards of impacted soil remains in place, assuming a maximum 7 foot depth based on the excavation and delineation soil samples listed above collected from depths of 0 to 8 feet bgs, that were compliant with the Closure Criteria. Upon completion of excavation activities, a 10% solution of MicroBlaze®, a concentrated solution of microbes, nutrients, and surfactants designed to bioremediate petroleum hydrocarbons, was applied to the sidewalls and floor of the excavation to enhance remediation of residual hydrocarbons.

XTO backfilled the excavation and requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the released fluids were recovered during initial response activities and no saturated soil remains in-place. XTO requests deferral of final remediation for RP Number 2RP-3887. An updated NMOCD Form C-141 is included as Attachment 1.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Aimee Cole".

Aimee Cole  
Project Environmental Scientist

A handwritten signature in black ink that reads "Ashley L. Ager".

Ashley L. Ager, P.G.  
Senior Geologist

cc: Kyle Littrell, XTO  
Mike Bratcher, NMOCD  
Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations



Billings, B.  
Page 6

Figure 4        Delineation Soil Sample Locations  
Table 1        Soil Analytical Results  
Attachment 1 Initial/Final NMOC Form C-141 (2RP-3887)  
Attachment 2 Lithologic / Soil Sample Logs  
Attachment 3 Photographic Log  
Attachment 4 Laboratory Analytical Reports

FIGURES





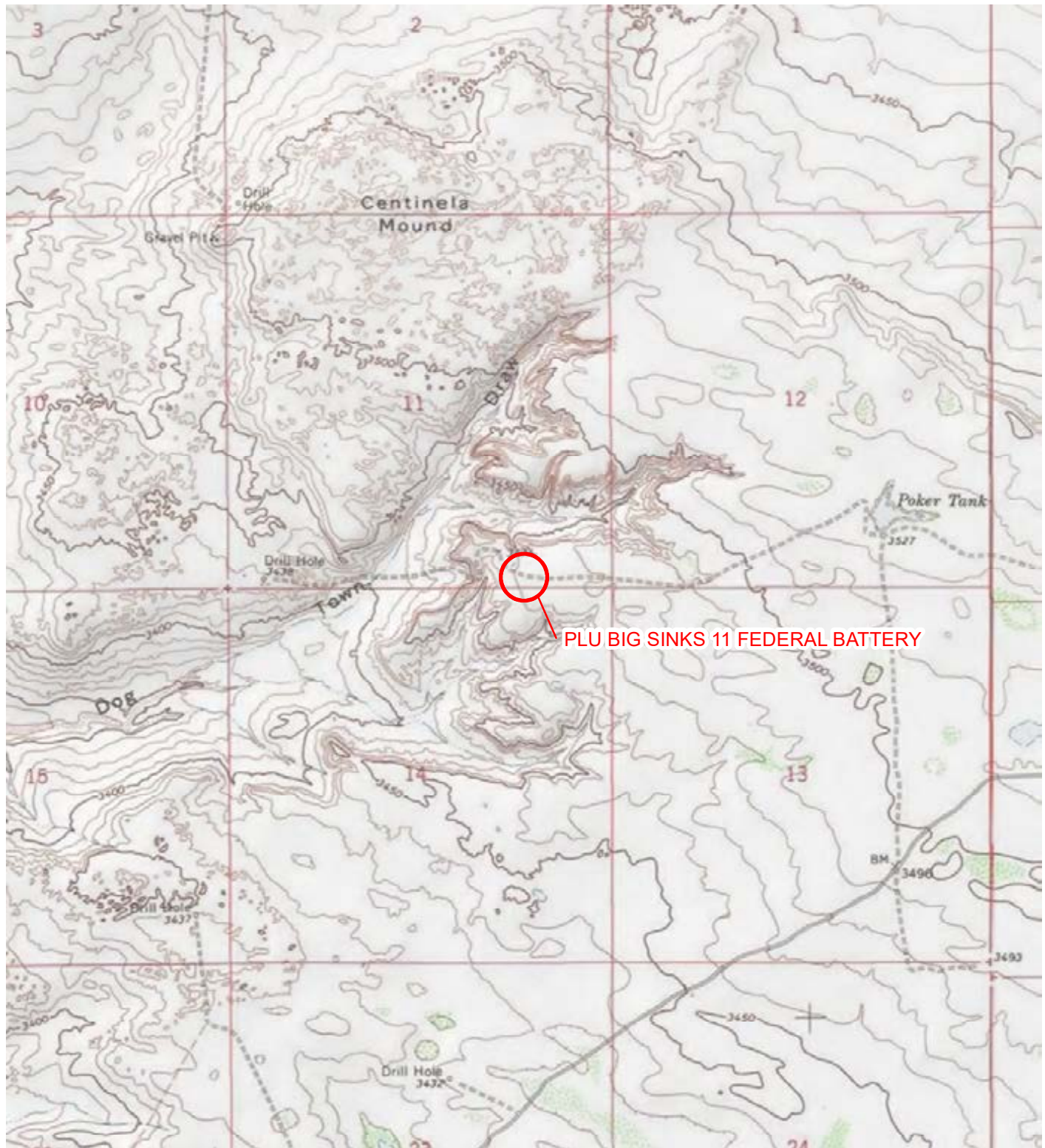
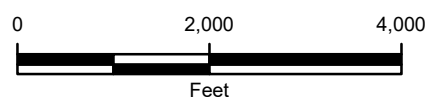


IMAGE COURTESY OF ESRI/USGS

**LEGEND**

 SITE LOCATION



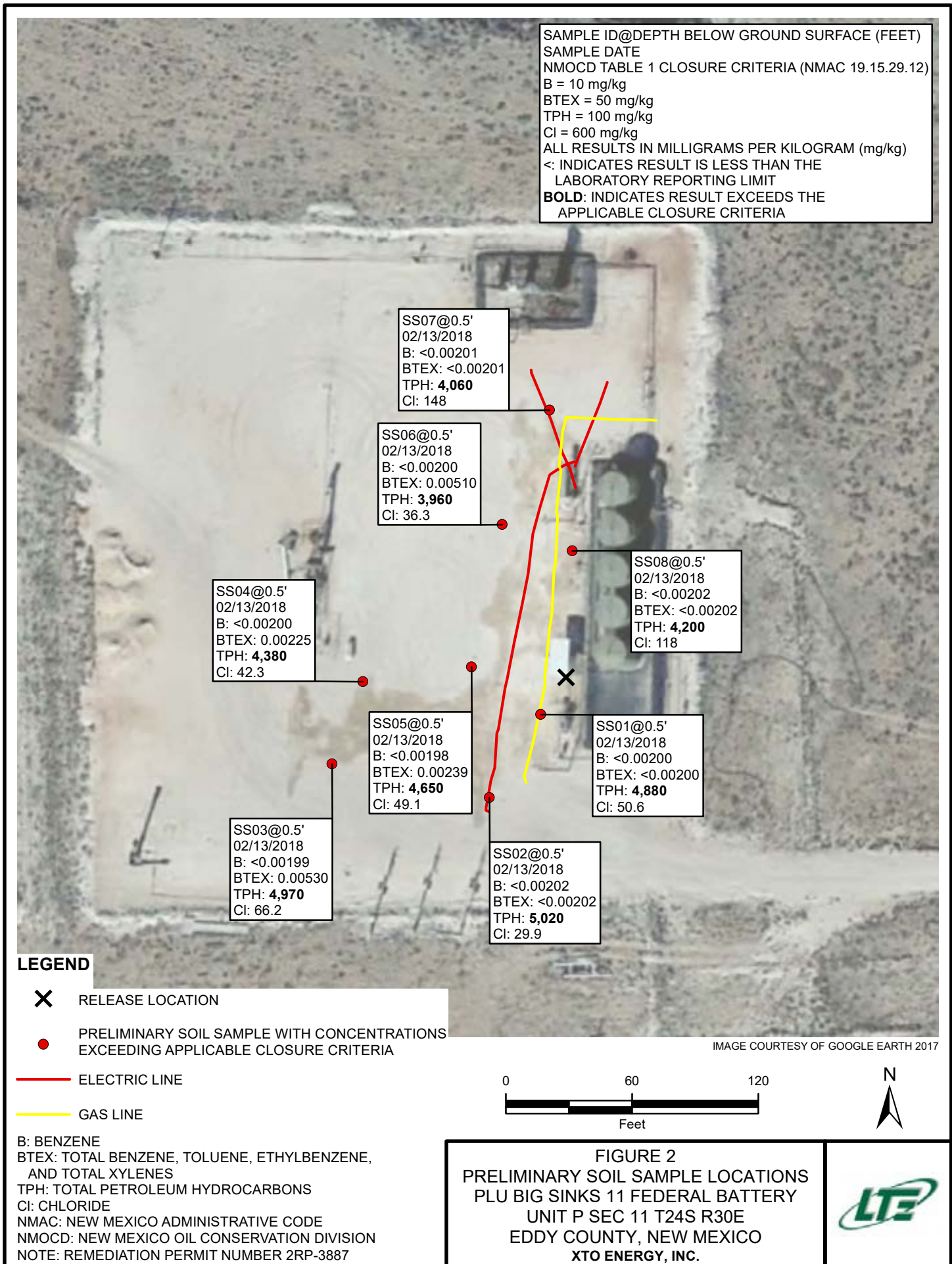
NOTE: REMEDIATION PERMIT  
NUMBER 2RP-3887

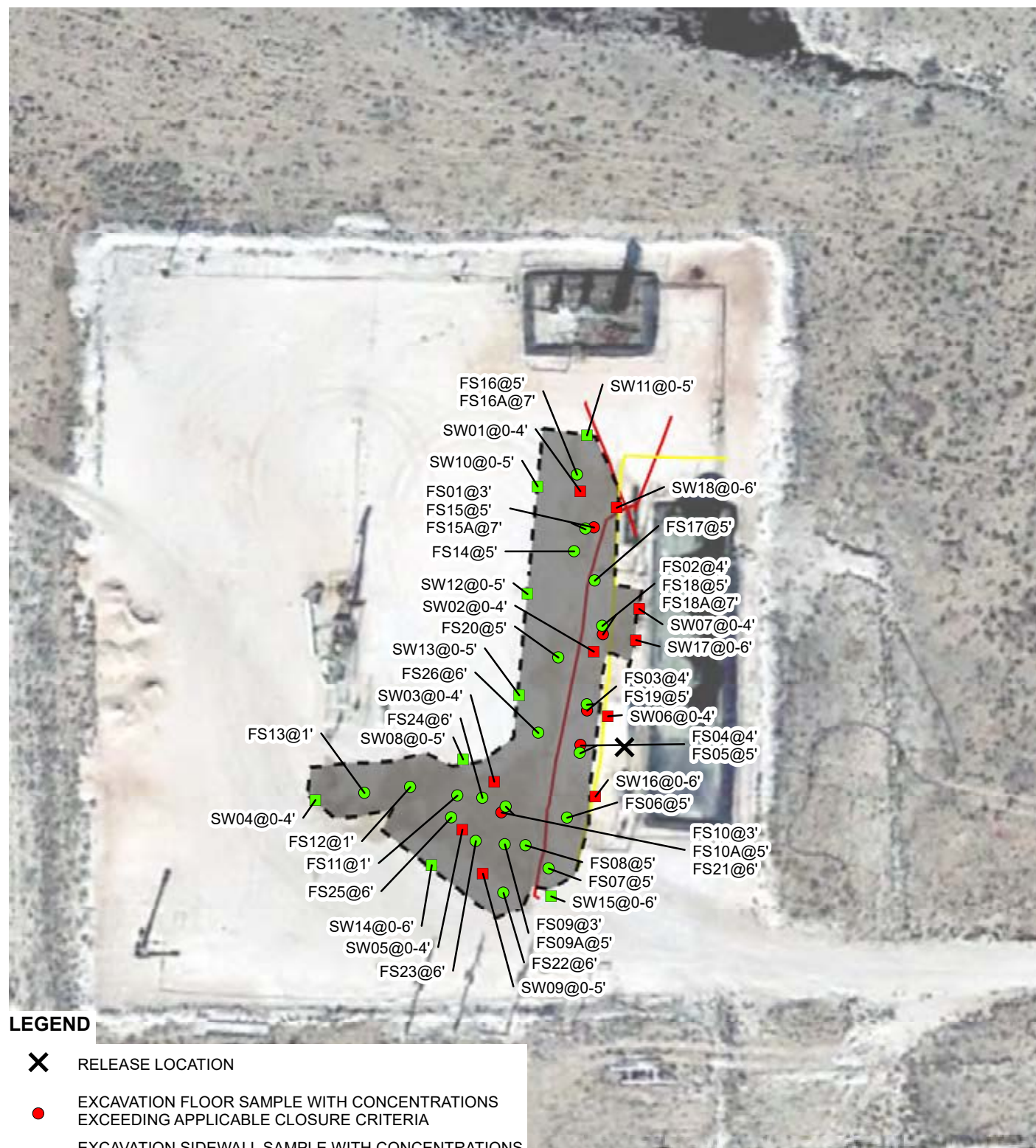
**FIGURE 1**  
**SITE LOCATION MAP**  
**PLU BIG SINKS 11 FEDERAL BATTERY**  
**UNIT P SEC 11 T24S R30E**  
**EDDY COUNTY, NEW MEXICO**  
**XTO ENERGY, INC.**



P:\XTO Energy\GIS\MXD\012918036\_PLU SINKS 11\_FEDERAL\_BATTERY\012918036\_FIG01\_SL\_2018.mxd





**LEGEND**

RELEASE LOCATION

EXCAVATION FLOOR SAMPLE WITH CONCENTRATIONS  
EXCEEDING APPLICABLE CLOSURE CRITERIAEXCAVATION SIDEWALL SAMPLE WITH CONCENTRATIONS  
EXCEEDING APPLICABLE CLOSURE CRITERIAEXCAVATION FLOOR SAMPLE IN COMPLIANCE WITH  
APPLICABLE CLOSURE CRITERIAEXCAVATION SIDEWALL SAMPLE IN COMPLIANCE WITH  
APPLICABLE CLOSURE CRITERIA

ELECTRIC LINE



GAS LINE



EXCAVATION EXTENT

NOTE: REMEDIATION PERMIT NUMBER 2RP-3887

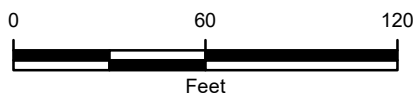
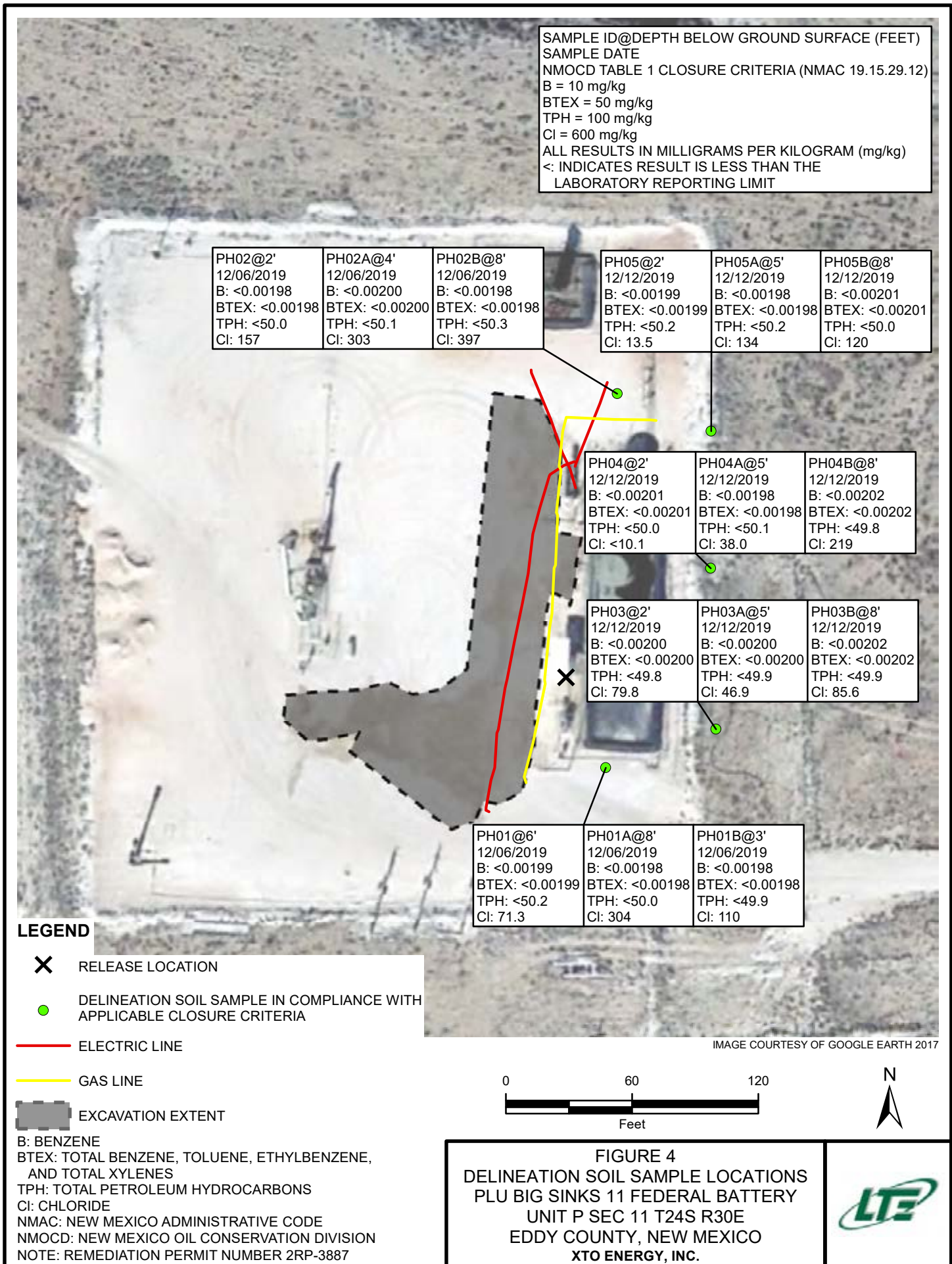


IMAGE COURTESY OF GOOGLE EARTH 2017

**FIGURE 3**  
EXCAVATION SOIL SAMPLE LOCATIONS  
PLU BIG SINKS 11 FEDERAL BATTERY  
UNIT P SEC 11 T24S R30E  
EDDY COUNTY, NEW MEXICO  
**XTO ENERGY, INC.**







TABLES



TABLE 1  
SOIL ANALYTICAL RESULTS

PLU BIG SINKS 11 FEDERAL BATTERY  
REMEDATION PERMIT NUMBER 2RP-3887  
EDDY COUNTY, NEW MEXICO  
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
SS01	0.5	02/13/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<74.9	4,180	697	4,180	<b>4,880</b>	50.6
SS02	0.5	02/13/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<74.9	4,320	699	4,320	<b>5,020</b>	29.9
SS03	0.5	02/13/2018	<0.00199	0.00243	<0.00199	0.00287	0.00530	<74.7	4,260	705	4,260	<b>4,970</b>	66.2
SS04	0.5	02/13/2018	<0.00200	<0.00200	<0.00200	0.00225	0.00225	107	3,680	593	3,790	<b>4,380</b>	42.3
SS05	0.5	02/13/2018	<0.00198	<0.00198	<0.00198	0.00239	0.00239	<74.7	3,990	663	3,990	<b>4,650</b>	49.1
SS06	0.5	02/13/2018	<0.00200	0.00228	<0.00200	0.00282	0.00510	<74.9	3,400	562	3,400	<b>3,960</b>	36.3
SS07	0.5	02/13/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<74.9	3,520	544	3,520	<b>4,060</b>	148
SS08	0.5	02/13/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<74.8	3,600	599	3,600	<b>4,200</b>	118
SW01	0 - 4	03/29/2019	<0.00199	0.00266	<0.00199	0.00824	0.0109	20.0	792	128	812	<b>940</b>	64.5
SW02	0 - 4	03/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	404	79.2	404	<b>483</b>	70.2
SW03	0 - 4	03/29/2019	<0.00199	<0.00199	<0.00199	0.00798	0.00798	19.9	629	92.8	649	<b>742</b>	9.58
SW04	0 - 4	03/29/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	56.6	<15.0	56.6	56.6	44.9
SW05	0 - 4	03/29/2019	<0.00200	0.00286	<0.00200	0.0368	0.0397	66.5	838	123	905	<b>1,030</b>	5.19
SW06	0 - 4	03/29/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	221	28.4	221	<b>249</b>	13.6
SW07	0 - 4	03/29/2019	<0.00201	0.0108	0.00865	0.119	0.138	127	1,820	259	1,950	<b>2,210</b>	23.8
SW08	0 - 5	12/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	<10.1
SW09	0 - 5	12/03/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	180	<49.9	180	<b>180</b>	<10.0
SW10	0 - 5	12/04/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
SW11	0 - 5	12/04/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	58.9	<50.1	58.9	58.9	<10.0
SW12	0 - 5	12/05/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	42.4
SW13	0 - 5	12/05/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	82.4
SW14	0 - 6	12/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	13
SW15	0 - 6	12/10/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	58.4	<49.8	58.4	58.4	<9.88
SW16	0 - 6	12/12/2019	<0.00200	<0.00200	<0.00200	0.00201	0.00201	<50.0	2060	211	2060	<b>2,270</b>	<9.98
SW17	0 - 6	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	685	122	685	<b>807</b>	<9.94
SW18	0 - 6	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	741	81.5	741	<b>823</b>	<9.92

TABLE 1  
SOIL ANALYTICAL RESULTS

PLU BIG SINKS 11 FEDERAL BATTERY  
REMEDIATION PERMIT NUMBER 2RP-3887  
EDDY COUNTY, NEW MEXICO  
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
FS01	3	03/29/2019	<0.00200	<0.00200	<0.00200	0.0162	0.0162	<15.0	289	57.5	289	347	16.8
FS02	4	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	210	35.1	210	245	25.6
FS03	4	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	425	67.4	425	492	33.0
FS04	4	03/29/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	375	58.9	375	434	70.9
FS05	5	03/29/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	26.8	<15.0	26.8	26.8	7.51
FS06	5	03/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	37.5	<15.0	37.5	37.5	6.85
FS07	5	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	27.3	<15.0	27.3	27.3	7.07
FS08	5	03/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	28.2	<15.0	28.2	28.2	5.42
FS09	3	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	155	19.2	155	174	14.0
FS09A	5	12/03/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	62.4	<50.3	62.4	62.4	<9.98
FS10	3	03/29/2019	<0.00202	0.00816	0.0711	0.519	0.598	410	1,620	165	2,030	2,200	7.95
FS10A	5	12/03/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	139	<50.1	139	139	<10.1
FS11	1	03/29/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	34.6	<14.9	34.6	34.6	21.8
FS12	1	03/29/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	60.2	<15.0	60.2	60.2	30.5
FS13	1	03/29/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	69.3	<15.0	69.3	69.3	27.3
FS14	5	12/04/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	99.4	<50.0	99.4	99.4	<10.0
FS15	5	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	169	<50.2	169	169	<10.0
FS15A	7	12/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	95.9	<50.2	95.9	95.9	13.1
FS16	5	12/04/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	320	<50.1	320	320	<10.0
FS16A	7	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	10.5
FS17	5	12/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	100	<50.2	100	100	11.6
FS18	5	12/05/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	184	<50.2	184	184	<9.98
FS18A	7	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	84.7	<50.1	84.7	84.7	<9.98
FS19	5	12/05/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<9.92
FS20	5	12/05/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
FS21	6	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<9.92
FS22	6	12/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	<9.94
FS23	6	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.96
FS24	6	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<9.96
FS25	6	12/10/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	<9.98
FS26	6	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<9.92

TABLE 1  
SOIL ANALYTICAL RESULTS

PLU BIG SINKS 11 FEDERAL BATTERY  
REMEDATION PERMIT NUMBER 2RP-3887  
EDDY COUNTY, NEW MEXICO  
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
PH01	6	12/06/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	71.3
PH01A	8	12/06/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	304
PH01B	3	12/06/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	110
PH02	2	12/06/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	157
PH02A	4	12/06/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	303
PH02B	8	12/06/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	397
PH03	2	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	79.8
PH03A	5	12/12/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	46.9
PH03B	8	12/12/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	85.6
PH04	2	12/12/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<10.1
PH04A	5	12/12/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	38.0
PH04B	8	12/12/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	219
PH05	2	12/12/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	13.5
PH05A	5	12/12/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	134
PH05B	8	12/12/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	120

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

**Bold** - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-3887)

ARTESIA DISTRICT

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

State of New Mexico  
Energy Minerals and Natural Resources

SEP 14 2016

Form C-141  
Revised August 8, 2011

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

Submit 1 Copy to appropriate District Office in  
conformance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

**NAB1625934302** **260737** **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU Big Sinks 11 Federal Battery (PLU CVX JV BS 002H)	Facility Type: Exploration and Production
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-37147	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	11	24S	30E	255		1300		Eddy

Latitude: 32.225975 Longitude: 103.847008

## NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 79 barrels	Volume Recovered: 42 barrels
Source of Release: Victaulic check valve cap failed on lact unit	Date and Hour of Occurrence: 9-13-16 @ 11:00am	Date and Hour of Discovery: 9-13-16 @ 12:00pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher, Heather Patterson, Jim Amos BLM	
By Whom? Bradley Blevins	Date and Hour: 9-13-16 2 1:43pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* A Victaulic check valve cap failed on the lact unit releasing crude oil to the location, a vacuum truck was called to the location and was able to recover 42 barrels of oil from the ground surface. All released fluid remained on the well pad.		
Describe Area Affected and Cleanup Action Taken.* A vacuum truck was called to the location and was able to recover 42 barrels of oil; a remediation response crew was dispatched to the location to begin removing the saturated surface soils and conduct a sampling event.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.		
Signature: <u>Bradley Blevins</u>	OIL CONSERVATION DIVISION	
Printed Name: Bradley Blevins	Signed By: <u>Mike Bratcher</u> Approved by Environmental Specialist.	
Title: Assistant Remediation Foreman	Approval Date: <u>9/15/16</u>	Expiration Date: <u>NA</u>
E-mail Address: bblevins@basspet.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO	
Date: <u>9-14-16</u> Phone: 432-214-3704	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

LATER THAN: 10/15/16

2RP-3887

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

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

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

Incident ID	
District RP	2RP-3887
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-3887
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.225975 Longitude W -103.847008  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: PLU Big Sinks 11 Federal Battery	Site Type: Production Well Facility
Date Release Discovered: 9/13/2016	API# (if applicable): 30-015-37147

Unit Letter	Section	Township	Range	County
P	11	24S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls): 79	Volume Recovered (bbls): 42
<input type="checkbox"/> Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release


A Victaulic check valve cap failed on the LACT unit, releasing crude oil to the location. Free-standing fluids were recovered. All released fluid remained on the well pad.

Incident ID	
District RP	2RP-3887
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By Bradley Blevins to Mike Bratcher/Heather Patterson (NMOCD) and Jim Amos (BLM) on 9/13/2016 at 1:43 pm.	

### Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&amp;E Supervisor</u>
Signature: 	Date: <u>3-10-2020</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<b><u>OCD Only</u></b> Received by: _____ Date: _____	

Incident ID	
District RP	2RP-3887
Facility ID	
Application ID	

## Site Assessment/Characterization

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

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

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

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

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

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

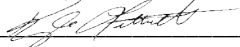
State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-3887
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 3-10-2020

email: Kyle Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	
District RP	2RP-3887
Facility ID	
Application ID	

## Remediation Plan

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 3-10-2020

email: Kyle\_Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS



**LT Environmental, Inc.**  
508 West Stevens Street  
Carlsbad, New Mexico 88220

Compliance · Engineering · Remediation

Identifier:

PH01

Date:

12-6-2019

Project Name:

PLU BS 1A Federal Battery

RP Number:

### LITHOLOGIC / SOIL SAMPLING LOG

Logged By: ~~AB~~ LTD

Method: *Bueche*

Lat/Long:


Field Screening: CHLORIDES, PID.


Hole Diameter:


Total Depth:

Comments:


Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
					2			
1527	Nue	1.0 6169	0.1	Nue	3	3'		Slightly dark brown  Light brown, no odor, no moisture, no clumping, poorly graded, fine grained sand, no organics
					4			
					5			
1245	Nue	0.8 2468	0.1	Nue	1	6'		Light brown, no odor, no moisture, no clumping, no plasticity, poorly graded, fine-grained sand, no organics
					7			
					8			
1325	Nue	1.5 207.4	0.1	Nue	2	8.5'		SAA
					9			
					10			
					11			
					12			

		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <b>PH02</b>		Date: <b>12/6/2019</b>		
				Project Name: <b>PLU BS Federal Battery</b>		RP Number:		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: <b>BB-LAD</b>		Method:		
Lat/Long:		Field Screening: CHLORIDES, PID.		Hole Diameter:		Total Depth:		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Nue	1.0 (2120)	1.2	Nue	1	2	2'		Slightly dark brown, no moisture, no clumping, poorly graded, fine-grained sand, <del>not</del> no organics
Nue	1.8 (2400)	0.0	Nue	2	4	4'		Light brown, no moisture, no clumping, poorly graded, fine-grained sand, no clumping
Nue	2.0 (2450)	2.4	Nue	3	8	8'		Dark brown/reddish crystals/veins, otherwise SAA

		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220		Identifier: <b>PH03</b>		Date: <b>12-13-19</b>		
				Project Name: <b>PLU BS II Fed Battery</b>		RP Number: <b>2RP-3887</b>		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: <b>JL</b>		Method: <b>Track Log</b>		
Lat/Long:		Field Screening: PID Chloride		Hole Diameter: <b>—</b>		Total Depth: <b>8'</b>		
Comments: <b>TD @ 8'</b>								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		SP-SM	0-1
					1			sand, brown, no odor, no stain, m-f, poorly graded / trace silt
D	<179	0.0	N	PH03	2	2'	Caliche	2-8
					3			caliche, tan, offwhite, no odor, no stain
					4			
D	<179	0.0	N	PH03A	5	5'		
					6			
					7			
D	<179	0.0	N	PH03B	8	8'		
					9			TD @ 8'
					10			
					11			
					12			

		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220		Identifier: PH04		Date: 12-13-19		
				Project Name: PLV BS II Fed Battery		RP Number: ZRP-3887		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: SL		Method: Truckee		
Lat/Long:		Field Screening:		Hole Diameter:		Total Depth: 8'		
		(PID) (Chloride)						
Comments: TD @ 8'								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		SF-Sm	0 - 1 sand, brown, no odor, no stain, m-f, poorly graded trace silt
					1			
D	<179	0.0	N	PH04	2	2'		2-8
					3		CHE	caliche, tan, off white, no odor, no stain
					4			
D	<179	0.0	N	PH04A	5	5'		
					6			
					7			
D	<179	0.0	N	PH04B	8	8'		
					9			TD @ 8'
					10			
					11			
					12			



 <b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220		Identifier: PHO5	Date: 12.13.19					
		Project Name: PLU 85 11 Fed Battery	RP Number: ZRP-3887					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>		Logged By: SL	Method: Truck/hoor					
Lat/Long:		Field Screening: (Pb) Chloride	Hole Diameter: —					
Comments: TD @ 8'								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			0-1 ft
					1		SP-Sm	sand, brown, no odor, no stain, m-f, poorly graded trace silt
D	<179	0.0	N	PHO5	2	2'		2-8 ft
					3			caliche, off white, tan, no odor, no stain
					4		CHE	
D	<179	0.0	N	PHO5A	5	5'		
					6			
					7			
D	<179	0.0	N	PHO5B	8	8'		
					9			TD @ 8'
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG





PHOTOGRAPHIC LOG



**Photograph 1:** Northwest facing view of excavation.



**Photograph 2:** North facing view of excavation.

PLU Big Sinks 11 Federal Battery  
Eddy County, New Mexico  
Photographs Taken: December 2019



PHOTOGRAPHIC LOG



**Photograph 3:** North facing view of excavation.



**Photograph 4:** South facing view of excavation.



ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



# Analytical Report 576503

for  
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU Big Sinks 11 Federal

23-FEB-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



23-FEB-18

Project Manager: **Adrian Baker**  
**LT Environmental, Inc.**  
4600 W. 60th Avenue  
Arvada, CO 80003

Reference: XENCO Report No(s): **576503**  
**PLU Big Sinks 11 Federal**  
Project Address: NM

**Adrian Baker:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 576503. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 576503 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

**Jessica Kramer**

Odessa Laboratory Director

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 576503****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 11 Federal

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	02-13-18 16:10	6 In	576503-001
SS02	S	02-13-18 16:20	6 In	576503-002
SS03	S	02-13-18 16:30	6 In	576503-003
SS04	S	02-13-18 16:40	6 In	576503-004
SS05	S	02-13-18 16:50	6 In	576503-005
SS06	S	02-13-18 17:00	6 In	576503-006
SS07	S	02-13-18 17:10	6 In	576503-007
SS08	S	02-13-18 17:20	6 In	576503-008





## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: PLU Big Sinks 11 Federal*

Project ID:

Work Order Number(s): 576503

Report Date: 23-FEB-18

Date Received: 02/14/2018

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### **Sample receipt non conformances and comments:**

---

### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3041453 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3041865 Inorganic Anions by EPA 300

Lab Sample ID 576503-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 576503-003, -004, -005, -006, -007, -008.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.





# Certificate of Analysis Summary 576503

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Wed Feb-14-18 06:00 pm

Report Date: 23-FEB-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	576503-001	576503-002	576503-003	576503-004	576503-005	576503-006
	<i>Field Id:</i>	SS01	SS02	SS03	SS04	SS05	SS06
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	6- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-13-18 16:10	Feb-13-18 16:20	Feb-13-18 16:30	Feb-13-18 16:40	Feb-13-18 16:50	Feb-13-18 17:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Feb-16-18 15:30	Feb-16-18 15:30	Feb-16-18 15:30	Feb-16-18 15:30	Feb-16-18 15:30	Feb-16-18 15:30
	<i>Analyzed:</i>	Feb-16-18 23:02	Feb-16-18 23:21	Feb-16-18 23:40	Feb-16-18 23:59	Feb-17-18 00:18	Feb-17-18 00:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00202 0.00202	0.00243 0.00199	<0.00200 0.00200	<0.00198 0.00198	0.00228 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00404 0.00404	<0.00398 0.00398	<0.00399 0.00399	<0.00396 0.00396	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	0.00287 0.00199	0.00225 0.00200	0.00239 0.00198	0.00282 0.00200
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	0.00287 0.00199	0.00225 0.00200	0.00239 0.00198	0.00282 0.00200
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	0.00530 0.00199	0.00225 0.00200	0.00239 0.00198	0.00510 0.00200
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Feb-21-18 17:00	Feb-21-18 17:00	Feb-22-18 12:55	Feb-22-18 12:55	Feb-22-18 12:55	Feb-22-18 12:55
	<i>Analyzed:</i>	Feb-22-18 02:54	Feb-22-18 02:59	Feb-22-18 12:55	Feb-22-18 14:19	Feb-22-18 13:13	Feb-22-18 13:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		50.6 4.99	29.9 4.92	66.2 4.87	42.3 5.04	49.1 4.89	36.3 5.04
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Feb-18-18 14:00	Feb-18-18 14:00	Feb-18-18 14:00	Feb-18-18 14:00	Feb-18-18 14:00	Feb-18-18 14:00
	<i>Analyzed:</i>	Feb-19-18 06:58	Feb-19-18 07:18	Feb-19-18 07:38	Feb-19-18 07:58	Feb-19-18 08:18	Feb-19-18 08:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<74.9 74.9	<74.9 74.9	<74.7 74.7	107 74.8	<74.7 74.7	<74.9 74.9
Diesel Range Organics (DRO)		4180 74.9	4320 74.9	4260 74.7	3680 74.8	3990 74.7	3400 74.9
Oil Range Hydrocarbons (ORO)		697 74.9	699 74.9	705 74.7	593 74.8	663 74.7	562 74.9
Total TPH		4880 74.9	5020 74.9	4970 74.7	4380 74.8	4650 74.7	3960 74.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

*Jessica Kramer*

Jessica Kramer  
Odessa Laboratory Director



# Certificate of Analysis Summary 576503

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal

Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Wed Feb-14-18 06:00 pm

Report Date: 23-FEB-18

Project Manager: Jessica Kramer

<b>Analysis Requested</b>	<b>Lab Id:</b>	576503-007	576503-008				
	<b>Field Id:</b>	SS07	SS08				
	<b>Depth:</b>	6- In	6- In				
	<b>Matrix:</b>	SOIL	SOIL				
	<b>Sampled:</b>	Feb-13-18 17:10	Feb-13-18 17:20				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Feb-16-18 15:30	Feb-16-18 15:30				
	<b>Analyzed:</b>	Feb-17-18 00:59	Feb-17-18 01:17				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Benzene	<0.00201 0.00201	<0.00202 0.00202				
	Toluene	<0.00201 0.00201	<0.00202 0.00202				
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202				
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404				
o-Xylene		<0.00201 0.00201	<0.00202 0.00202				
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202				
Total BTEX		<0.00201 0.00201	<0.00202 0.00202				
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b>	Feb-22-18 12:55	Feb-22-18 12:55				
	<b>Analyzed:</b>	Feb-22-18 13:31	Feb-22-18 13:37				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Chloride	148 4.93	118 4.93				
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	Feb-18-18 14:00	Feb-18-18 14:00				
	<b>Analyzed:</b>	Feb-19-18 08:57	Feb-19-18 09:17				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<74.9 74.9	<74.8 74.8				
	Diesel Range Organics (DRO)	3520 74.9	3600 74.8				
Oil Range Hydrocarbons (ORO)		544 74.9	599 74.8				
Total TPH		4060 74.9	4200 74.8				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer  
Odessa Laboratory Director



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: **SS01**  
 Lab Sample Id: 576503-001

Matrix: Soil  
 Date Collected: 02.13.18 16.10

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3041790

Date Prep: 02.21.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.6	4.99	mg/kg	02.22.18 02.54		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	02.19.18 06.58	U	5
Diesel Range Organics (DRO)	C10C28DRO	4180	74.9	mg/kg	02.19.18 06.58		5
Oil Range Hydrocarbons (ORO)	PHCG2835	697	74.9	mg/kg	02.19.18 06.58		5
Total TPH	PHC635	4880	74.9	mg/kg	02.19.18 06.58		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.19.18 06.58	
o-Terphenyl	84-15-1	96	%	70-135	02.19.18 06.58	



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: **SS01**  
 Lab Sample Id: 576503-001

Matrix: Soil  
 Date Collected: 02.13.18 16.10

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.16.18 23.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.16.18 23.02	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	88	%	80-120	02.16.18 23.02		
4-Bromofluorobenzene	460-00-4	102	%	80-120	02.16.18 23.02		



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: **SS02**  
 Lab Sample Id: 576503-002

Matrix: Soil  
 Date Collected: 02.13.18 16.20

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3041790

Date Prep: 02.21.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.9	4.92	mg/kg	02.22.18 02.59		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	02.19.18 07.18	U	5
Diesel Range Organics (DRO)	C10C28DRO	4320	74.9	mg/kg	02.19.18 07.18		5
Oil Range Hydrocarbons (ORO)	PHCG2835	699	74.9	mg/kg	02.19.18 07.18		5
Total TPH	PHC635	5020	74.9	mg/kg	02.19.18 07.18		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.19.18 07.18	
o-Terphenyl	84-15-1	90	%	70-135	02.19.18 07.18	



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: SS02

Matrix: Soil

Date Received: 02.14.18 18.00

Lab Sample Id: 576503-002

Date Collected: 02.13.18 16.20

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.16.18 23.21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.16.18 23.21	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	111	%	80-120	02.16.18 23.21		
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.16.18 23.21		



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: **SS03**  
 Lab Sample Id: 576503-003

Matrix: Soil  
 Date Collected: 02.13.18 16.30

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.2	4.87	mg/kg	02.22.18 12.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.7	74.7	mg/kg	02.19.18 07.38	U	5
Diesel Range Organics (DRO)	C10C28DRO	4260	74.7	mg/kg	02.19.18 07.38		5
Oil Range Hydrocarbons (ORO)	PHCG2835	705	74.7	mg/kg	02.19.18 07.38		5
Total TPH	PHC635	4970	74.7	mg/kg	02.19.18 07.38		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.19.18 07.38	
o-Terphenyl	84-15-1	97	%	70-135	02.19.18 07.38	





## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal

Sample Id: SS03

Matrix: Soil

Date Received: 02.14.18 18.00

Lab Sample Id: 576503-003

Date Collected: 02.13.18 16.30

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.16.18 23.40	U	1
<b>Toluene</b>	108-88-3	<b>0.00243</b>	0.00199	mg/kg	02.16.18 23.40		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.16.18 23.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.16.18 23.40	U	1
<b>o-Xylene</b>	95-47-6	<b>0.00287</b>	0.00199	mg/kg	02.16.18 23.40		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00287</b>	0.00199	mg/kg	02.16.18 23.40		1
<b>Total BTEX</b>		<b>0.00530</b>	0.00199	mg/kg	02.16.18 23.40		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	115	%	80-120	02.16.18 23.40		
1,4-Difluorobenzene	540-36-3	93	%	80-120	02.16.18 23.40		



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

## PLU Big Sinks 11 Federal

Sample Id: **SS04**  
 Lab Sample Id: 576503-004

Matrix: Soil  
 Date Collected: 02.13.18 16.40

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.3	5.04	mg/kg	02.22.18 14.19		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	107	74.8	mg/kg	02.19.18 07.58		5
Diesel Range Organics (DRO)	C10C28DRO	3680	74.8	mg/kg	02.19.18 07.58		5
Oil Range Hydrocarbons (ORO)	PHCG2835	593	74.8	mg/kg	02.19.18 07.58		5
Total TPH	PHC635	4380	74.8	mg/kg	02.19.18 07.58		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	92	%	70-135	02.19.18 07.58		
o-Terphenyl	84-15-1	95	%	70-135	02.19.18 07.58		



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal

Sample Id: **SS04**  
 Lab Sample Id: 576503-004

Matrix: Soil  
 Date Collected: 02.13.18 16.40

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.16.18 23.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.16.18 23.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.16.18 23.59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.16.18 23.59	U	1
<b>o-Xylene</b>	95-47-6	<b>0.00225</b>	0.00200	mg/kg	02.16.18 23.59		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00225</b>	0.00200	mg/kg	02.16.18 23.59		1
<b>Total BTEX</b>		<b>0.00225</b>	0.00200	mg/kg	02.16.18 23.59		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	88	%	80-120	02.16.18 23.59		
4-Bromofluorobenzene	460-00-4	100	%	80-120	02.16.18 23.59		



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS05**  
Lab Sample Id: 576503-005

Matrix: Soil  
Date Collected: 02.13.18 16.50

Date Received: 02.14.18 18.00  
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	49.1	4.89	mg/kg	02.22.18 13.13		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.7	74.7	mg/kg	02.19.18 08.18	U	5
Diesel Range Organics (DRO)	C10C28DRO	3990	74.7	mg/kg	02.19.18 08.18		5
Oil Range Hydrocarbons (ORO)	PHCG2835	663	74.7	mg/kg	02.19.18 08.18		5
Total TPH	PHC635	4650	74.7	mg/kg	02.19.18 08.18		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	02.19.18 08.18		
o-Terphenyl	84-15-1	100	%	70-135	02.19.18 08.18		



## Certificate of Analytical Results 576503

## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal

Sample Id: SS05

Matrix: Soil

Date Received: 02.14.18 18.00

Lab Sample Id: 576503-005

Date Collected: 02.13.18 16.50

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.17.18 00.18	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.17.18 00.18	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.17.18 00.18	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.17.18 00.18	U	1
o-Xylene	95-47-6	0.00239	0.00198	mg/kg	02.17.18 00.18		1
Total Xylenes	1330-20-7	0.00239	0.00198	mg/kg	02.17.18 00.18		1
Total BTEX		0.00239	0.00198	mg/kg	02.17.18 00.18		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88		%	80-120	02.17.18 00.18	
4-Bromofluorobenzene	460-00-4	101		%	80-120	02.17.18 00.18	



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS06**  
Lab Sample Id: 576503-006

Matrix: Soil  
Date Collected: 02.13.18 17.00

Date Received: 02.14.18 18.00  
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.3	5.04	mg/kg	02.22.18 13.19		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	02.19.18 08.38	U	5
Diesel Range Organics (DRO)	C10C28DRO	3400	74.9	mg/kg	02.19.18 08.38		5
Oil Range Hydrocarbons (ORO)	PHCG2835	562	74.9	mg/kg	02.19.18 08.38		5
Total TPH	PHC635	3960	74.9	mg/kg	02.19.18 08.38		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.19.18 08.38	
o-Terphenyl	84-15-1	89	%	70-135	02.19.18 08.38	



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal

Sample Id: **SS06**  
Lab Sample Id: 576503-006

Matrix: Soil  
Date Collected: 02.13.18 17.00

Date Received: 02.14.18 18.00  
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.17.18 00.36	U	1
<b>Toluene</b>	108-88-3	<b>0.00228</b>	0.00200	mg/kg	02.17.18 00.36		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.17.18 00.36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.17.18 00.36	U	1
<b>o-Xylene</b>	95-47-6	<b>0.00282</b>	0.00200	mg/kg	02.17.18 00.36		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00282</b>	0.00200	mg/kg	02.17.18 00.36		1
<b>Total BTEX</b>		<b>0.00510</b>	0.00200	mg/kg	02.17.18 00.36		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.17.18 00.36		
4-Bromofluorobenzene	460-00-4	107	%	80-120	02.17.18 00.36		





# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS07**  
Lab Sample Id: 576503-007

Matrix: Soil  
Date Collected: 02.13.18 17.10

Date Received: 02.14.18 18.00  
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	148	4.93	mg/kg	02.22.18 13.31		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	02.19.18 08.57	U	5
Diesel Range Organics (DRO)	C10C28DRO	3520	74.9	mg/kg	02.19.18 08.57		5
Oil Range Hydrocarbons (ORO)	PHCG2835	544	74.9	mg/kg	02.19.18 08.57		5
Total TPH	PHC635	4060	74.9	mg/kg	02.19.18 08.57		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	02.19.18 08.57	
o-Terphenyl	84-15-1	92	%	70-135	02.19.18 08.57	



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS07**  
 Lab Sample Id: 576503-007

Matrix: Soil  
 Date Collected: 02.13.18 17.10

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.17.18 00.59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.17.18 00.59	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	80-120	02.17.18 00.59		
1,4-Difluorobenzene	540-36-3	96	%	80-120	02.17.18 00.59		



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS08**  
Lab Sample Id: 576503-008

Matrix: Soil  
Date Collected: 02.13.18 17.20

Date Received: 02.14.18 18.00  
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: OJS

Seq Number: 3041865

Date Prep: 02.22.18 12.55

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	118	4.93	mg/kg	02.22.18 13.37		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3041598

Date Prep: 02.18.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.8	74.8	mg/kg	02.19.18 09.17	U	5
Diesel Range Organics (DRO)	C10C28DRO	3600	74.8	mg/kg	02.19.18 09.17		5
Oil Range Hydrocarbons (ORO)	PHCG2835	599	74.8	mg/kg	02.19.18 09.17		5
Total TPH	PHC635	4200	74.8	mg/kg	02.19.18 09.17		5
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1-Chlorooctane	111-85-3	95	%	70-135	02.19.18 09.17		
o-Terphenyl	84-15-1	95	%	70-135	02.19.18 09.17		



# Certificate of Analytical Results 576503



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal

Sample Id: **SS08**  
 Lab Sample Id: 576503-008

Matrix: Soil  
 Date Collected: 02.13.18 17.20

Date Received: 02.14.18 18.00  
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.16.18 15.30

Basis: Wet Weight

Seq Number: 3041453

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.17.18 01.17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.17.18 01.17	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	80-120	02.17.18 01.17		
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.17.18 01.17		



## Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



**LT Environmental, Inc.**  
PLU Big Sinks 11 Federal

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041790

MB Sample Id: 7639564-1-BLK

Matrix: Solid

LCS Sample Id: 7639564-1-BKS

Prep Method: E300P

Date Prep: 02.21.18

LCSD Sample Id: 7639564-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	273	109	90-110	0	20	mg/kg	02.22.18 00:25	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041865

MB Sample Id: 7639620-1-BLK

Matrix: Solid

LCS Sample Id: 7639620-1-BKS

Prep Method: E300P

Date Prep: 02.22.18

LCSD Sample Id: 7639620-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	268	107	258	103	90-110	4	20	mg/kg	02.22.18 12:44	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041790

Parent Sample Id: 576500-005

Matrix: Soil

MS Sample Id: 576500-005 S

Prep Method: E300P

Date Prep: 02.21.18

MSD Sample Id: 576500-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	126	245	369	99	390	108	90-110	6	20	mg/kg	02.22.18 00:41	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041790

Parent Sample Id: 576501-003

Matrix: Soil

MS Sample Id: 576501-003 S

Prep Method: E300P

Date Prep: 02.21.18

MSD Sample Id: 576501-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	277	111	274	110	90-110	1	20	mg/kg	02.22.18 01:55	X

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041865

Parent Sample Id: 576503-003

Matrix: Soil

MS Sample Id: 576503-003 S

Prep Method: E300P

Date Prep: 02.22.18

MSD Sample Id: 576503-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	66.2	244	353	118	321	104	90-110	9	20	mg/kg	02.22.18 13:01	X

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU Big Sinks 11 Federal

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3041865

Parent Sample Id: 576503-004

Matrix: Soil

MS Sample Id: 576503-004 S

Prep Method: E300P

Date Prep: 02.22.18

MSD Sample Id: 576503-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	42.3	252	345	120	330	114	90-110	4	20	mg/kg	02.22.18 14:25	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3041598

MB Sample Id: 7639461-1-BLK

Matrix: Solid

LCS Sample Id: 7639461-1-BKS

Prep Method: TX1005P

Date Prep: 02.18.18

LCSD Sample Id: 7639461-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1020	102	1010	101	70-135	1	35	mg/kg	02.19.18 00:05	
Diesel Range Organics (DRO)	<15.0	1000	893	89	866	87	70-135	3	35	mg/kg	02.19.18 00:05	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		101		103		70-135	%	02.19.18 00:05
o-Terphenyl	105		103		99		70-135	%	02.19.18 00:05

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3041598

Parent Sample Id: 576507-002

Matrix: Soil

MS Sample Id: 576507-002 S

Prep Method: TX1005P

Date Prep: 02.18.18

MSD Sample Id: 576507-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	1070	107	1130	113	70-135	5	35	mg/kg	02.19.18 01:27	
Diesel Range Organics (DRO)	<15.0	997	975	98	1080	108	70-135	10	35	mg/kg	02.19.18 01:27	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		118		70-135	%	02.19.18 01:27
o-Terphenyl	114		117		70-135	%	02.19.18 01:27

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





## LT Environmental, Inc.

PLU Big Sinks 11 Federal

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3041453

MB Sample Id: 7639384-1-BLK

Matrix: Solid

LCS Sample Id: 7639384-1-BKS

Prep Method: SW5030B

Date Prep: 02.16.18

LCSD Sample Id: 7639384-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.103	102	0.0823	82	70-130	22	35	mg/kg	02.16.18 16:13	
Toluene	<0.00202	0.101	0.0956	95	0.0854	85	70-130	11	35	mg/kg	02.16.18 16:13	
Ethylbenzene	<0.00202	0.101	0.0993	98	0.0887	89	71-129	11	35	mg/kg	02.16.18 16:13	
m,p-Xylenes	<0.00403	0.202	0.194	96	0.173	86	70-135	11	35	mg/kg	02.16.18 16:13	
o-Xylene	<0.00202	0.101	0.0972	96	0.0873	87	71-133	11	35	mg/kg	02.16.18 16:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	81		92		97		80-120	%	02.16.18 16:13
4-Bromofluorobenzene	115		111		115		80-120	%	02.16.18 16:13

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3041453

Parent Sample Id: 576500-001

Matrix: Soil

MS Sample Id: 576500-001 S

Prep Method: SW5030B

Date Prep: 02.16.18

MSD Sample Id: 576500-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0844	85	0.0807	81	70-130	4	35	mg/kg	02.16.18 17:03	
Toluene	<0.00199	0.0996	0.0913	92	0.0851	85	70-130	7	35	mg/kg	02.16.18 17:03	
Ethylbenzene	<0.00199	0.0996	0.0955	96	0.0882	88	71-129	8	35	mg/kg	02.16.18 17:03	
m,p-Xylenes	<0.00398	0.199	0.187	94	0.172	86	70-135	8	35	mg/kg	02.16.18 17:03	
o-Xylene	<0.00199	0.0996	0.0946	95	0.0865	87	71-133	9	35	mg/kg	02.16.18 17:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		100		80-120	%	02.16.18 17:03
4-Bromofluorobenzene	111		119		80-120	%	02.16.18 17:03

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



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 Dallas Texas (214-902-0300)

# CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)  
 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote # Xenco Job # 576503

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes			
Company Name / Branch: LTE / Permian		Project Name/Number: PLU Big Sinks 11 Federal														W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe O = Oil WW = Waste Water A = Air			
Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705		Project Location: NM																	
Email: Abaker@ltenv.com		Phone No: 432-704-5178																	
Project Contact: Adrian Baker		Invoice To: XTO Energy - Kyle Littrell																	
Samplers Name: <del>XXXXXXXXXX</del>		PO Number: 30-015-37147																	
No.	Field ID / Point of Collection	Collection			Number of preserved bottles												Field Comments		
		Sample Depth	Date	Time	Matrix	# of bottles	HC	NaOH/Zn Acetate	HYD	H2SO4	NaOH	NaHSCA	MECH	NONE	Blex EPA Method 8021	TPH EPA Method 8015			Chloride EPA Method 300.1
1	SS01	6"	2-13-18	16:10	S	1									X	X	X		
2	SS02			16:20															
3	SS03			16:30															
4	SS04			16:40															
5	SS05			16:50															
6	SS06			17:00															
7	SS07			17:10															
8	SS08			17:20															
9																			
10																			
Turnaround Time (Business days)		Data Deliverable Information																	
<input type="checkbox"/> Same Day TAT <input type="checkbox"/> Next Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 3 Day EMERGENCY		<input type="checkbox"/> 5 Day TAT <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> Contract TAT <input checked="" type="checkbox"/> STANDARD TAT		<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> TRRP Checklist		<input type="checkbox"/> Level IV (Full Data Pkg /raw data) <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> UST / RG -411		Notes: Sampler: Danny Burns API: 30-015-37147 2RP-3887											
TAT Starts Day received by Lab, if received by 5:00 pm		FED-EX / UPS: Tracking #																	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																			
Relinquished by:		Date Time: 2-14-18		Received By:		Date Time: 2-14-18 18:00		Relinquished By:		Date Time: 2-14-18 18:00		Received By:							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:							

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Client: LT Environmental, Inc.

Date/ Time Received: 02/14/2018 06:00:00 PM

Work Order #: 576503

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Connie Hernandez

Date: 02/15/2018

Checklist reviewed by:

Jessica Kramer

Date: 02/15/2018

# Analytical Report 619853

for  
**LT Environmental, Inc.**

**Project Manager: Adrian Baker**  
**PLU Big Sinks 11 Federal Battery**

**012918036**

**08-APR-19**

Collected By: Client



**1211 W. Florida Ave**  
**Midland TX 79701**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)  
Xenco-Atlanta (LELAP Lab ID #04176)  
Xenco-Tampa: Florida (E87429), North Carolina (483)  
Xenco-Lakeland: Florida (E84098)



08-APR-19

Project Manager: **Adrian Baker**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **619853**

**PLU Big Sinks 11 Federal Battery**

Project Address: ---

**Adrian Baker:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 619853. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 619853 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Kalei Stout'.

**Kalei Stout**

Midland Laboratory Director

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

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## Sample Cross Reference 619853

## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	03-29-19 15:00	0 - 4 ft	619853-001
SW02	S	03-29-19 15:10	0 - 4 ft	619853-002
SW03	S	03-29-19 15:20	0 - 4 ft	619853-003
SW04	S	03-29-19 15:30	0 - 3 ft	619853-004
SW05	S	03-29-19 15:40	0 - 3 ft	619853-005
SW06	S	03-29-19 15:45	0 - 4 ft	619853-006
SW07	S	03-29-19 15:55	0 - 4 ft	619853-007
FS01	S	03-29-19 16:00	3 ft	619853-008
FS02	S	03-29-19 16:10	4 ft	619853-009
FS03	S	03-29-19 16:15	4 ft	619853-010
FS04	S	03-29-19 16:20	4 ft	619853-011
FS05	S	03-29-19 16:30	5 ft	619853-012
FS06	S	03-29-19 16:35	5 ft	619853-013
FS07	S	03-29-19 16:40	5 ft	619853-014
FS08	S	03-29-19 16:45	5 ft	619853-015
FS09	S	03-29-19 16:50	3 ft	619853-016
FS10	S	03-29-19 16:55	3 ft	619853-017
FS11	S	03-29-19 17:00	1 ft	619853-018
FS12	S	03-29-19 17:10	1 ft	619853-019
FS13	S	03-29-19 17:20	1 ft	619853-020



**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU Big Sinks 11 Federal Battery**Project ID: 012918036  
Work Order Number(s): 619853Report Date: 08-APR-19  
Date Received: 04/03/2019**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3084841 BTEX by EPA 8021B

Lab Sample ID 619853-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Toluene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 619853-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 619853-004,619853-019,619853-017,619853-008.





# Certificate of Analysis Summary 619853

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal Battery



**Project Id:** 012918036  
**Contact:** Adrian Baker  
**Project Location:** ---

**Date Received in Lab:** Wed Apr-03-19 11:25 am  
**Report Date:** 08-APR-19  
**Project Manager:** Kalei Stout

<i>Analysis Requested</i>	<i>Lab Id:</i>	619853-001	619853-002	619853-003	619853-004	619853-005	619853-006
	<i>Field Id:</i>	SW01	SW02	SW03	SW04	SW05	SW06
	<i>Depth:</i>	0-4 ft	0-4 ft	0-4 ft	0-3 ft	0-3 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-29-19 15:00	Mar-29-19 15:10	Mar-29-19 15:20	Mar-29-19 15:30	Mar-29-19 15:40	Mar-29-19 15:45
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00
	<i>Analyzed:</i>	Apr-05-19 18:16	Apr-05-19 18:35	Apr-05-19 18:55	Apr-05-19 19:14	Apr-05-19 19:33	Apr-05-19 19:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Toluene		0.00266 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	0.00286 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		0.00566 0.00398	<0.00402 0.00402	0.00528 0.00398	<0.00403 0.00403	0.0230 0.00399	<0.00399 0.00399
o-Xylene		0.00258 0.00199	<0.00201 0.00201	0.00270 0.00199	<0.00202 0.00202	0.0138 0.00200	<0.00200 0.00200
Total Xylenes		0.00824 0.00199	<0.00201 0.00201	0.00798 0.00199	<0.00202 0.00202	0.0368 0.00200	<0.00200 0.00200
Total BTEX		0.0109 0.00199	<0.00201 0.00201	0.00798 0.00199	<0.00202 0.00202	0.0397 0.00200	<0.00200 0.00200
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 16:30
	<i>Analyzed:</i>	Apr-03-19 23:19	Apr-03-19 23:29	Apr-03-19 23:58	Apr-04-19 00:08	Apr-04-19 10:27	Apr-04-19 10:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		64.5 24.8	70.2 49.5	9.58 5.03	44.9 24.8	5.19 4.95	13.6 4.95
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00
	<i>Analyzed:</i>	Apr-04-19 21:10	Apr-04-19 22:09	Apr-04-19 22:29	Apr-04-19 22:49	Apr-04-19 23:09	Apr-04-19 23:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		20.0 15.0	<14.9 14.9	19.9 15.0	<15.0 15.0	66.5 15.0	<15.0 15.0
Diesel Range Organics (DRO)		792 15.0	404 14.9	629 15.0	56.6 15.0	838 15.0	221 15.0
Motor Oil Range Hydrocarbons (MRO)		128 15.0	79.2 14.9	92.8 15.0	<15.0 15.0	123 15.0	28.4 15.0
Total TPH		940 15.0	483 14.9	742 15.0	56.6 15.0	1030 15.0	249 15.0
Total GRO-DRO		812 15.0	404 14.9	649 15.0	56.6 15.0	905 15.0	221 15.0

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Kalei Stout  
Midland Laboratory Director



# Certificate of Analysis Summary 619853

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal Battery



**Project Id:** 012918036  
**Contact:** Adrian Baker  
**Project Location:** ---

**Date Received in Lab:** Wed Apr-03-19 11:25 am  
**Report Date:** 08-APR-19  
**Project Manager:** Kalei Stout

<i>Analysis Requested</i>	<i>Lab Id:</i>	619853-007	619853-008	619853-009	619853-010	619853-011	619853-012
	<i>Field Id:</i>	SW07	FS01	FS02	FS03	FS04	FS05
	<i>Depth:</i>	0-4 ft	3- ft	4- ft	4- ft	4- ft	5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-29-19 15:55	Mar-29-19 16:00	Mar-29-19 16:10	Mar-29-19 16:15	Mar-29-19 16:20	Mar-29-19 16:30
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00
	<i>Analyzed:</i>	Apr-05-19 20:12	Apr-05-19 20:31	Apr-05-19 20:50	Apr-05-19 21:09	Apr-05-19 22:24	Apr-05-19 22:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
Toluene		0.0108 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
Ethylbenzene		0.00865 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
m,p-Xylenes		0.0808 0.00402	0.0112 0.00401	<0.00398 0.00398	<0.00398 0.00398	<0.00404 0.00404	<0.00397 0.00397
o-Xylene		0.0378 0.00201	0.00497 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
Total Xylenes		0.119 0.00201	0.0162 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
Total BTEX		0.138 0.00201	0.0162 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00202 0.00202	<0.00198 0.00198
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 16:30	Apr-03-19 17:00	Apr-03-19 17:00	Apr-03-19 17:00
	<i>Analyzed:</i>	Apr-04-19 10:47	Apr-04-19 10:57	Apr-04-19 11:06	Apr-04-19 11:36	Apr-04-19 02:35	Apr-04-19 02:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		23.8 4.99	16.8 5.00	25.6 4.97	33.0 4.95	70.9 24.9	7.51 4.99
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00
	<i>Analyzed:</i>	Apr-05-19 06:27	Apr-05-19 00:08	Apr-05-19 00:27	Apr-05-19 00:47	Apr-05-19 01:45	Apr-05-19 02:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		127 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		1820 14.9	289 15.0	210 15.0	425 14.9	375 15.0	26.8 15.0
Motor Oil Range Hydrocarbons (MRO)		259 14.9	57.5 15.0	35.1 15.0	67.4 14.9	58.9 15.0	<15.0 15.0
Total TPH		2210 14.9	347 15.0	245 15.0	492 14.9	434 15.0	26.8 15.0
Total GRO-DRO		1950 14.9	289 15.0	210 15.0	425 14.9	375 15.0	26.8 15.0

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Kalei Stout  
Midland Laboratory Director



# Certificate of Analysis Summary 619853

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal Battery



**Project Id:** 012918036  
**Contact:** Adrian Baker  
**Project Location:** ---

**Date Received in Lab:** Wed Apr-03-19 11:25 am  
**Report Date:** 08-APR-19  
**Project Manager:** Kalei Stout

<i>Analysis Requested</i>	<i>Lab Id:</i>	619853-013	619853-014	619853-015	619853-016	619853-017	619853-018
	<i>Field Id:</i>	FS06	FS07	FS08	FS09	FS10	FS11
	<i>Depth:</i>	5- ft	5- ft	5- ft	3- ft	3- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-29-19 16:35	Mar-29-19 16:40	Mar-29-19 16:45	Mar-29-19 16:50	Mar-29-19 16:55	Mar-29-19 17:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00	Apr-05-19 15:00
	<i>Analyzed:</i>	Apr-05-19 23:03	Apr-05-19 23:22	Apr-05-19 23:41	Apr-06-19 00:00	Apr-06-19 00:19	Apr-06-19 00:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.00816 0.00202	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.0711 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00402 0.00402	<0.00398 0.00398	0.314 0.00403	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.205 0.00202	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.519 0.00202	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.598 0.00202	<0.00199 0.00199
<b>Inorganic Anions by EPA 300</b>	<i>Extracted:</i>	Apr-03-19 17:00	Apr-03-19 17:00	Apr-03-19 17:00	Apr-03-19 17:00	Apr-03-19 17:00	Apr-03-19 17:00
	<i>Analyzed:</i>	Apr-04-19 11:46	Apr-04-19 11:55	Apr-04-19 12:05	Apr-04-19 12:15	Apr-04-19 12:25	Apr-04-19 12:35
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		6.85 5.04	7.07 4.96	5.42 5.01	14.0 4.98	7.95 4.97	21.8 4.99
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00	Apr-04-19 14:00
	<i>Analyzed:</i>	Apr-05-19 02:24	Apr-05-19 02:44	Apr-05-19 03:03	Apr-05-19 03:23	Apr-05-19 03:42	Apr-05-19 04:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	410 15.0	<14.9 14.9
Diesel Range Organics (DRO)		37.5 15.0	27.3 15.0	28.2 15.0	155 15.0	1620 15.0	34.6 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	19.2 15.0	165 15.0	<14.9 14.9
Total TPH		37.5 15.0	27.3 15.0	28.2 15.0	174 15.0	2200 15.0	34.6 14.9
Total GRO-DRO		37.5 15.0	27.3 15.0	28.2 15.0	155 15.0	2030 15.0	34.6 14.9

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Kalei Stout  
Midland Laboratory Director



# Certificate of Analysis Summary 619853

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 11 Federal Battery



**Project Id:** 012918036  
**Contact:** Adrian Baker  
**Project Location:** ---

**Date Received in Lab:** Wed Apr-03-19 11:25 am  
**Report Date:** 08-APR-19  
**Project Manager:** Kalei Stout

<b>Analysis Requested</b>	<b>Lab Id:</b>	619853-019	619853-020				
	<b>Field Id:</b>	FS12	FS13				
	<b>Depth:</b>	1- ft	1- ft				
	<b>Matrix:</b>	SOIL	SOIL				
	<b>Sampled:</b>	Mar-29-19 17:10	Mar-29-19 17:20				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Apr-05-19 15:00	Apr-05-19 15:00				
	<b>Analyzed:</b>	Apr-06-19 00:58	Apr-06-19 01:17				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00201 0.00201				
	Toluene	<0.00200 0.00200	<0.00201 0.00201				
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201				
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402				
o-Xylene		<0.00200 0.00200	<0.00201 0.00201				
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201				
Total BTEX		<0.00200 0.00200	<0.00201 0.00201				
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b>	Apr-03-19 17:00	Apr-03-19 17:00				
	<b>Analyzed:</b>	Apr-04-19 04:42	Apr-04-19 04:52				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Chloride	30.5 25.0	27.3 24.9				
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	Apr-04-19 14:00	Apr-04-19 14:00				
	<b>Analyzed:</b>	Apr-05-19 04:21	Apr-05-19 04:40				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	60.2 15.0	69.3 15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0				
Total TPH		60.2 15.0	69.3 15.0				
Total GRO-DRO		60.2 15.0	69.3 15.0				

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Kalei Stout  
Midland Laboratory Director



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW01**  
Lab Sample Id: 619853-001

Matrix: Soil  
Date Collected: 03.29.19 15.00

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.5	24.8	mg/kg	04.03.19 23.19		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	20.0	15.0	mg/kg	04.04.19 21.10		1
Diesel Range Organics (DRO)	C10C28DRO	792	15.0	mg/kg	04.04.19 21.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	128	15.0	mg/kg	04.04.19 21.10		1
Total TPH	PHC635	940	15.0	mg/kg	04.04.19 21.10		1
Total GRO-DRO	PHC628	812	15.0	mg/kg	04.04.19 21.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.04.19 21.10	
o-Terphenyl	84-15-1	107	%	70-135	04.04.19 21.10	



## Certificate of Analytical Results 619853

## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **SW01**  
 Lab Sample Id: 619853-001

Matrix: Soil  
 Date Collected: 03.29.19 15.00

Date Received: 04.03.19 11.25  
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.05.19 18.16	U	1
<b>Toluene</b>	108-88-3	<b>0.00266</b>	0.00199	mg/kg	04.05.19 18.16		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.05.19 18.16	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00566</b>	0.00398	mg/kg	04.05.19 18.16		1
<b>o-Xylene</b>	95-47-6	<b>0.00258</b>	0.00199	mg/kg	04.05.19 18.16		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00824</b>	0.00199	mg/kg	04.05.19 18.16		1
<b>Total BTEX</b>		<b>0.0109</b>	0.00199	mg/kg	04.05.19 18.16		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	115	%	70-130	04.05.19 18.16		
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.05.19 18.16		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW02**  
Lab Sample Id: 619853-002

Matrix: Soil  
Date Collected: 03.29.19 15.10

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.2	49.5	mg/kg	04.03.19 23.29		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.04.19 22.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	404	14.9	mg/kg	04.04.19 22.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	79.2	14.9	mg/kg	04.04.19 22.09		1
Total TPH	PHC635	483	14.9	mg/kg	04.04.19 22.09		1
Total GRO-DRO	PHC628	404	14.9	mg/kg	04.04.19 22.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.04.19 22.09	
o-Terphenyl	84-15-1	100	%	70-135	04.04.19 22.09	





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW02**  
 Lab Sample Id: 619853-002

Matrix: Soil  
 Date Collected: 03.29.19 15.10

Date Received: 04.03.19 11.25  
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.19 18.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.19 18.35	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	105	%	70-130	04.05.19 18.35		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 18.35		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW03**  
Lab Sample Id: 619853-003

Matrix: Soil  
Date Collected: 03.29.19 15.20

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.58	5.03	mg/kg	04.03.19 23.58		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	19.9	15.0	mg/kg	04.04.19 22.29		1
Diesel Range Organics (DRO)	C10C28DRO	629	15.0	mg/kg	04.04.19 22.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	92.8	15.0	mg/kg	04.04.19 22.29		1
Total TPH	PHC635	742	15.0	mg/kg	04.04.19 22.29		1
Total GRO-DRO	PHC628	649	15.0	mg/kg	04.04.19 22.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	04.04.19 22.29	
o-Terphenyl	84-15-1	113	%	70-135	04.04.19 22.29	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **SW03**  
Lab Sample Id: 619853-003

Matrix: Soil  
Date Collected: 03.29.19 15.20

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3084841

Date Prep: 04.05.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.05.19 18.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.05.19 18.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.05.19 18.55	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.00528</b>	0.00398	mg/kg	04.05.19 18.55		1
<b>o-Xylene</b>	95-47-6	<b>0.00270</b>	0.00199	mg/kg	04.05.19 18.55		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00798</b>	0.00199	mg/kg	04.05.19 18.55		1
<b>Total BTEX</b>		<b>0.00798</b>	0.00199	mg/kg	04.05.19 18.55		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.19 18.55		
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.05.19 18.55		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW04**  
Lab Sample Id: 619853-004

Matrix: Soil  
Date Collected: 03.29.19 15.30

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.9	24.8	mg/kg	04.04.19 00.08		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.04.19 22.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	56.6	15.0	mg/kg	04.04.19 22.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.04.19 22.49	U	1
Total TPH	PHC635	56.6	15.0	mg/kg	04.04.19 22.49		1
Total GRO-DRO	PHC628	56.6	15.0	mg/kg	04.04.19 22.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.04.19 22.49	
o-Terphenyl	84-15-1	92	%	70-135	04.04.19 22.49	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **SW04**  
Lab Sample Id: 619853-004

Matrix: Soil  
Date Collected: 03.29.19 15.30

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.05.19 19.14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.19 19.14	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	137	%	70-130	04.05.19 19.14	**	
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.05.19 19.14		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW05**  
Lab Sample Id: 619853-005

Matrix: Soil  
Date Collected: 03.29.19 15.40

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.19	4.95	mg/kg	04.04.19 10.27		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	66.5	15.0	mg/kg	04.04.19 23.09		1
Diesel Range Organics (DRO)	C10C28DRO	838	15.0	mg/kg	04.04.19 23.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	123	15.0	mg/kg	04.04.19 23.09		1
Total TPH	PHC635	1030	15.0	mg/kg	04.04.19 23.09		1
Total GRO-DRO	PHC628	905	15.0	mg/kg	04.04.19 23.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.04.19 23.09	
o-Terphenyl	84-15-1	106	%	70-135	04.04.19 23.09	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW05**  
 Lab Sample Id: 619853-005

Matrix: Soil  
 Date Collected: 03.29.19 15.40

Date Received: 04.03.19 11.25  
 Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.19 19.33	U	1
<b>Toluene</b>	108-88-3	<b>0.00286</b>	0.00200	mg/kg	04.05.19 19.33		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.19 19.33	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.0230</b>	0.00399	mg/kg	04.05.19 19.33		1
<b>o-Xylene</b>	95-47-6	<b>0.0138</b>	0.00200	mg/kg	04.05.19 19.33		1
<b>Total Xylenes</b>	1330-20-7	<b>0.0368</b>	0.00200	mg/kg	04.05.19 19.33		1
<b>Total BTEX</b>		<b>0.0397</b>	0.00200	mg/kg	04.05.19 19.33		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	117	%	70-130	04.05.19 19.33		
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.05.19 19.33		





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW06**  
Lab Sample Id: 619853-006

Matrix: Soil  
Date Collected: 03.29.19 15.45

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.6	4.95	mg/kg	04.04.19 10.37		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.04.19 23.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	221	15.0	mg/kg	04.04.19 23.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	28.4	15.0	mg/kg	04.04.19 23.28		1
Total TPH	PHC635	249	15.0	mg/kg	04.04.19 23.28		1
Total GRO-DRO	PHC628	221	15.0	mg/kg	04.04.19 23.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.04.19 23.28	
o-Terphenyl	84-15-1	97	%	70-135	04.04.19 23.28	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW06**  
Lab Sample Id: 619853-006

Matrix: Soil  
Date Collected: 03.29.19 15.45

Date Received: 04.03.19 11.25  
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3084841

Date Prep: 04.05.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.05.19 19.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.05.19 19.52	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.05.19 19.52		
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.05.19 19.52		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **SW07**  
 Lab Sample Id: 619853-007

Matrix: Soil  
 Date Collected: 03.29.19 15.55

Date Received: 04.03.19 11.25  
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.8	4.99	mg/kg	04.04.19 10.47		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	127	14.9	mg/kg	04.05.19 06.27		1
Diesel Range Organics (DRO)	C10C28DRO	1820	14.9	mg/kg	04.05.19 06.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	259	14.9	mg/kg	04.05.19 06.27		1
Total TPH	PHC635	2210	14.9	mg/kg	04.05.19 06.27		1
Total GRO-DRO	PHC628	1950	14.9	mg/kg	04.05.19 06.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.05.19 06.27	
o-Terphenyl	84-15-1	125	%	70-135	04.05.19 06.27	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **SW07**

Matrix: Soil

Date Received: 04.03.19 11.25

Lab Sample Id: 619853-007

Date Collected: 03.29.19 15.55

Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.19 20.12	U	1
<b>Toluene</b>	108-88-3	<b>0.0108</b>	0.00201	mg/kg	04.05.19 20.12		1
<b>Ethylbenzene</b>	100-41-4	<b>0.00865</b>	0.00201	mg/kg	04.05.19 20.12		1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.0808</b>	0.00402	mg/kg	04.05.19 20.12		1
<b>o-Xylene</b>	95-47-6	<b>0.0378</b>	0.00201	mg/kg	04.05.19 20.12		1
<b>Total Xylenes</b>	1330-20-7	<b>0.119</b>	0.00201	mg/kg	04.05.19 20.12		1
<b>Total BTEX</b>		<b>0.138</b>	0.00201	mg/kg	04.05.19 20.12		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.05.19 20.12		
4-Bromofluorobenzene	460-00-4	120	%	70-130	04.05.19 20.12		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS01**  
Lab Sample Id: 619853-008

Matrix: Soil  
Date Collected: 03.29.19 16.00

Date Received: 04.03.19 11.25  
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.8	5.00	mg/kg	04.04.19 10.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 00.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	289	15.0	mg/kg	04.05.19 00.08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	57.5	15.0	mg/kg	04.05.19 00.08		1
Total TPH	PHC635	347	15.0	mg/kg	04.05.19 00.08		1
Total GRO-DRO	PHC628	289	15.0	mg/kg	04.05.19 00.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 00.08	
o-Terphenyl	84-15-1	95	%	70-135	04.05.19 00.08	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **FS01**  
Lab Sample Id: 619853-008

Matrix: Soil  
Date Collected: 03.29.19 16.00

Date Received: 04.03.19 11.25  
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.05.19 20.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.05.19 20.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.05.19 20.31	U	1
<b>m,p-Xylenes</b>	179601-23-1	<b>0.0112</b>	0.00401	mg/kg	04.05.19 20.31		1
<b>o-Xylene</b>	95-47-6	<b>0.00497</b>	0.00200	mg/kg	04.05.19 20.31		1
<b>Total Xylenes</b>	1330-20-7	<b>0.0162</b>	0.00200	mg/kg	04.05.19 20.31		1
<b>Total BTEX</b>		<b>0.0162</b>	0.00200	mg/kg	04.05.19 20.31		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	132	%	70-130	04.05.19 20.31	**	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.05.19 20.31		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS02**  
Lab Sample Id: 619853-009

Matrix: Soil  
Date Collected: 03.29.19 16.10

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084528

Date Prep: 04.03.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.6	4.97	mg/kg	04.04.19 11.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 00.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	210	15.0	mg/kg	04.05.19 00.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	35.1	15.0	mg/kg	04.05.19 00.27		1
Total TPH	PHC635	245	15.0	mg/kg	04.05.19 00.27		1
Total GRO-DRO	PHC628	210	15.0	mg/kg	04.05.19 00.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 00.27	
o-Terphenyl	84-15-1	96	%	70-135	04.05.19 00.27	





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS02**  
Lab Sample Id: 619853-009

Matrix: Soil  
Date Collected: 03.29.19 16.10

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.05.19 20.50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.05.19 20.50	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	103	%	70-130	04.05.19 20.50		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 20.50		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS03**  
Lab Sample Id: 619853-010

Matrix: Soil  
Date Collected: 03.29.19 16.15

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.0	4.95	mg/kg	04.04.19 11.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.05.19 00.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	425	14.9	mg/kg	04.05.19 00.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	67.4	14.9	mg/kg	04.05.19 00.47		1
Total TPH	PHC635	492	14.9	mg/kg	04.05.19 00.47		1
Total GRO-DRO	PHC628	425	14.9	mg/kg	04.05.19 00.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 00.47	
o-Terphenyl	84-15-1	100	%	70-135	04.05.19 00.47	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS03**  
Lab Sample Id: 619853-010

Matrix: Soil  
Date Collected: 03.29.19 16.15

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.05.19 21.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.05.19 21.09	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 21.09		
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.05.19 21.09		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS04**  
Lab Sample Id: 619853-011

Matrix: Soil  
Date Collected: 03.29.19 16.20

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<b>70.9</b>	24.9	mg/kg	04.04.19 02.35		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 01.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<b>375</b>	15.0	mg/kg	04.05.19 01.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>58.9</b>	15.0	mg/kg	04.05.19 01.45		1
Total TPH	PHC635	<b>434</b>	15.0	mg/kg	04.05.19 01.45		1
Total GRO-DRO	PHC628	<b>375</b>	15.0	mg/kg	04.05.19 01.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 01.45	
o-Terphenyl	84-15-1	100	%	70-135	04.05.19 01.45	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **FS04**  
Lab Sample Id: 619853-011

Matrix: Soil  
Date Collected: 03.29.19 16.20

Date Received: 04.03.19 11.25  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.05.19 22.24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.05.19 22.24	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	122	%	70-130	04.05.19 22.24		
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.05.19 22.24		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS05**  
Lab Sample Id: 619853-012

Matrix: Soil  
Date Collected: 03.29.19 16.30

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.51	4.99	mg/kg	04.04.19 02.45		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 02.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	26.8	15.0	mg/kg	04.05.19 02.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 02.04	U	1
Total TPH	PHC635	26.8	15.0	mg/kg	04.05.19 02.04		1
Total GRO-DRO	PHC628	26.8	15.0	mg/kg	04.05.19 02.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.05.19 02.04	
o-Terphenyl	84-15-1	91	%	70-135	04.05.19 02.04	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS05**  
 Lab Sample Id: 619853-012

Matrix: Soil  
 Date Collected: 03.29.19 16.30

Date Received: 04.03.19 11.25  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3084841

Date Prep: 04.05.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.05.19 22.44	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.05.19 22.44	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 22.44		
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.05.19 22.44		





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS06**  
Lab Sample Id: 619853-013

Matrix: Soil  
Date Collected: 03.29.19 16.35

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.85	5.04	mg/kg	04.04.19 11.46		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 02.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	37.5	15.0	mg/kg	04.05.19 02.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 02.24	U	1
Total TPH	PHC635	37.5	15.0	mg/kg	04.05.19 02.24		1
Total GRO-DRO	PHC628	37.5	15.0	mg/kg	04.05.19 02.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.05.19 02.24	
o-Terphenyl	84-15-1	93	%	70-135	04.05.19 02.24	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **FS06**  
Lab Sample Id: 619853-013

Matrix: Soil  
Date Collected: 03.29.19 16.35

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.19 23.03	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.19 23.03	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.05.19 23.03		
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.05.19 23.03		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS07**  
Lab Sample Id: 619853-014

Matrix: Soil  
Date Collected: 03.29.19 16.40

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.07	4.96	mg/kg	04.04.19 11.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 02.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	27.3	15.0	mg/kg	04.05.19 02.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 02.44	U	1
Total TPH	PHC635	27.3	15.0	mg/kg	04.05.19 02.44		1
Total GRO-DRO	PHC628	27.3	15.0	mg/kg	04.05.19 02.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.05.19 02.44	
o-Terphenyl	84-15-1	92	%	70-135	04.05.19 02.44	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS07**  
 Lab Sample Id: 619853-014

Matrix: Soil  
 Date Collected: 03.29.19 16.40

Date Received: 04.03.19 11.25  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3084841

Date Prep: 04.05.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.05.19 23.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.05.19 23.22	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 23.22		
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.05.19 23.22		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS08**  
Lab Sample Id: 619853-015

Matrix: Soil  
Date Collected: 03.29.19 16.45

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.42	5.01	mg/kg	04.04.19 12.05		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 03.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	28.2	15.0	mg/kg	04.05.19 03.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 03.03	U	1
Total TPH	PHC635	28.2	15.0	mg/kg	04.05.19 03.03		1
Total GRO-DRO	PHC628	28.2	15.0	mg/kg	04.05.19 03.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 03.03	
o-Terphenyl	84-15-1	93	%	70-135	04.05.19 03.03	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **FS08**  
Lab Sample Id: 619853-015

Matrix: Soil  
Date Collected: 03.29.19 16.45

Date Received: 04.03.19 11.25  
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.05.19 23.41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.05.19 23.41	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	105	%	70-130	04.05.19 23.41		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.05.19 23.41		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS09**  
Lab Sample Id: 619853-016

Matrix: Soil  
Date Collected: 03.29.19 16.50

Date Received: 04.03.19 11.25  
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.0	4.98	mg/kg	04.04.19 12.15		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 03.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	155	15.0	mg/kg	04.05.19 03.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	19.2	15.0	mg/kg	04.05.19 03.23		1
Total TPH	PHC635	174	15.0	mg/kg	04.05.19 03.23		1
Total GRO-DRO	PHC628	155	15.0	mg/kg	04.05.19 03.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.05.19 03.23	
o-Terphenyl	84-15-1	93	%	70-135	04.05.19 03.23	





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS09**  
 Lab Sample Id: 619853-016

Matrix: Soil  
 Date Collected: 03.29.19 16.50

Date Received: 04.03.19 11.25  
 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.06.19 00.00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.06.19 00.00	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.06.19 00.00		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.06.19 00.00		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS10**  
Lab Sample Id: 619853-017

Matrix: Soil  
Date Collected: 03.29.19 16.55

Date Received: 04.03.19 11.25  
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.95	4.97	mg/kg	04.04.19 12.25		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	410	15.0	mg/kg	04.05.19 03.42		1
Diesel Range Organics (DRO)	C10C28DRO	1620	15.0	mg/kg	04.05.19 03.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	165	15.0	mg/kg	04.05.19 03.42		1
Total TPH	PHC635	2200	15.0	mg/kg	04.05.19 03.42		1
Total GRO-DRO	PHC628	2030	15.0	mg/kg	04.05.19 03.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	04.05.19 03.42	
o-Terphenyl	84-15-1	120	%	70-135	04.05.19 03.42	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

PLU Big Sinks 11 Federal Battery

Sample Id: **FS10**  
Lab Sample Id: 619853-017

Matrix: Soil  
Date Collected: 03.29.19 16.55

Date Received: 04.03.19 11.25  
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.06.19 00.19	U	1
Toluene	108-88-3	<b>0.00816</b>	0.00202	mg/kg	04.06.19 00.19		1
Ethylbenzene	100-41-4	<b>0.0711</b>	0.00202	mg/kg	04.06.19 00.19		1
m,p-Xylenes	179601-23-1	<b>0.314</b>	0.00403	mg/kg	04.06.19 00.19		1
o-Xylene	95-47-6	<b>0.205</b>	0.00202	mg/kg	04.06.19 00.19		1
Total Xylenes	1330-20-7	<b>0.519</b>	0.00202	mg/kg	04.06.19 00.19		1
Total BTEX		<b>0.598</b>	0.00202	mg/kg	04.06.19 00.19		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	04.06.19 00.19	
4-Bromofluorobenzene	460-00-4	209		%	70-130	04.06.19 00.19	**



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS11**  
Lab Sample Id: 619853-018

Matrix: Soil  
Date Collected: 03.29.19 17.00

Date Received: 04.03.19 11.25  
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.8	4.99	mg/kg	04.04.19 12.35		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	04.05.19 04.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	34.6	14.9	mg/kg	04.05.19 04.01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	04.05.19 04.01	U	1
Total TPH	PHC635	34.6	14.9	mg/kg	04.05.19 04.01		1
Total GRO-DRO	PHC628	34.6	14.9	mg/kg	04.05.19 04.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.05.19 04.01	
o-Terphenyl	84-15-1	92	%	70-135	04.05.19 04.01	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS11**  
 Lab Sample Id: 619853-018

Matrix: Soil  
 Date Collected: 03.29.19 17.00

Date Received: 04.03.19 11.25  
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.06.19 00.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.06.19 00.39	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.06.19 00.39		
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.06.19 00.39		



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS12**  
Lab Sample Id: 619853-019

Matrix: Soil  
Date Collected: 03.29.19 17.10

Date Received: 04.03.19 11.25  
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.5	25.0	mg/kg	04.04.19 04.42		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 04.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	60.2	15.0	mg/kg	04.05.19 04.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 04.21	U	1
Total TPH	PHC635	60.2	15.0	mg/kg	04.05.19 04.21		1
Total GRO-DRO	PHC628	60.2	15.0	mg/kg	04.05.19 04.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.05.19 04.21	
o-Terphenyl	84-15-1	92	%	70-135	04.05.19 04.21	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS12**  
Lab Sample Id: 619853-019

Matrix: Soil  
Date Collected: 03.29.19 17.10

Date Received: 04.03.19 11.25  
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.06.19 00.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.06.19 00.58	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.06.19 00.58		
4-Bromofluorobenzene	460-00-4	131	%	70-130	04.06.19 00.58	**	





# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS13**  
Lab Sample Id: 619853-020

Matrix: Soil  
Date Collected: 03.29.19 17.20

Date Received: 04.03.19 11.25  
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3084530

Date Prep: 04.03.19 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	24.9	mg/kg	04.04.19 04.52		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3084705

Date Prep: 04.04.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	04.05.19 04.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	69.3	15.0	mg/kg	04.05.19 04.40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	04.05.19 04.40	U	1
Total TPH	PHC635	69.3	15.0	mg/kg	04.05.19 04.40		1
Total GRO-DRO	PHC628	69.3	15.0	mg/kg	04.05.19 04.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.05.19 04.40	
o-Terphenyl	84-15-1	91	%	70-135	04.05.19 04.40	



# Certificate of Analytical Results 619853



## LT Environmental, Inc., Arvada, CO

### PLU Big Sinks 11 Federal Battery

Sample Id: **FS13**  
 Lab Sample Id: 619853-020

Matrix: Soil  
 Date Collected: 03.29.19 17.20

Date Received: 04.03.19 11.25  
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 04.05.19 15.00

Basis: Wet Weight

Seq Number: 3084841

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.06.19 01.17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.06.19 01.17	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.06.19 01.17		
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.06.19 01.17		



## Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
PLU Big Sinks 11 Federal Battery

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084528

MB Sample Id: 7674999-1-BLK

Matrix: Solid

LCS Sample Id: 7674999-1-BKS

Prep Method: E300P

Date Prep: 04.03.19

LCSD Sample Id: 7674999-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	272	109	272	109	90-110	0	20	mg/kg	04.03.19 20:13	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084530

MB Sample Id: 7675002-1-BLK

Matrix: Solid

LCS Sample Id: 7675002-1-BKS

Prep Method: E300P

Date Prep: 04.03.19

LCSD Sample Id: 7675002-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.977	250	267	107	267	107	90-110	0	20	mg/kg	04.04.19 01:36	

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084528

Parent Sample Id: 618636-010

Matrix: Soil

MS Sample Id: 618636-010 S

Prep Method: E300P

Date Prep: 04.03.19

MSD Sample Id: 618636-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.3	250	293	111	292	111	90-110	0	20	mg/kg	04.03.19 20:42	X

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084528

Parent Sample Id: 618636-011

Matrix: Soil

MS Sample Id: 618636-011 S

Prep Method: E300P

Date Prep: 04.03.19

MSD Sample Id: 618636-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.6	250	310	111	309	111	90-110	0	20	mg/kg	04.03.19 22:59	X

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084530

Parent Sample Id: 619598-002

Matrix: Soil

MS Sample Id: 619598-002 S

Prep Method: E300P

Date Prep: 04.03.19

MSD Sample Id: 619598-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.5	252	317	109	317	109	90-110	0	20	mg/kg	04.04.19 02:05	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU Big Sinks 11 Federal Battery

**Analytical Method: Inorganic Anions by EPA 300**

Seq Number: 3084530

Parent Sample Id: 619598-003

Matrix: Soil

MS Sample Id: 619598-003 S

Prep Method: E300P

Date Prep: 04.03.19

MSD Sample Id: 619598-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.1	250	307	109	305	108	90-110	1	20	mg/kg	04.04.19 04:23	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3084705

MB Sample Id: 7675081-1-BLK

Matrix: Solid

LCS Sample Id: 7675081-1-BKS

Prep Method: TX1005P

Date Prep: 04.04.19

LCSD Sample Id: 7675081-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1030	103	998	100	70-135	3	20	mg/kg	04.04.19 20:30	
Diesel Range Organics (DRO)	<8.13	1000	1110	111	1050	105	70-135	6	20	mg/kg	04.04.19 20:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		122		130		70-135	%	04.04.19 20:30
o-Terphenyl	100		124		125		70-135	%	04.04.19 20:30

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3084705

Parent Sample Id: 619853-001

Matrix: Soil

MS Sample Id: 619853-001 S

Prep Method: TX1005P

Date Prep: 04.04.19

MSD Sample Id: 619853-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	20.0	997	940	92	952	93	70-135	1	20	mg/kg	04.04.19 21:29	
Diesel Range Organics (DRO)	792	997	1630	84	1620	83	70-135	1	20	mg/kg	04.04.19 21:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		113		70-135	%	04.04.19 21:29
o-Terphenyl	110		109		70-135	%	04.04.19 21:29

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
**PLU Big Sinks 11 Federal Battery**

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3084841

MB Sample Id: 7675216-1-BLK

Matrix: Solid

LCS Sample Id: 7675216-1-BKS

Prep Method: SW5030B

Date Prep: 04.05.19

LCSD Sample Id: 7675216-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0975	98	0.0954	96	70-130	2	35	mg/kg	04.05.19 16:23	
Toluene	<0.000457	0.100	0.0923	92	0.0907	91	70-130	2	35	mg/kg	04.05.19 16:23	
Ethylbenzene	<0.00201	0.100	0.0940	94	0.0926	93	70-130	2	35	mg/kg	04.05.19 16:23	
m,p-Xylenes	<0.00102	0.201	0.180	90	0.178	89	70-130	1	35	mg/kg	04.05.19 16:23	
o-Xylene	<0.00201	0.100	0.0900	90	0.0896	90	70-130	0	35	mg/kg	04.05.19 16:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		101		101		70-130	%	04.05.19 16:23
4-Bromofluorobenzene	94		91		93		70-130	%	04.05.19 16:23

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3084841

Parent Sample Id: 619853-001

Matrix: Soil

MS Sample Id: 619853-001 S

Prep Method: SW5030B

Date Prep: 04.05.19

MSD Sample Id: 619853-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0805	81	0.0813	82	70-130	1	35	mg/kg	04.05.19 17:01	
Toluene	0.00266	0.100	0.0731	70	0.0676	65	70-130	8	35	mg/kg	04.05.19 17:01	X
Ethylbenzene	0.00128	0.100	0.0641	63	0.0562	55	70-130	13	35	mg/kg	04.05.19 17:01	X
m,p-Xylenes	0.00566	0.200	0.125	60	0.107	51	70-130	16	35	mg/kg	04.05.19 17:01	X
o-Xylene	0.00258	0.100	0.0648	62	0.0559	54	70-130	15	35	mg/kg	04.05.19 17:01	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		105		70-130	%	04.05.19 17:01
4-Bromofluorobenzene	107		101		70-130	%	04.05.19 17:01

MS/MSD Percent Recovery  
 Relative Percent Difference  
 LCS/LCSD Recovery  
 Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



# Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 6619853

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Page 1 of 2

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com, llaumbach@ltenv.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	PLU Big Sinks II Federal Battery	Turn Around	
Project Number:	012918036	Routine	<input checked="" type="checkbox"/>
P.O. Number:	2RP 3887	Rush:	
Sampler's Name:	L. Laumbach	Due Date:	4/8/2019

SAMPLE RECEIPT		Temp Blank:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wet Ice:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Temperature (°C):	0.5/0.4	Thermometer ID	VE		
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	0.1		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:			

Sample Identification					Number of Containers	ANALYSIS REQUEST															Work Order Notes	
Matrix	Date Sampled	Time Sampled	Depth			TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)														
SWD1	S	03/20/2019	15:00	0-4'	2	X	X	X													TAT starts the day received by the lab, if received by 4:30pm	
SWD2	S		15:10	0-4'	2																	
SWD3	S		15:20	0-4'	2																Sample Comments	
SWD4	S		15:30	0-3'	2																	
SWD5	S		15:40	0-3'	2																	
SWD6	S		15:45	0-4'	2																	
SWD7	S		15:55	0-4'	2																	
FS01	S		16:00	3'	2																	
FS02	S		16:10	4'	2																	
FS03	S		16:15	4'	2																	

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag 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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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
		4/11/19 17:17			4/13/19 11:25





# Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

Work Order No:

619853

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Page

2 of 2

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	abaker@ltenv.com, llaumbach@ltenv.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	PLU Big Sinks 11 Federal Bldg Turn Around
Project Number:	012918036
P.O. Number:	2RP 3887
Sampler's Name:	L. Laumbach
Due Date:	4/8/2019

SAMPLE RECEIPT	
Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Temperature (°C):	0.510.4
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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
Correction Factor:	0.1
Total Containers:	

ANALYSIS REQUEST					Work Order Notes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	
FS04	S	03/29/2019	16:20	4'	2	
FS05	S		16:30	5'	2	
FS06	S		16:35	5'	2	
FS07	S		16:40	5'	2	
FS08	S		16:45	5'	2	
FS09	S		16:50	3'	2	
FS10	S		16:55	3'	2	
FS11	S		17:00	1'	2	
FS12	S		17:10	1'	2	
FS13	S		17:20	1'	2	

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag 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

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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
		04/01/2019 12:12			04/03/2019 11:25



## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04/03/2019 11:25:00 AM

Work Order #: 619853

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 04/03/2019

Checklist reviewed by:

Kalei Stout

Date: 04/03/2019

# Analytical Report 644983

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLUBS11 Federal Battery**

**012918036**

**09-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



09-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **644983**

**PLUBS11 Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 644983. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 644983 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 644983****LT Environmental, Inc., Arvada, CO**

PLUBS11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS09A	S	12-03-19 16:45	5 ft	644983-001
FS10A	S	12-03-19 16:23	5 ft	644983-002
SW08	S	12-03-19 14:37	0 - 5 ft	644983-003
SW09	S	12-03-19 16:58	0 - 5 ft	644983-004



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: PLUBS11 Federal Battery*

Project ID: 012918036  
Work Order Number(s): 644983

Report Date: 09-DEC-19  
Date Received: 12/04/2019

---

**Sample receipt non conformances and comments:**

CORRECTED SAMPLE NAMES PER CLIENT EMAIL, SEE BELOW. NEW VERSION  
GENERATED. JK 12/09/19

FS09B --> FS09A

FS10B --> FS10A

---

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3109451 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



# Certificate of Analysis Summary 644983

LT Environmental, Inc., Arvada, CO

Project Name: PLUBS11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-04-19 08:45 am

Report Date: 09-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	644983-001	644983-002	644983-003	644983-004		
	<i>Field Id:</i>	FS09A	FS10A	SW08	SW09		
	<i>Depth:</i>	5- ft	5- ft	0-5 ft	0-5 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-03-19 16:45	Dec-03-19 16:23	Dec-03-19 14:37	Dec-03-19 16:58		
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-04-19 13:00	Dec-04-19 13:00	Dec-04-19 13:00	Dec-04-19 13:00		
	<i>Analyzed:</i>	Dec-04-19 16:51	Dec-04-19 16:57	Dec-04-19 17:03	Dec-04-19 17:20		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<9.98 9.98	<10.1 10.1	<10.1 10.1	<10.0 10.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Jessica Kramer  
Project Assistant





# Certificate of Analysis Summary 644983

LT Environmental, Inc., Arvada, CO

Project Name: PLUBS11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-04-19 08:45 am

Report Date: 09-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	644983-001	644983-002	644983-003	644983-004		
	<i>Field Id:</i>	FS09A	FS10A	SW08	SW09		
	<i>Depth:</i>	5- ft	5- ft	0-5 ft	0-5 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Dec-03-19 16:45	Dec-03-19 16:23	Dec-03-19 14:37	Dec-03-19 16:58		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-04-19 10:00	Dec-04-19 10:00	Dec-04-19 10:00	Dec-04-19 10:00		
	<i>Analyzed:</i>	Dec-04-19 18:50	Dec-04-19 19:07	Dec-04-19 19:24	Dec-04-19 19:42		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
m,p-Xylenes		<0.00400 0.00400	<0.00403 0.00403	<0.00401 0.00401	<0.00397 0.00397		
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-04-19 13:30	Dec-04-19 13:30	Dec-04-19 13:30	Dec-04-19 13:30		
	<i>Analyzed:</i>	Dec-04-19 15:57	Dec-04-19 16:16	Dec-04-19 16:36	Dec-04-19 16:36		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.9 49.9		
Diesel Range Organics (DRO)		62.4 50.3	139 50.1	<50.3 50.3	180 49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.9 49.9		
Total GRO-DRO		62.4 50.3	139 50.1	<50.3 50.3	180 49.9		
Total TPH		62.4 50.3	139 50.1	<50.3 50.3	180 49.9		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.0

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **FS09A**  
Lab Sample Id: 644983-001

Matrix: Soil  
Date Collected: 12.03.19 16.45

Date Received: 12.04.19 08.45  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109466

Date Prep: 12.04.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.04.19 16.51	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109453

Date Prep: 12.04.19 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.04.19 15.57	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>62.4</b>	50.3	mg/kg	12.04.19 15.57		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.04.19 15.57	U	1
<b>Total GRO-DRO</b>	PHC628	<b>62.4</b>	50.3	mg/kg	12.04.19 15.57		1
<b>Total TPH</b>	PHC635	<b>62.4</b>	50.3	mg/kg	12.04.19 15.57		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	12.04.19 15.57	
o-Terphenyl	84-15-1	134	%	70-135	12.04.19 15.57	



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **FS09A**  
 Lab Sample Id: 644983-001

Matrix: Soil  
 Date Collected: 12.03.19 16.45

Date Received: 12.04.19 08.45  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.04.19 10.00

Basis: Wet Weight

Seq Number: 3109451

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.04.19 18.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.19 18.50	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.04.19 18.50		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.04.19 18.50		



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **FS10A**  
Lab Sample Id: 644983-002

Matrix: Soil  
Date Collected: 12.03.19 16.23

Date Received: 12.04.19 08.45  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109466

Date Prep: 12.04.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.04.19 16.57	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109453

Date Prep: 12.04.19 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.04.19 16.16	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>139</b>	50.1	mg/kg	12.04.19 16.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.04.19 16.16	U	1
<b>Total GRO-DRO</b>	PHC628	<b>139</b>	50.1	mg/kg	12.04.19 16.16		1
<b>Total TPH</b>	PHC635	<b>139</b>	50.1	mg/kg	12.04.19 16.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.04.19 16.16	
o-Terphenyl	84-15-1	121	%	70-135	12.04.19 16.16	



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **FS10A**  
 Lab Sample Id: 644983-002

Matrix: Soil  
 Date Collected: 12.03.19 16.23

Date Received: 12.04.19 08.45  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.04.19 10.00

Basis: Wet Weight

Seq Number: 3109451

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.04.19 19.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.04.19 19.07	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.04.19 19.07		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.04.19 19.07		



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **SW08**  
Lab Sample Id: 644983-003

Matrix: Soil  
Date Collected: 12.03.19 14.37

Date Received: 12.04.19 08.45  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109466

Date Prep: 12.04.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.04.19 17.03	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109453

Date Prep: 12.04.19 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.04.19 16.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.04.19 16.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.04.19 16.36	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.04.19 16.36	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.04.19 16.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.04.19 16.36	
o-Terphenyl	84-15-1	125	%	70-135	12.04.19 16.36	



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **SW08**  
 Lab Sample Id: 644983-003

Matrix: Soil  
 Date Collected: 12.03.19 14.37

Date Received: 12.04.19 08.45  
 Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.04.19 10.00

Basis: Wet Weight

Seq Number: 3109451

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.04.19 19.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.04.19 19.24	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	104	%	70-130	12.04.19 19.24		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.04.19 19.24		





# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **SW09**  
Lab Sample Id: 644983-004

Matrix: Soil  
Date Collected: 12.03.19 16.58

Date Received: 12.04.19 08.45  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109466

Date Prep: 12.04.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.04.19 17.20	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109453

Date Prep: 12.04.19 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.04.19 16.36	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>180</b>	49.9	mg/kg	12.04.19 16.36		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.04.19 16.36	U	1
<b>Total GRO-DRO</b>	PHC628	<b>180</b>	49.9	mg/kg	12.04.19 16.36		1
<b>Total TPH</b>	PHC635	<b>180</b>	49.9	mg/kg	12.04.19 16.36		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.04.19 16.36	
o-Terphenyl	84-15-1	121	%	70-135	12.04.19 16.36	



# Certificate of Analytical Results 644983

## LT Environmental, Inc., Arvada, CO

### PLUBS11 Federal Battery

Sample Id: **SW09**  
 Lab Sample Id: 644983-004

Matrix: Soil  
 Date Collected: 12.03.19 16.58

Date Received: 12.04.19 08.45  
 Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.04.19 10.00

Basis: Wet Weight

Seq Number: 3109451

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.04.19 19.42	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.04.19 19.42	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.04.19 19.42		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.04.19 19.42		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
**PLUBS11 Federal Battery**

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109466

MB Sample Id: 7691688-1-BLK

Matrix: Solid

LCS Sample Id: 7691688-1-BKS

Prep Method: E300P

Date Prep: 12.04.19

LCSD Sample Id: 7691688-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	266	106	90-110	2	20	mg/kg	12.04.19 15:56	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109466

Parent Sample Id: 644979-001

Matrix: Soil

MS Sample Id: 644979-001 S

Prep Method: E300P

Date Prep: 12.04.19

MSD Sample Id: 644979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.5	202	219	103	217	103	90-110	1	20	mg/kg	12.04.19 16:34	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109466

Parent Sample Id: 644985-005

Matrix: Soil

MS Sample Id: 644985-005 S

Prep Method: E300P

Date Prep: 12.04.19

MSD Sample Id: 644985-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	942	198	1140	100	1160	109	90-110	2	20	mg/kg	12.04.19 17:57	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109453

MB Sample Id: 7691711-1-BLK

Matrix: Solid

LCS Sample Id: 7691711-1-BKS

Prep Method: SW8015P

Date Prep: 12.04.19

LCSD Sample Id: 7691711-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	914	91	940	94	70-135	3	35	mg/kg	12.04.19 15:37	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	1140	114	70-135	9	35	mg/kg	12.04.19 15:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		124		130		70-135	%	12.04.19 15:37
o-Terphenyl	108		123		128		70-135	%	12.04.19 15:37

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109453

Matrix: Solid

MB Sample Id: 7691711-1-BLK

Prep Method: SW8015P

Date Prep: 12.04.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.04.19 15:17	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLUBS11 Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3109453

Parent Sample Id: 644983-001

Matrix: Soil

MS Sample Id: 644983-001 S

Prep Method: SW8015P

Date Prep: 12.04.19

MSD Sample Id: 644983-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	902	90	916	91	70-135	2	35	mg/kg	12.04.19 15:57	
Diesel Range Organics (DRO)	62.4	1000	1090	103	1080	101	70-135	1	35	mg/kg	12.04.19 15:57	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		126		70-135	%	12.04.19 15:57
o-Terphenyl	132		126		70-135	%	12.04.19 15:57

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109451

MB Sample Id: 7691693-1-BLK

Matrix: Solid

LCS Sample Id: 7691693-1-BKS

Prep Method: SW5030B

Date Prep: 12.04.19

LCSD Sample Id: 7691693-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.106	106	0.0940	94	70-130	12	35	mg/kg	12.04.19 10:40	
Toluene	<0.00200	0.100	0.106	106	0.0922	92	70-130	14	35	mg/kg	12.04.19 10:40	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0900	90	71-129	14	35	mg/kg	12.04.19 10:40	
m,p-Xylenes	<0.000754	0.200	0.216	108	0.185	93	70-135	15	35	mg/kg	12.04.19 10:40	
o-Xylene	<0.00200	0.100	0.104	104	0.0896	90	71-133	15	35	mg/kg	12.04.19 10:40	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		99		70-130	%	12.04.19 10:40
4-Bromofluorobenzene	95		97		97		70-130	%	12.04.19 10:40

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109451

Parent Sample Id: 644967-001

Matrix: Soil

MS Sample Id: 644967-001 S

Prep Method: SW5030B

Date Prep: 12.04.19

MSD Sample Id: 644967-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0911	92	0.0851	86	70-130	7	35	mg/kg	12.04.19 11:14	
Toluene	<0.00198	0.0992	0.0876	88	0.0825	83	70-130	6	35	mg/kg	12.04.19 11:14	
Ethylbenzene	0.000640	0.0992	0.0827	83	0.0782	78	71-129	6	35	mg/kg	12.04.19 11:14	
m,p-Xylenes	<0.000748	0.198	0.170	86	0.161	81	70-135	5	35	mg/kg	12.04.19 11:14	
o-Xylene	0.000950	0.0992	0.0825	82	0.0783	78	71-133	5	35	mg/kg	12.04.19 11:14	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		100		70-130	%	12.04.19 11:14
4-Bromofluorobenzene	100		96		70-130	%	12.04.19 11:14

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





# Chain of Custody

Work Order No: 644983

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	ldeval@ltenv.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> STAUST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADaPT <input type="checkbox"/> Other:

Project Information					ANALYSIS REQUEST										Work Order Notes			
Project Name:	PL4 BS 12 Federal Battery				Turn Around											TAT starts the day received by the lab, if received by 4:30pm		
Project Number:	012918036				Routine <input type="checkbox"/>													
P.O. Number:					Rush: 24 hr													
Sampler's Name:	Benjamin DeFill				Due Date:													
SAMPLE RECEIPT		Temp Blank:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Number of Containers											Sample Comments	
Temperature (°C):	1-2		Thermometer ID															
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		Total Containers:															
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A																	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth		TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)										
F309 B	S	12/3/2019	1645	5'	1	X	X	X										
F510 B	S	12/3/2019	1623	5'	1	↓	↓	↓										
SW08	↓	↓	1437	10-5'	↓	↓	↓	↓										
SW09	↓	↓	1658	10-5'	↓	↓	↓	↓										

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
			1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$6 for each sample submitted to Xenco, but not analyzed. Those terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	<i>[Signature]</i>	12-4-2019	2 <i>[Signature]</i>	<i>[Signature]</i>	12/4/19 08:40
3			4		
5			6		



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/04/2019 08:45:00 AM

Work Order #: 644983

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : tnm 007

**Sample Receipt Checklist****Comments**

#1 *Temperature of cooler(s)?	1.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	Yes
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Martha Castro

Date: 12/04/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/05/2019



# Analytical Report 645171

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS 11 Federal Battery**

**012918035**

**06-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



06-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **645171**

**PLU BS 11 Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645171. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 645171 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 645171****LT Environmental, Inc., Arvada, CO**

PLU BS 11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS14	S	12-04-19 16:10	5 ft	645171-001
FS15	S	12-04-19 16:40	5 ft	645171-002
FS16	S	12-04-19 16:50	5 ft	645171-003
SW10	S	12-04-19 15:46	0 - 5 ft	645171-004
SW11	S	12-04-19 17:10	0 - 5 ft	645171-005



## CASE NARRATIVE

**Client Name:** *LT Environmental, Inc.*

**Project Name:** *PLU BS 11 Federal Battery*

Project ID: 012918035

Work Order Number(s): 645171

Report Date: 06-DEC-19

Date Received: 12/05/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3109607 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3109615 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 645167-003 SD.



# Certificate of Analysis Summary 645171

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS 11 Federal Battery

Project Id: 012918035

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Dec-05-19 08:20 am

Report Date: 06-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645171-001	645171-002	645171-003	645171-004	645171-005	
	<i>Field Id:</i>	FS14	FS15	FS16	SW10	SW11	
	<i>Depth:</i>	5- ft	5- ft	5- ft	0-5 ft	0-5 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Dec-04-19 16:10	Dec-04-19 16:40	Dec-04-19 16:50	Dec-04-19 15:46	Dec-04-19 17:10	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-05-19 11:18	Dec-05-19 11:18	Dec-05-19 11:18	Dec-05-19 11:18	Dec-05-19 11:18	
	<i>Analyzed:</i>	Dec-05-19 15:56	Dec-05-19 16:14	Dec-05-19 17:23	Dec-05-19 17:41	Dec-05-19 15:39	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
m,p-Xylenes		<0.00403 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398	<0.00397 0.00397	
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-05-19 10:32	Dec-05-19 10:32	Dec-05-19 10:32	Dec-05-19 10:32	Dec-05-19 10:32	
	<i>Analyzed:</i>	Dec-05-19 17:18	Dec-05-19 17:25	Dec-05-19 17:44	Dec-05-19 17:50	Dec-05-19 17:56	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<10.0 10.0	<10.0 10.0	<10.0 10.0	<9.98 9.98	<10.0 10.0	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-05-19 15:00	Dec-05-19 15:00	Dec-05-19 15:00	Dec-05-19 15:00	Dec-05-19 15:00	
	<i>Analyzed:</i>	Dec-05-19 18:09	Dec-05-19 18:09	Dec-05-19 18:29	Dec-05-19 18:29	Dec-05-19 18:48	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	
Diesel Range Organics (DRO)		99.4 50.0	169 50.2	320 50.1	<50.0 50.0	58.9 50.1	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.1 50.1	
Total GRO-DRO		99.4 50.0	169 50.2	320 50.1	<50.0 50.0	58.9 50.1	
Total TPH		99.4 50.0	169 50.2	320 50.1	<50.0 50.0	58.9 50.1	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS14**  
Lab Sample Id: 645171-001

Matrix: Soil  
Date Collected: 12.04.19 16.10

Date Received: 12.05.19 08.20  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109602

Date Prep: 12.05.19 10.32

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.05.19 17.18	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109615

Date Prep: 12.05.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.05.19 18.09	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>99.4</b>	50.0	mg/kg	12.05.19 18.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.05.19 18.09	U	1
<b>Total GRO-DRO</b>	PHC628	<b>99.4</b>	50.0	mg/kg	12.05.19 18.09		1
<b>Total TPH</b>	PHC635	<b>99.4</b>	50.0	mg/kg	12.05.19 18.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	12.05.19 18.09	
o-Terphenyl	84-15-1	133	%	70-135	12.05.19 18.09	



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS14**  
 Lab Sample Id: 645171-001

Matrix: Soil  
 Date Collected: 12.04.19 16.10

Date Received: 12.05.19 08.20  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.05.19 11.18

Basis: Wet Weight

Seq Number: 3109607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.05.19 15.56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.05.19 15.56	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.05.19 15.56		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.05.19 15.56		





# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS15**  
Lab Sample Id: 645171-002

Matrix: Soil  
Date Collected: 12.04.19 16.40

Date Received: 12.05.19 08.20  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109602

Date Prep: 12.05.19 10.32

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.05.19 17.25	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109615

Date Prep: 12.05.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.05.19 18.09	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>169</b>	50.2	mg/kg	12.05.19 18.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.05.19 18.09	U	1
<b>Total GRO-DRO</b>	PHC628	<b>169</b>	50.2	mg/kg	12.05.19 18.09		1
<b>Total TPH</b>	PHC635	<b>169</b>	50.2	mg/kg	12.05.19 18.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.05.19 18.09	
o-Terphenyl	84-15-1	133	%	70-135	12.05.19 18.09	



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS15**  
 Lab Sample Id: 645171-002

Matrix: Soil  
 Date Collected: 12.04.19 16.40

Date Received: 12.05.19 08.20  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.05.19 11.18

Basis: Wet Weight

Seq Number: 3109607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.05.19 16.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.05.19 16.14	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.05.19 16.14		
4-Bromofluorobenzene	460-00-4	102	%	70-130	12.05.19 16.14		



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS16**  
Lab Sample Id: 645171-003

Matrix: Soil  
Date Collected: 12.04.19 16.50

Date Received: 12.05.19 08.20  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109602

Date Prep: 12.05.19 10.32

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.05.19 17.44	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109615

Date Prep: 12.05.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.05.19 18.29	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>320</b>	50.1	mg/kg	12.05.19 18.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.05.19 18.29	U	1
<b>Total GRO-DRO</b>	PHC628	<b>320</b>	50.1	mg/kg	12.05.19 18.29		1
<b>Total TPH</b>	PHC635	<b>320</b>	50.1	mg/kg	12.05.19 18.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.05.19 18.29	
o-Terphenyl	84-15-1	128	%	70-135	12.05.19 18.29	



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS16**  
 Lab Sample Id: 645171-003

Matrix: Soil  
 Date Collected: 12.04.19 16.50

Date Received: 12.05.19 08.20  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.05.19 11.18

Basis: Wet Weight

Seq Number: 3109607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.05.19 17.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.05.19 17.23	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.05.19 17.23		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.05.19 17.23		



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW10**  
Lab Sample Id: 645171-004

Matrix: Soil  
Date Collected: 12.04.19 15.46

Date Received: 12.05.19 08.20  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109602

Date Prep: 12.05.19 10.32

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.05.19 17.50	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109615

Date Prep: 12.05.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.05.19 18.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.05.19 18.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.05.19 18.29	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.05.19 18.29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.05.19 18.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.05.19 18.29	
o-Terphenyl	84-15-1	129	%	70-135	12.05.19 18.29	



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW10**  
 Lab Sample Id: 645171-004

Matrix: Soil  
 Date Collected: 12.04.19 15.46

Date Received: 12.05.19 08.20  
 Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.05.19 11.18

Basis: Wet Weight

Seq Number: 3109607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.05.19 17.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.05.19 17.41	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.05.19 17.41		
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.05.19 17.41		



# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **SW11**  
Lab Sample Id: 645171-005

Matrix: Soil  
Date Collected: 12.04.19 17.10

Date Received: 12.05.19 08.20  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109602

Date Prep: 12.05.19 10.32

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.05.19 17.56	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109615

Date Prep: 12.05.19 15.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.05.19 18.48	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>58.9</b>	50.1	mg/kg	12.05.19 18.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.05.19 18.48	U	1
<b>Total GRO-DRO</b>	PHC628	<b>58.9</b>	50.1	mg/kg	12.05.19 18.48		1
<b>Total TPH</b>	PHC635	<b>58.9</b>	50.1	mg/kg	12.05.19 18.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.05.19 18.48	
o-Terphenyl	84-15-1	127	%	70-135	12.05.19 18.48	





# Certificate of Analytical Results 645171

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **SW11**  
Lab Sample Id: 645171-005

Matrix: Soil  
Date Collected: 12.04.19 17.10

Date Received: 12.05.19 08.20  
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.05.19 11.18

Basis: Wet Weight

Seq Number: 3109607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.05.19 15.39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.05.19 15.39	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.05.19 15.39		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.05.19 15.39		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109602

MB Sample Id: 7691787-1-BLK

Matrix: Solid

LCS Sample Id: 7691787-1-BKS

Prep Method: E300P

Date Prep: 12.05.19

LCSD Sample Id: 7691787-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	264	106	264	106	90-110	0	20	mg/kg	12.05.19 16:35	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109602

Parent Sample Id: 645164-001

Matrix: Soil

MS Sample Id: 645164-001 S

Prep Method: E300P

Date Prep: 12.05.19

MSD Sample Id: 645164-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	175	200	391	108	393	109	90-110	1	20	mg/kg	12.05.19 16:53	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109615

MB Sample Id: 7691802-1-BLK

Matrix: Solid

LCS Sample Id: 7691802-1-BKS

Prep Method: SW8015P

Date Prep: 12.05.19

LCSD Sample Id: 7691802-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	873	87	945	95	70-135	8	35	mg/kg	12.05.19 17:06	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1100	110	70-135	3	35	mg/kg	12.05.19 17:06	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1-Chlorooctane	100		124		126		70-135			%	12.05.19 17:06	
o-Terphenyl	108		129		130		70-135			%	12.05.19 17:06	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109615

Matrix: Solid

MB Sample Id: 7691802-1-BLK

Prep Method: SW8015P

Date Prep: 12.05.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.05.19 17:06	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3109615

Parent Sample Id: 645167-003

Matrix: Soil

MS Sample Id: 645167-003 S

Prep Method: SW8015P

Date Prep: 12.05.19

MSD Sample Id: 645167-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	927	93	852	85	70-135	8	35	mg/kg	12.05.19 17:49	
Diesel Range Organics (DRO)	<50.1	1000	1070	107	1100	110	70-135	3	35	mg/kg	12.05.19 17:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		135		70-135	%	12.05.19 17:49
o-Terphenyl	133		139	**	70-135	%	12.05.19 17:49

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109607

MB Sample Id: 7691785-1-BLK

Matrix: Solid

LCS Sample Id: 7691785-1-BKS

Prep Method: SW5030B

Date Prep: 12.05.19

LCSD Sample Id: 7691785-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0971	97	0.0896	90	70-130	8	35	mg/kg	12.05.19 12:28	
Toluene	<0.00200	0.100	0.0972	97	0.0895	90	70-130	8	35	mg/kg	12.05.19 12:28	
Ethylbenzene	<0.00200	0.100	0.0962	96	0.0883	88	71-129	9	35	mg/kg	12.05.19 12:28	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.183	92	70-135	9	35	mg/kg	12.05.19 12:28	
o-Xylene	<0.00200	0.100	0.0970	97	0.0900	90	71-133	7	35	mg/kg	12.05.19 12:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		99		98		70-130	%	12.05.19 12:28
4-Bromofluorobenzene	98		97		97		70-130	%	12.05.19 12:28

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109607

Parent Sample Id: 645171-003

Matrix: Soil

MS Sample Id: 645171-003 S

Prep Method: SW5030B

Date Prep: 12.05.19

MSD Sample Id: 645171-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0900	90	0.0834	84	70-130	8	35	mg/kg	12.05.19 21:09	
Toluene	<0.00200	0.0998	0.0850	85	0.0789	80	70-130	7	35	mg/kg	12.05.19 21:09	
Ethylbenzene	<0.00200	0.0998	0.0767	77	0.0726	73	71-129	5	35	mg/kg	12.05.19 21:09	
m,p-Xylenes	<0.00399	0.200	0.157	79	0.148	75	70-135	6	35	mg/kg	12.05.19 21:09	
o-Xylene	<0.00200	0.0998	0.0772	77	0.0728	74	71-133	6	35	mg/kg	12.05.19 21:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	12.05.19 21:09
4-Bromofluorobenzene	99		100		70-130	%	12.05.19 21:09

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





# Chain of Custody

Work Order No: 245171

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
Midland, TX (432-704-5440) El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	delval@ltenv.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	PLY BS 11 Federal Battery	Turn Around	
Project Number:	012919036	Routine <input type="checkbox"/>	
P.O. Number:		Rush: 24 hr	
Sampler's Name:	Benjamin-Bellitt Luis Del Val	Due Date:	

SAMPLE RECEIPT	
Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	1.2
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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
Thermometer ID:	T-PM-007
Correction Factor:	-0.2
Total Containers:	15 x 5

Sample Identification					Number of Containers	ANALYSIS REQUEST										Work Order Notes	
Matrix	Date Sampled	Time Sampled	Depth			TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)									
FS14	S	12/4/2014	1610	5'	1	X	X	X								TAT starts the day received by the lab, if received by 4:30pm	Sample Comments
FS15			1640	5'	1												
FS16			1650	5'	1												
SW1210			1546	0-5'													
SW1311			1710	0-5'													

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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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
<i>Luis Del Val</i>	<i>[Signature]</i>	12/5/14 08:20			

Revised Date 051418 Rev. 2018.1

# Analytical Report 645361

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS 11 Federal Battery**

**012918036**

**09-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



09-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **645361**

**PLU BS 11 Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645361. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 645361 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



**Sample Cross Reference 645361****LT Environmental, Inc., Arvada, CO**

PLU BS 11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS17	S	12-05-19 11:25	5 ft	645361-001
FS18	S	12-05-19 11:56	5 ft	645361-002
FS19	S	12-05-19 12:10	5 ft	645361-003
FS20	S	12-05-19 16:50	5 ft	645361-004
SW12	S	12-05-19 15:50	0 - 5 ft	645361-005
SW13	S	12-05-19 16:17	0 - 5 ft	645361-006



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: PLU BS 11 Federal Battery*

Project ID: 012918036  
Work Order Number(s): 645361

Report Date: 09-DEC-19  
Date Received: 12/06/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3109696 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3109699 Chloride by EPA 300

Lab Sample ID 645363-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 645361-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analysis Summary 645361

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS 11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Dec-06-19 08:30 am

Report Date: 09-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645361-001	645361-002	645361-003	645361-004	645361-005	645361-006
	<i>Field Id:</i>	FS17	FS18	FS19	FS20	SW12	SW13
	<i>Depth:</i>	5- ft	5- ft	5- ft	5- ft	0-5 ft	0-5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-05-19 11:25	Dec-05-19 11:56	Dec-05-19 12:10	Dec-05-19 16:50	Dec-05-19 15:50	Dec-05-19 16:17
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00
	<i>Analyzed:</i>	Dec-06-19 15:05	Dec-06-19 15:24	Dec-06-19 15:43	Dec-06-19 16:02	Dec-06-19 17:06	Dec-06-19 17:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00403 0.00403	<0.00399 0.00399	<0.00402 0.00402	<0.00404 0.00404
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00	Dec-06-19 11:00
	<i>Analyzed:</i>	Dec-06-19 12:42	Dec-06-19 12:59	Dec-06-19 13:05	Dec-06-19 13:11	Dec-06-19 13:17	Dec-06-19 13:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.6 10.0	<9.98 9.98	<9.92 9.92	<10.1 10.1	42.4 10.1	82.4 9.88
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-06-19 13:00	Dec-06-19 13:00	Dec-06-19 13:00	Dec-06-19 15:50	Dec-06-19 15:50	Dec-06-19 15:50
	<i>Analyzed:</i>	Dec-06-19 17:46	Dec-06-19 17:46	Dec-06-19 18:05	Dec-07-19 01:27	Dec-07-19 01:47	Dec-07-19 02:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.3 50.3	<50.0 50.0
Diesel Range Organics (DRO)		100 50.2	184 50.2	<50.2 50.2	<50.2 50.2	<50.3 50.3	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.3 50.3	<50.0 50.0
Total GRO-DRO		100 50.2	184 50.2	<50.2 50.2	<50.2 50.2	<50.3 50.3	<50.0 50.0
Total TPH		100 50.2	184 50.2	<50.2 50.2	<50.2 50.2	<50.3 50.3	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS17**  
Lab Sample Id: 645361-001

Matrix: Soil  
Date Collected: 12.05.19 11.25

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	10.0	mg/kg	12.07.19 13.11		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109762

Date Prep: 12.06.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.06.19 17.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	100	50.2	mg/kg	12.06.19 17.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.06.19 17.46	U	1
Total GRO-DRO	PHC628	100	50.2	mg/kg	12.06.19 17.46		1
Total TPH	PHC635	100	50.2	mg/kg	12.06.19 17.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.06.19 17.46	
o-Terphenyl	84-15-1	92	%	70-135	12.06.19 17.46	



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS17**  
 Lab Sample Id: 645361-001

Matrix: Soil  
 Date Collected: 12.05.19 11.25

Date Received: 12.06.19 08.30  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.06.19 15.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.06.19 15.05	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	86	%	70-130	12.06.19 15.05		
4-Bromofluorobenzene	460-00-4	100	%	70-130	12.06.19 15.05		



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS18**  
Lab Sample Id: 645361-002

Matrix: Soil  
Date Collected: 12.05.19 11.56

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.06.19 12.59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109762

Date Prep: 12.06.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.06.19 17.46	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>184</b>	50.2	mg/kg	12.06.19 17.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.06.19 17.46	U	1
<b>Total GRO-DRO</b>	PHC628	<b>184</b>	50.2	mg/kg	12.06.19 17.46		1
<b>Total TPH</b>	PHC635	<b>184</b>	50.2	mg/kg	12.06.19 17.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	12.06.19 17.46	
o-Terphenyl	84-15-1	102	%	70-135	12.06.19 17.46	



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS18**  
Lab Sample Id: 645361-002

Matrix: Soil  
Date Collected: 12.05.19 11.56

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.06.19 15.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.06.19 15.24	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.06.19 15.24		
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.06.19 15.24		





# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS19**  
Lab Sample Id: 645361-003

Matrix: Soil  
Date Collected: 12.05.19 12.10

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.06.19 13.05	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109762

Date Prep: 12.06.19 13.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.06.19 18.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.06.19 18.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.06.19 18.05	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.06.19 18.05	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.06.19 18.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.06.19 18.05	
o-Terphenyl	84-15-1	93	%	70-135	12.06.19 18.05	



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS19**  
Lab Sample Id: 645361-003

Matrix: Soil  
Date Collected: 12.05.19 12.10

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.06.19 15.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.06.19 15.43	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.06.19 15.43		
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.06.19 15.43		



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS20**  
Lab Sample Id: 645361-004

Matrix: Soil  
Date Collected: 12.05.19 16.50

Date Received: 12.06.19 08.30  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.06.19 13.11	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109776

Date Prep: 12.06.19 15.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.07.19 01.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.07.19 01.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.07.19 01.27	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.07.19 01.27	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.07.19 01.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.07.19 01.27	
o-Terphenyl	84-15-1	89	%	70-135	12.07.19 01.27	



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS20**  
 Lab Sample Id: 645361-004

Matrix: Soil  
 Date Collected: 12.05.19 16.50

Date Received: 12.06.19 08.30  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.06.19 16.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.06.19 16.02	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.06.19 16.02		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.06.19 16.02		



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW12**  
Lab Sample Id: 645361-005

Matrix: Soil  
Date Collected: 12.05.19 15.50

Date Received: 12.06.19 08.30  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.4	10.1	mg/kg	12.06.19 13.17		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109776

Date Prep: 12.06.19 15.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.07.19 01.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.07.19 01.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.07.19 01.47	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.07.19 01.47	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.07.19 01.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	12.07.19 01.47	
o-Terphenyl	84-15-1	92	%	70-135	12.07.19 01.47	



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **SW12**  
Lab Sample Id: 645361-005

Matrix: Soil  
Date Collected: 12.05.19 15.50

Date Received: 12.06.19 08.30  
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.06.19 17.06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.06.19 17.06	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	108	%	70-130	12.06.19 17.06		
1,4-Difluorobenzene	540-36-3	85	%	70-130	12.06.19 17.06		



# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW13**  
Lab Sample Id: 645361-006

Matrix: Soil  
Date Collected: 12.05.19 16.17

Date Received: 12.06.19 08.30  
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109699

Date Prep: 12.06.19 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	82.4	9.88	mg/kg	12.06.19 13.34		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109776

Date Prep: 12.06.19 15.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.07.19 02.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.07.19 02.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.07.19 02.07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.07.19 02.07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.07.19 02.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	12.07.19 02.07	
o-Terphenyl	84-15-1	85	%	70-135	12.07.19 02.07	





# Certificate of Analytical Results 645361

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW13**  
 Lab Sample Id: 645361-006

Matrix: Soil  
 Date Collected: 12.05.19 16.17

Date Received: 12.06.19 08.30  
 Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.06.19 11.00

Basis: Wet Weight

Seq Number: 3109696

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.06.19 17.25	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.06.19 17.25	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.06.19 17.25		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.06.19 17.25		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109699

MB Sample Id: 7691886-1-BLK

Matrix: Solid

LCS Sample Id: 7691886-1-BKS

Prep Method: E300P

Date Prep: 12.06.19

LCSD Sample Id: 7691886-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	263	105	265	106	90-110	1	20	mg/kg	12.06.19 12:36	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109699

Parent Sample Id: 645361-001

Matrix: Soil

MS Sample Id: 645361-001 S

Prep Method: E300P

Date Prep: 12.06.19

MSD Sample Id: 645361-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.6	201	185	86	184	86	90-110	1	20	mg/kg	12.06.19 12:48	X

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109699

Parent Sample Id: 645363-011

Matrix: Soil

MS Sample Id: 645363-011 S

Prep Method: E300P

Date Prep: 12.06.19

MSD Sample Id: 645363-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	250	291	116	293	118	90-110	1	20	mg/kg	12.06.19 14:09	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109762

MB Sample Id: 7691873-1-BLK

Matrix: Solid

LCS Sample Id: 7691873-1-BKS

Prep Method: SW8015P

Date Prep: 12.06.19

LCSD Sample Id: 7691873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	882	88	835	84	70-135	5	35	mg/kg	12.06.19 16:06	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1030	103	70-135	3	35	mg/kg	12.06.19 16:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		134		132		70-135	%	12.06.19 16:06
o-Terphenyl	134		124		128		70-135	%	12.06.19 16:06

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. =  $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



## LT Environmental, Inc.

PLU BS 11 Federal Battery

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3109776

MB Sample Id: 7691883-1-BLK

Matrix: Solid

LCS Sample Id: 7691883-1-BKS

Prep Method: SW8015P

Date Prep: 12.06.19

LCSD Sample Id: 7691883-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	913	91	879	88	70-135	4	35	mg/kg	12.07.19 01:07	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1120	112	70-135	1	35	mg/kg	12.07.19 01:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		123		108		70-135	%	12.07.19 01:07
o-Terphenyl	135		123		135		70-135	%	12.07.19 01:07

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3109762

Matrix: Solid

MB Sample Id: 7691873-1-BLK

Prep Method: SW8015P

Date Prep: 12.06.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.06.19 15:46	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3109776

Matrix: Solid

MB Sample Id: 7691883-1-BLK

Prep Method: SW8015P

Date Prep: 12.06.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.07.19 00:47	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3109762

Matrix: Soil

Parent Sample Id: 645345-001

MS Sample Id: 645345-001 S

Prep Method: SW8015P

Date Prep: 12.06.19

MSD Sample Id: 645345-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	998	834	84	1040	104	70-135	22	35	mg/kg	12.06.19 16:26	
Diesel Range Organics (DRO)	<49.9	998	1020	102	1240	124	70-135	19	35	mg/kg	12.06.19 16:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		130		70-135	%	12.06.19 16:26
o-Terphenyl	107		122		70-135	%	12.06.19 16:26

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3109776

Parent Sample Id: 645361-004

Matrix: Soil

MS Sample Id: 645361-004 S

Prep Method: SW8015P

Date Prep: 12.06.19

MSD Sample Id: 645361-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	961	95	1000	101	70-135	4	35	mg/kg	12.07.19 01:27	
Diesel Range Organics (DRO)	<50.3	1010	1180	117	1170	118	70-135	1	35	mg/kg	12.07.19 01:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		131		70-135	%	12.07.19 01:27
o-Terphenyl	123		120		70-135	%	12.07.19 01:27

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109696

MB Sample Id: 7691892-1-BLK

Matrix: Solid

LCS Sample Id: 7691892-1-BKS

Prep Method: SW5030B

Date Prep: 12.06.19

LCSD Sample Id: 7691892-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0980	98	0.0912	91	70-130	7	35	mg/kg	12.06.19 11:29	
Toluene	<0.00200	0.100	0.0989	99	0.0940	94	70-130	5	35	mg/kg	12.06.19 11:29	
Ethylbenzene	<0.00200	0.100	0.0984	98	0.0939	94	71-129	5	35	mg/kg	12.06.19 11:29	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.199	100	70-135	4	35	mg/kg	12.06.19 11:29	
o-Xylene	<0.00200	0.100	0.104	104	0.0997	100	71-133	4	35	mg/kg	12.06.19 11:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		101		70-130	%	12.06.19 11:29
4-Bromofluorobenzene	105		114		117		70-130	%	12.06.19 11:29

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3109696

Parent Sample Id: 645345-001

Matrix: Soil

MS Sample Id: 645345-001 S

Prep Method: SW5030B

Date Prep: 12.06.19

MSD Sample Id: 645345-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.104	104	0.0986	99	70-130	5	35	mg/kg	12.06.19 12:07	
Toluene	<0.00201	0.100	0.106	106	0.0994	100	70-130	6	35	mg/kg	12.06.19 12:07	
Ethylbenzene	<0.00201	0.100	0.104	104	0.0978	98	71-129	6	35	mg/kg	12.06.19 12:07	
m,p-Xylenes	<0.00402	0.201	0.221	110	0.206	104	70-135	7	35	mg/kg	12.06.19 12:07	
o-Xylene	<0.00201	0.100	0.112	112	0.104	104	71-133	7	35	mg/kg	12.06.19 12:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	12.06.19 12:07
4-Bromofluorobenzene	120		117		70-130	%	12.06.19 12:07

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec





## Chain of Custody

Work Order No: 64536

[www.xenco.com](http://www.xenco.com)

Page 1 of 1

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-973-3333)			
Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	ldelval@ltenv.com

Work Order Comments			
Program:	UST/PST <input type="checkbox"/>	PRP <input type="checkbox"/>	Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:			
Reporting:	Level II <input type="checkbox"/>	Level III <input type="checkbox"/>	UST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/>	ADA/PT <input type="checkbox"/>	Other: <input type="checkbox"/>

Project Name:	PLY BS 11 Federal Battery	Turn Around
Project Number:	012419036	Routine <input type="checkbox"/>
P.O. Number:		Rush: 24 hr
Sampler's Name:	Benjamin Bellitt Luis Del Val	Due Date:

<b>SAMPLE RECEIPT</b>	Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):	2.5	Thermometer ID		
Received Intact:	Yes No	T-NM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:		6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
FS17	S	12/5/2019	1125	5'
FS18	↓	↓	1156	5'
FS19	↓	↓	1210	5'
FS20	↓	↓	1650	5'
SW12	↓	↓	1550	0-5'
SW13	↓	↓	1617	0-5'

ANALYSIS REQUEST	
Number of Containers	
TPH (EPA 8015)	
BTEX (EPA 0-8021)	
Chloride (EPA 300.0)	

[illegible]

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	
						1631 / 245.1 / 7470 / 7471 : Hg	

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. Those terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>L. P. V. K.</i>	<i>R. M. S.</i>	12/06/19 @ 0820	<i>R. M. S.</i>	<i>P.</i>	12/6/19 08:30

Revised Date 05/4/8 Rev. 2018.1

# Analytical Report 645537

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS 11 Federal Battery**

**012918036**

**10-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)





10-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **645537**

**PLU BS 11 Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645537. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 645537 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

---

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 645537****LT Environmental, Inc., Arvada, CO**

PLU BS 11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	12-06-19 12:45	6 ft	645537-001
PH01A	S	12-06-19 13:25	8 ft	645537-002
PH01B	S	12-06-19 15:27	3 ft	645537-003
PH02	S	12-06-19 14:48	2 ft	645537-004
PH02A	S	12-06-19 14:50	4 ft	645537-005
PH02B	S	12-06-19 15:05	8 ft	645537-006



## CASE NARRATIVE

**Client Name:** *LT Environmental, Inc.*

**Project Name:** *PLU BS 11 Federal Battery*

Project ID: 012918036

Work Order Number(s): 645537

Report Date: 10-DEC-19

Date Received: 12/09/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3109891 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



# Certificate of Analysis Summary 645537

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS 11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Dec-09-19 10:15 am

Report Date: 10-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645537-001	645537-002	645537-003	645537-004	645537-005	645537-006
	<i>Field Id:</i>	PH01	PH01A	PH01B	PH02	PH02A	PH02B
	<i>Depth:</i>	6- ft	8- ft	3- ft	2- ft	4- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-06-19 12:45	Dec-06-19 13:25	Dec-06-19 15:27	Dec-06-19 14:48	Dec-06-19 14:50	Dec-06-19 15:05
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	*** **	*** **	*** **	*** **	*** **	*** **
	<i>Analyzed:</i>	Dec-09-19 17:42	Dec-09-19 18:01	Dec-09-19 18:20	Dec-09-19 18:39	Dec-09-19 18:58	Dec-09-19 19:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00397 0.00397	<0.00397 0.00397	<0.00396 0.00396	<0.00400 0.00400	<0.00396 0.00396
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-09-19 16:10	Dec-09-19 16:10	Dec-09-19 16:10	Dec-09-19 16:10	Dec-09-19 16:10	Dec-09-19 16:10
	<i>Analyzed:</i>	Dec-09-19 19:20	Dec-09-19 19:26	Dec-09-19 19:32	Dec-09-19 19:49	Dec-09-19 19:55	Dec-09-19 20:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		71.3 9.88	304 10.0	110 9.98	157 9.96	303 9.98	397 9.88
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-09-19 15:30	Dec-09-19 15:30	Dec-09-19 15:30	Dec-09-19 15:30	Dec-09-19 15:30	Dec-09-19 15:30
	<i>Analyzed:</i>	Dec-09-19 21:30	Dec-09-19 21:50	Dec-09-19 21:50	Dec-09-19 22:11	Dec-09-19 22:31	Dec-09-19 22:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<50.3 50.3
Diesel Range Organics (DRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<50.3 50.3
Total GRO-DRO		<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<50.3 50.3
Total TPH		<50.2 50.2	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<50.3 50.3

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01**  
Lab Sample Id: 645537-001

Matrix: Soil  
Date Collected: 12.06.19 12.45

Date Received: 12.09.19 10.15  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.3	9.88	mg/kg	12.09.19 19.20		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.09.19 21.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.09.19 21.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.09.19 21.30	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.09.19 21.30	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.09.19 21.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.09.19 21.30	
o-Terphenyl	84-15-1	110	%	70-135	12.09.19 21.30	



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01**  
Lab Sample Id: 645537-001

Matrix: Soil  
Date Collected: 12.06.19 12.45

Date Received: 12.09.19 10.15  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.09.19 17.42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.09.19 17.42	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	109	%	70-130	12.09.19 17.42		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.09.19 17.42		



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01A**  
Lab Sample Id: 645537-002

Matrix: Soil  
Date Collected: 12.06.19 13.25

Date Received: 12.09.19 10.15  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	304	10.0	mg/kg	12.09.19 19.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 21.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 21.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 21.50	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 21.50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 21.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.09.19 21.50	
o-Terphenyl	84-15-1	104	%	70-135	12.09.19 21.50	





# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01A**  
Lab Sample Id: 645537-002

Matrix: Soil  
Date Collected: 12.06.19 13.25

Date Received: 12.09.19 10.15  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.09.19 18.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.09.19 18.01	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.09.19 18.01		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.09.19 18.01		



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01B**  
Lab Sample Id: 645537-003

Matrix: Soil  
Date Collected: 12.06.19 15.27

Date Received: 12.09.19 10.15  
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	110	9.98	mg/kg	12.09.19 19.32		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.19 21.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.19 21.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.19 21.50	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.09.19 21.50	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.09.19 21.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.09.19 21.50	
o-Terphenyl	84-15-1	107	%	70-135	12.09.19 21.50	



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH01B**  
Lab Sample Id: 645537-003

Matrix: Soil  
Date Collected: 12.06.19 15.27

Date Received: 12.09.19 10.15  
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.09.19 18.20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.09.19 18.20	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.09.19 18.20		
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.09.19 18.20		



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02**  
Lab Sample Id: 645537-004

Matrix: Soil  
Date Collected: 12.06.19 14.48

Date Received: 12.09.19 10.15  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	157	9.96	mg/kg	12.09.19 19.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.19 22.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.19 22.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.19 22.11	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.09.19 22.11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.09.19 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.09.19 22.11	
o-Terphenyl	84-15-1	101	%	70-135	12.09.19 22.11	



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02**  
Lab Sample Id: 645537-004

Matrix: Soil  
Date Collected: 12.06.19 14.48

Date Received: 12.09.19 10.15  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.09.19 18.39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.09.19 18.39	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.09.19 18.39		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.09.19 18.39		



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02A**  
Lab Sample Id: 645537-005

Matrix: Soil  
Date Collected: 12.06.19 14.50

Date Received: 12.09.19 10.15  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	303	9.98	mg/kg	12.09.19 19.55		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.09.19 22.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.09.19 22.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.09.19 22.31	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.09.19 22.31	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.09.19 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.09.19 22.31	
o-Terphenyl	84-15-1	104	%	70-135	12.09.19 22.31	



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02A**  
Lab Sample Id: 645537-005

Matrix: Soil  
Date Collected: 12.06.19 14.50

Date Received: 12.09.19 10.15  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.09.19 18.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.09.19 18.58	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.09.19 18.58		
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.09.19 18.58		





# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02B**  
Lab Sample Id: 645537-006

Matrix: Soil  
Date Collected: 12.06.19 15.05

Date Received: 12.09.19 10.15  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3109906

Date Prep: 12.09.19 16.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	397	9.88	mg/kg	12.09.19 20.01		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3109933

Date Prep: 12.09.19 15.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.09.19 22.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.09.19 22.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.09.19 22.31	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.09.19 22.31	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.09.19 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.09.19 22.31	
o-Terphenyl	84-15-1	106	%	70-135	12.09.19 22.31	



# Certificate of Analytical Results 645537

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **PH02B**  
Lab Sample Id: 645537-006

Matrix: Soil  
Date Collected: 12.06.19 15.05

Date Received: 12.09.19 10.15  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.09.19 08.50

Basis: Wet Weight

Seq Number: 3109891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.09.19 19.18	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.09.19 19.18	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.09.19 19.18		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.09.19 19.18		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109906

MB Sample Id: 7692026-1-BLK

Matrix: Solid

LCS Sample Id: 7692026-1-BKS

Prep Method: E300P

Date Prep: 12.09.19

LCSD Sample Id: 7692026-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	263	105	90-110	1	20	mg/kg	12.09.19 18:00	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109906

Parent Sample Id: 645522-001

Matrix: Soil

MS Sample Id: 645522-001 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645522-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.14	199	210	102	209	102	90-110	0	20	mg/kg	12.09.19 18:17	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3109906

Parent Sample Id: 645537-003

Matrix: Soil

MS Sample Id: 645537-003 S

Prep Method: E300P

Date Prep: 12.09.19

MSD Sample Id: 645537-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	110	199	327	109	328	110	90-110	0	20	mg/kg	12.09.19 19:38	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109933

MB Sample Id: 7692045-1-BLK

Matrix: Solid

LCS Sample Id: 7692045-1-BKS

Prep Method: SW8015P

Date Prep: 12.09.19

LCSD Sample Id: 7692045-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<13.9	1000	996	100	999	100	70-135	0	35	mg/kg	12.09.19 19:49	
Diesel Range Organics (DRO)	<11.5	1000	1110	111	1050	105	70-135	6	35	mg/kg	12.09.19 19:49	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		121		119		70-135	%	12.09.19 19:49
o-Terphenyl	108		124		112		70-135	%	12.09.19 19:49

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109933

Matrix: Solid

MB Sample Id: 7692045-1-BLK

Prep Method: SW8015P

Date Prep: 12.09.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.09.19 19:49	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3109933

Parent Sample Id: 645527-020

Matrix: Soil

MS Sample Id: 645527-020 S

Prep Method: SW8015P

Date Prep: 12.09.19

MSD Sample Id: 645527-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<13.9	1000	985	99	957	96	70-135	3	35	mg/kg	12.09.19 20:29	
Diesel Range Organics (DRO)	<11.5	1000	1020	102	1060	106	70-135	4	35	mg/kg	12.09.19 20:29	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		116		70-135	%	12.09.19 20:29
o-Terphenyl	115		118		70-135	%	12.09.19 20:29

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3109891

MB Sample Id: 7692016-1-BLK

Matrix: Solid

LCS Sample Id: 7692016-1-BKS

Prep Method: SW5030B

Date Prep: 12.09.19

LCSD Sample Id: 7692016-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0914	91	70-130	11	35	mg/kg	12.09.19 10:47	
Toluene	<0.00200	0.100	0.104	104	0.0922	92	70-130	12	35	mg/kg	12.09.19 10:47	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0913	91	71-129	13	35	mg/kg	12.09.19 10:47	
m,p-Xylenes	<0.00400	0.200	0.220	110	0.194	97	70-135	13	35	mg/kg	12.09.19 10:47	
o-Xylene	<0.00200	0.100	0.111	111	0.0975	98	71-133	13	35	mg/kg	12.09.19 10:47	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		101		70-130	%	12.09.19 10:47
4-Bromofluorobenzene	107		116		115		70-130	%	12.09.19 10:47

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3109891

Parent Sample Id: 645473-001

Matrix: Soil

MS Sample Id: 645473-001 S

Prep Method: SW5030B

Date Prep: 12.09.19

MSD Sample Id: 645473-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0936	94	0.0775	78	70-130	19	35	mg/kg	12.09.19 11:25	
Toluene	<0.00200	0.100	0.0987	99	0.0768	77	70-130	25	35	mg/kg	12.09.19 11:25	
Ethylbenzene	<0.00200	0.100	0.0988	99	0.0740	74	71-129	29	35	mg/kg	12.09.19 11:25	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.151	76	70-135	31	35	mg/kg	12.09.19 11:25	
o-Xylene	<0.00200	0.100	0.106	106	0.0784	79	71-133	30	35	mg/kg	12.09.19 11:25	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.09.19 11:25
4-Bromofluorobenzene	121		118		70-130	%	12.09.19 11:25

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec





# Analytical Report 645892

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS 11 Federal Battery**

**012918036**

**08-JAN-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)





08-JAN-20

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **645892**

**PLU BS 11 Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645892. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 645892 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 645892****LT Environmental, Inc., Arvada, CO**

PLU BS 11 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS15A	S	12-10-19 10:26	7 ft	645892-001
FS16A	S	12-10-19 10:42	7 ft	645892-002
FS18A	S	12-10-19 11:26	7 ft	645892-003
FS21	S	12-10-19 15:28	6 ft	645892-004
FS22	S	12-10-19 15:59	6 ft	645892-005
FS23	S	12-10-19 16:15	6 ft	645892-006
FS24	S	12-10-19 16:20	6 ft	645892-007
FS25	S	12-10-19 16:30	6 ft	645892-008
FS26	S	12-10-19 16:45	6 ft	645892-009
SW14	S	12-10-19 14:59	0 - 6 ft	645892-010
SW15	S	12-10-19 15:10	0 - 6 ft	645892-011



## CASE NARRATIVE

**Client Name:** *LT Environmental, Inc.*

**Project Name:** *PLU BS 11 Federal Battery*

Project ID: 012918036  
Work Order Number(s): 645892

Report Date: 08-JAN-20  
Date Received: 12/11/2019

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**Sample receipt non conformances and comments:**

Per clients email, corrected sample names as follows below. JK 01/08/2020

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3110217 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



# Certificate of Analysis Summary 645892

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS 11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-11-19 12:20 pm

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645892-001	645892-002	645892-003	645892-004	645892-005	645892-006
	<i>Field Id:</i>	FS15A	FS16A	FS18A	FS21	FS22	FS23
	<i>Depth:</i>	7- ft	7- ft	7- ft	6- ft	6- ft	6- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-10-19 10:26	Dec-10-19 10:42	Dec-10-19 11:26	Dec-10-19 15:28	Dec-10-19 15:59	Dec-10-19 16:15
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00
	<i>Analyzed:</i>	Dec-11-19 18:04	Dec-11-19 18:23	Dec-11-19 18:42	Dec-11-19 19:01	Dec-11-19 19:20	Dec-11-19 20:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00403 0.00403	<0.00399 0.00399	<0.00401 0.00401	<0.00401 0.00401	<0.00403 0.00403	<0.00399 0.00399
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40
	<i>Analyzed:</i>	Dec-12-19 09:21	Dec-12-19 09:27	Dec-12-19 09:32	Dec-12-19 09:38	Dec-12-19 09:44	Dec-12-19 09:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.1 9.98	10.5 9.96	<9.98 9.98	<9.92 9.92	<9.94 9.94	<9.96 9.96
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40
	<i>Analyzed:</i>	Dec-12-19 10:25	Dec-11-19 19:01	Dec-12-19 10:25	Dec-11-19 19:21	Dec-11-19 19:21	Dec-11-19 19:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.1 50.1	<49.8 49.8	<50.0 50.0
Diesel Range Organics (DRO)		95.9 50.2	<50.3 50.3	84.7 50.1	<50.1 50.1	<49.8 49.8	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.1 50.1	<49.8 49.8	<50.0 50.0
Total GRO-DRO		95.9 50.2	<50.3 50.3	84.7 50.1	<50.1 50.1	<49.8 49.8	<50.0 50.0
Total TPH		95.9 50.2	<50.3 50.3	84.7 50.1	<50.1 50.1	<49.8 49.8	<50.0 50.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Jessica Kramer  
Project Assistant



# Certificate of Analysis Summary 645892

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS 11 Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Dec-11-19 12:20 pm

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	645892-007	645892-008	645892-009	645892-010	645892-011	
	<i>Field Id:</i>	FS24	FS25	FS26	SW14	SW15	
	<i>Depth:</i>	6- ft	6- ft	6- ft	0-6 ft	0-6 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Dec-10-19 16:20	Dec-10-19 16:30	Dec-10-19 16:45	Dec-10-19 14:59	Dec-10-19 15:10	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	Dec-11-19 13:00	
	<i>Analyzed:</i>	Dec-11-19 20:43	Dec-11-19 21:02	Dec-11-19 21:21	Dec-11-19 21:40	Dec-11-19 22:00	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
m,p-Xylenes		<0.00401 0.00401	<0.00403 0.00403	<0.00400 0.00400	<0.00404 0.00404	<0.00402 0.00402	
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	Dec-12-19 08:40	
	<i>Analyzed:</i>	Dec-12-19 10:19	Dec-12-19 10:35	Dec-12-19 10:41	Dec-12-19 10:47	Dec-12-19 10:53	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<9.96 9.96	<9.98 9.98	<9.92 9.92	13.0 9.88	<9.88 9.88	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	Dec-11-19 16:40	
	<i>Analyzed:</i>	Dec-11-19 20:01	Dec-11-19 20:01	Dec-11-19 20:21	Dec-11-19 20:21	Dec-11-19 20:41	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.3 50.3	<49.8 49.8	
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.3 50.3	58.4 49.8	
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.3 50.3	<49.8 49.8	
Total GRO-DRO		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.3 50.3	58.4 49.8	
Total TPH		<49.9 49.9	<49.8 49.8	<49.9 49.9	<50.3 50.3	58.4 49.8	

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Version: 1.9%

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS15A**  
Lab Sample Id: 645892-001

Matrix: Soil  
Date Collected: 12.10.19 10.26

Date Received: 12.11.19 12.20  
Sample Depth: 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	9.98	mg/kg	12.12.19 09.21		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.12.19 10.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	95.9	50.2	mg/kg	12.12.19 13.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.19 10.25	U	1
Total GRO-DRO	PHC628	95.9	50.2	mg/kg	12.12.19 13.35		1
Total TPH	PHC635	95.9	50.2	mg/kg	12.12.19 13.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.12.19 10.25	
o-Terphenyl	84-15-1	113	%	70-135	12.12.19 10.25	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS15A**  
 Lab Sample Id: 645892-001

Matrix: Soil  
 Date Collected: 12.10.19 10.26

Date Received: 12.11.19 12.20  
 Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.19 18.04	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.11.19 18.04	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.19 18.04		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.11.19 18.04		





# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS16A**  
Lab Sample Id: 645892-002

Matrix: Soil  
Date Collected: 12.10.19 10.42

Date Received: 12.11.19 12.20  
Sample Depth: 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.5	9.96	mg/kg	12.12.19 09.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.19 19.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.19 19.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.11.19 19.01	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.11.19 19.01	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.11.19 19.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	12.11.19 19.01	
o-Terphenyl	84-15-1	89	%	70-135	12.11.19 19.01	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS16A**  
Lab Sample Id: 645892-002

Matrix: Soil  
Date Collected: 12.10.19 10.42

Date Received: 12.11.19 12.20  
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.19 18.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 18.23	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.19 18.23		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.19 18.23		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS18A**  
Lab Sample Id: 645892-003

Matrix: Soil  
Date Collected: 12.10.19 11.26

Date Received: 12.11.19 12.20  
Sample Depth: 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.12.19 09.32	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.19 10.25	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>84.7</b>	50.1	mg/kg	12.12.19 10.25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.19 10.25	U	1
<b>Total GRO-DRO</b>	PHC628	<b>84.7</b>	50.1	mg/kg	12.12.19 10.25		1
<b>Total TPH</b>	PHC635	<b>84.7</b>	50.1	mg/kg	12.12.19 10.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.12.19 10.25	
o-Terphenyl	84-15-1	104	%	70-135	12.12.19 10.25	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS18A**  
Lab Sample Id: 645892-003

Matrix: Soil  
Date Collected: 12.10.19 11.26

Date Received: 12.11.19 12.20  
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.19 18.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 18.42	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.11.19 18.42		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.19 18.42		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS21**  
Lab Sample Id: 645892-004

Matrix: Soil  
Date Collected: 12.10.19 15.28

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.12.19 09.38	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.19 19.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.19 19.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.19 19.21	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.11.19 19.21	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.11.19 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.11.19 19.21	
o-Terphenyl	84-15-1	114	%	70-135	12.11.19 19.21	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS21**  
 Lab Sample Id: 645892-004

Matrix: Soil  
 Date Collected: 12.10.19 15.28

Date Received: 12.11.19 12.20  
 Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.19 19.01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 19.01	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.19 19.01		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.19 19.01		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS22**  
Lab Sample Id: 645892-005

Matrix: Soil  
Date Collected: 12.10.19 15.59

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	12.12.19 09.44	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.19 19.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.19 19.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.19 19.21	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.11.19 19.21	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.11.19 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	12.11.19 19.21	
o-Terphenyl	84-15-1	83	%	70-135	12.11.19 19.21	





# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS22**  
Lab Sample Id: 645892-005

Matrix: Soil  
Date Collected: 12.10.19 15.59

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.19 19.20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.11.19 19.20	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.19 19.20		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.19 19.20		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS23**  
Lab Sample Id: 645892-006

Matrix: Soil  
Date Collected: 12.10.19 16.15

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.12.19 09.50	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.19 19.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.19 19.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.19 19.41	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.11.19 19.41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.11.19 19.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.11.19 19.41	
o-Terphenyl	84-15-1	91	%	70-135	12.11.19 19.41	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS23**  
 Lab Sample Id: 645892-006

Matrix: Soil  
 Date Collected: 12.10.19 16.15

Date Received: 12.11.19 12.20  
 Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.19 20.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 20.24	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.11.19 20.24		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.11.19 20.24		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS24**  
Lab Sample Id: 645892-007

Matrix: Soil  
Date Collected: 12.10.19 16.20

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	12.12.19 10.19	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.19 20.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.19 20.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.19 20.01	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.11.19 20.01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.11.19 20.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	72	%	70-135	12.11.19 20.01	
o-Terphenyl	84-15-1	75	%	70-135	12.11.19 20.01	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS24**  
Lab Sample Id: 645892-007

Matrix: Soil  
Date Collected: 12.10.19 16.20

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.19 20.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 20.43	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.19 20.43		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.11.19 20.43		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **FS25**  
Lab Sample Id: 645892-008

Matrix: Soil  
Date Collected: 12.10.19 16.30

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.12.19 10.35	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.19 20.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.19 20.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.19 20.01	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.11.19 20.01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.11.19 20.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	12.11.19 20.01	
o-Terphenyl	84-15-1	89	%	70-135	12.11.19 20.01	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS25**  
Lab Sample Id: 645892-008

Matrix: Soil  
Date Collected: 12.10.19 16.30

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.19 21.02	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.11.19 21.02	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.19 21.02		
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.11.19 21.02		





# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS26**  
Lab Sample Id: 645892-009

Matrix: Soil  
Date Collected: 12.10.19 16.45

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.12.19 10.41	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.19 20.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.19 20.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.19 20.21	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.11.19 20.21	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.11.19 20.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	12.11.19 20.21	
o-Terphenyl	84-15-1	96	%	70-135	12.11.19 20.21	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

PLU BS 11 Federal Battery

Sample Id: **FS26**  
Lab Sample Id: 645892-009

Matrix: Soil  
Date Collected: 12.10.19 16.45

Date Received: 12.11.19 12.20  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.11.19 21.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.11.19 21.21	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.19 21.21		
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.11.19 21.21		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW14**  
Lab Sample Id: 645892-010

Matrix: Soil  
Date Collected: 12.10.19 14.59

Date Received: 12.11.19 12.20  
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.0	9.88	mg/kg	12.12.19 10.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.19 20.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.19 20.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.11.19 20.21	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.11.19 20.21	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.11.19 20.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	12.11.19 20.21	
o-Terphenyl	84-15-1	89	%	70-135	12.11.19 20.21	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW14**  
 Lab Sample Id: 645892-010

Matrix: Soil  
 Date Collected: 12.10.19 14.59

Date Received: 12.11.19 12.20  
 Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.11.19 21.40	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.11.19 21.40	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.19 21.40		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.11.19 21.40		



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW15**  
Lab Sample Id: 645892-011

Matrix: Soil  
Date Collected: 12.10.19 15.10

Date Received: 12.11.19 12.20  
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110256

Date Prep: 12.12.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	12.12.19 10.53	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110222

Date Prep: 12.11.19 16.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.19 20.41	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>58.4</b>	49.8	mg/kg	12.11.19 20.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.19 20.41	U	1
<b>Total GRO-DRO</b>	PHC628	<b>58.4</b>	49.8	mg/kg	12.11.19 20.41		1
<b>Total TPH</b>	PHC635	<b>58.4</b>	49.8	mg/kg	12.11.19 20.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	12.11.19 20.41	
o-Terphenyl	84-15-1	81	%	70-135	12.11.19 20.41	



# Certificate of Analytical Results 645892

## LT Environmental, Inc., Arvada, CO

### PLU BS 11 Federal Battery

Sample Id: **SW15**  
 Lab Sample Id: 645892-011

Matrix: Soil  
 Date Collected: 12.10.19 15.10

Date Received: 12.11.19 12.20  
 Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.11.19 13.00

Basis: Wet Weight

Seq Number: 3110217

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.11.19 22.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.11.19 22.00	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.19 22.00		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.11.19 22.00		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



## LT Environmental, Inc.

PLU BS 11 Federal Battery

## Analytical Method: Chloride by EPA 300

Seq Number: 3110256

MB Sample Id: 7692243-1-BLK

Matrix: Solid

LCS Sample Id: 7692243-1-BKS

Prep Method: E300P

Date Prep: 12.12.19

LCSD Sample Id: 7692243-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	265	106	90-110	2	20	mg/kg	12.12.19 09:09	

## Analytical Method: Chloride by EPA 300

Seq Number: 3110256

Parent Sample Id: 645892-006

Matrix: Soil

MS Sample Id: 645892-006 S

Prep Method: E300P

Date Prep: 12.12.19

MSD Sample Id: 645892-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.14	200	214	102	214	103	90-110	0	20	mg/kg	12.12.19 10:07	

## Analytical Method: Chloride by EPA 300

Seq Number: 3110256

Parent Sample Id: 645892-011

Matrix: Soil

MS Sample Id: 645892-011 S

Prep Method: E300P

Date Prep: 12.12.19

MSD Sample Id: 645892-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.60	198	211	103	211	103	90-110	0	20	mg/kg	12.12.19 10:59	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3110222

MB Sample Id: 7692253-1-BLK

Matrix: Solid

LCS Sample Id: 7692253-1-BKS

Prep Method: SW8015P

Date Prep: 12.11.19

LCSD Sample Id: 7692253-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	973	97	923	92	70-135	5	35	mg/kg	12.11.19 17:18	
Diesel Range Organics (DRO)	<50.0	1000	823	82	807	81	70-135	2	35	mg/kg	12.11.19 17:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	71		100		95		70-135	%	12.11.19 17:18
o-Terphenyl	74		93		91		70-135	%	12.11.19 17:18

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3110222

Matrix: Solid

MB Sample Id: 7692253-1-BLK

Prep Method: SW8015P

Date Prep: 12.11.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.19 16:58	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





**LT Environmental, Inc.**  
PLU BS 11 Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3110222

Parent Sample Id: 645890-001

Matrix: Soil

MS Sample Id: 645890-001 S

Prep Method: SW8015P

Date Prep: 12.11.19

MSD Sample Id: 645890-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	925	93	869	86	70-135	6	35	mg/kg	12.11.19 17:41	
Diesel Range Organics (DRO)	<50.0	1000	832	83	772	76	70-135	7	35	mg/kg	12.11.19 17:41	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		91		70-135	%	12.11.19 17:41
o-Terphenyl	99		86		70-135	%	12.11.19 17:41

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110217

MB Sample Id: 7692204-1-BLK

Matrix: Solid

LCS Sample Id: 7692204-1-BKS

Prep Method: SW5030B

Date Prep: 12.11.19

LCSD Sample Id: 7692204-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0954	95	0.0930	93	70-130	3	35	mg/kg	12.11.19 14:53	
Toluene	<0.00200	0.100	0.0966	97	0.0956	96	70-130	1	35	mg/kg	12.11.19 14:53	
Ethylbenzene	<0.00200	0.100	0.0953	95	0.0950	95	71-129	0	35	mg/kg	12.11.19 14:53	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.201	101	70-135	0	35	mg/kg	12.11.19 14:53	
o-Xylene	<0.00200	0.100	0.101	101	0.102	102	71-133	1	35	mg/kg	12.11.19 14:53	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		103		70-130	%	12.11.19 14:53
4-Bromofluorobenzene	108		115		116		70-130	%	12.11.19 14:53

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110217

Parent Sample Id: 645890-001

Matrix: Soil

MS Sample Id: 645890-001 S

Prep Method: SW5030B

Date Prep: 12.11.19

MSD Sample Id: 645890-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.106	105	0.0782	77	70-130	30	35	mg/kg	12.11.19 15:24	
Toluene	<0.00201	0.101	0.104	103	0.0866	86	70-130	18	35	mg/kg	12.11.19 15:24	
Ethylbenzene	<0.00201	0.101	0.0978	97	0.0816	81	71-129	18	35	mg/kg	12.11.19 15:24	
m,p-Xylenes	<0.00402	0.201	0.205	102	0.173	86	70-135	17	35	mg/kg	12.11.19 15:24	
o-Xylene	<0.00201	0.101	0.104	103	0.0864	86	71-133	18	35	mg/kg	12.11.19 15:24	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		99		70-130	%	12.11.19 15:24
4-Bromofluorobenzene	122		123		70-130	%	12.11.19 15:24

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec





Revised Date: 05/4/8 Rev. 2018.1



## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/11/2019 12:20:00 PM

Work Order #: 645892

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	2.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 12/11/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/12/2019

# Analytical Report 646243

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS II Federal Battery**

**012918036**

**16-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



16-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **646243**

**PLU BS II Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 646243. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 646243 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

---

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 646243****LT Environmental, Inc., Arvada, CO**

PLU BS II Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH03	S	12-12-19 12:20	2 ft	646243-001
PH03A	S	12-12-19 12:40	5 ft	646243-002
PH03B	S	12-12-19 13:00	8 ft	646243-003
PH04	S	12-12-19 13:25	2 ft	646243-004
PH04A	S	12-12-19 13:45	5 ft	646243-005
PH04B	S	12-12-19 14:00	8 ft	646243-006
PH05	S	12-12-19 14:20	2 ft	646243-007
PH05A	S	12-12-19 14:35	5 ft	646243-008
PH05B	S	12-12-19 14:45	8 ft	646243-009



## CASE NARRATIVE

**Client Name:** *LT Environmental, Inc.*

**Project Name:** *PLU BS II Federal Battery*

Project ID: 012918036  
Work Order Number(s): 646243

Report Date: 16-DEC-19  
Date Received: 12/13/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3110527 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





# Certificate of Analysis Summary 646243

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS II Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Dec-13-19 09:05 am

Report Date: 16-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	646243-001	646243-002	646243-003	646243-004	646243-005	646243-006
	<i>Field Id:</i>	PH03	PH03A	PH03B	PH04	PH04A	PH04B
	<i>Depth:</i>	2- ft	5- ft	8- ft	2- ft	5- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-12-19 12:20	Dec-12-19 12:40	Dec-12-19 13:00	Dec-12-19 13:25	Dec-12-19 13:45	Dec-12-19 14:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06
	<i>Analyzed:</i>	Dec-13-19 12:43	Dec-13-19 13:02	Dec-13-19 13:22	Dec-13-19 13:41	Dec-13-19 14:00	Dec-13-19 14:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399	<0.00403 0.00403	<0.00402 0.00402	<0.00396 0.00396	<0.00404 0.00404
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02
	<i>Analyzed:</i>	Dec-13-19 13:45	Dec-13-19 14:02	Dec-13-19 14:08	Dec-13-19 14:14	Dec-13-19 14:20	Dec-13-19 14:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		79.8 10.1	46.9 10.0	85.6 10.0	<10.1 10.1	38.0 10.0	219 10.0
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30
	<i>Analyzed:</i>	Dec-13-19 11:50	Dec-13-19 12:10	Dec-13-19 12:30	Dec-13-19 12:30	Dec-13-19 12:50	Dec-13-19 12:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.8 49.8
Diesel Range Organics (DRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.8 49.8
Total GRO-DRO		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.8 49.8
Total TPH		<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.8 49.8

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analysis Summary 646243

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS II Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Dec-13-19 09:05 am

Report Date: 16-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	646243-007	646243-008	646243-009			
	<i>Field Id:</i>	PH05	PH05A	PH05B			
	<i>Depth:</i>	2- ft	5- ft	8- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Dec-12-19 14:20	Dec-12-19 14:35	Dec-12-19 14:45			
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06			
	<i>Analyzed:</i>	Dec-13-19 14:38	Dec-13-19 14:57	Dec-13-19 15:16			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
Toluene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
m,p-Xylenes		<0.00398 0.00398	<0.00396 0.00396	<0.00402 0.00402			
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02			
	<i>Analyzed:</i>	Dec-13-19 14:43	Dec-13-19 14:49	Dec-13-19 14:54			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		13.5 10.1	134 9.90	120 10.1			
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30			
	<i>Analyzed:</i>	Dec-13-19 13:10	Dec-13-19 13:10	Dec-13-19 13:30			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0			
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0			
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<50.0 50.0			
Total GRO-DRO		<50.2 50.2	<50.2 50.2	<50.0 50.0			
Total TPH		<50.2 50.2	<50.2 50.2	<50.0 50.0			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

*Jessica Kramer*

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03**  
Lab Sample Id: 646243-001

Matrix: Soil  
Date Collected: 12.12.19 12.20

Date Received: 12.13.19 09.05  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	79.8	10.1	mg/kg	12.13.19 13.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.13.19 11.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.13.19 11.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.13.19 11.50	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.13.19 11.50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.13.19 11.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.13.19 11.50	
o-Terphenyl	84-15-1	117	%	70-135	12.13.19 11.50	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03**  
 Lab Sample Id: 646243-001

Matrix: Soil  
 Date Collected: 12.12.19 12.20

Date Received: 12.13.19 09.05  
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.13.19 12.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.13.19 12.43	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.13.19 12.43		
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.13.19 12.43		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03A**  
 Lab Sample Id: 646243-002

Matrix: Soil  
 Date Collected: 12.12.19 12.40

Date Received: 12.13.19 09.05  
 Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.9	10.0	mg/kg	12.13.19 14.02		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.13.19 12.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.13.19 12.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.13.19 12.10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.13.19 12.10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.13.19 12.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.13.19 12.10	
o-Terphenyl	84-15-1	111	%	70-135	12.13.19 12.10	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03A**  
 Lab Sample Id: 646243-002

Matrix: Soil  
 Date Collected: 12.12.19 12.40

Date Received: 12.13.19 09.05  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.13.19 13.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.13.19 13.02	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.13.19 13.02		
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.13.19 13.02		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03B**  
 Lab Sample Id: 646243-003

Matrix: Soil  
 Date Collected: 12.12.19 13.00

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 11.02

Basis: Wet Weight

Seq Number: 3110529

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	85.6	10.0	mg/kg	12.13.19 14.08		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 12.13.19 11.30

Basis: Wet Weight

Seq Number: 3110481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.13.19 12.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.13.19 12.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.13.19 12.30	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.13.19 12.30	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.13.19 12.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.13.19 12.30	
o-Terphenyl	84-15-1	112	%	70-135	12.13.19 12.30	





# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH03B**  
 Lab Sample Id: 646243-003

Matrix: Soil  
 Date Collected: 12.12.19 13.00

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.13.19 13.22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.13.19 13.22	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.13.19 13.22		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.13.19 13.22		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04**  
Lab Sample Id: 646243-004

Matrix: Soil  
Date Collected: 12.12.19 13.25

Date Received: 12.13.19 09.05  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.13.19 14.14	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.13.19 12.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.13.19 12.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.13.19 12.30	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.13.19 12.30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.13.19 12.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.13.19 12.30	
o-Terphenyl	84-15-1	112	%	70-135	12.13.19 12.30	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04**  
 Lab Sample Id: 646243-004

Matrix: Soil  
 Date Collected: 12.12.19 13.25

Date Received: 12.13.19 09.05  
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.13.19 13.41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.13.19 13.41	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.13.19 13.41		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.13.19 13.41		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04A**  
Lab Sample Id: 646243-005

Matrix: Soil  
Date Collected: 12.12.19 13.45

Date Received: 12.13.19 09.05  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.0	10.0	mg/kg	12.13.19 14.20		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.13.19 12.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.13.19 12.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.13.19 12.50	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.13.19 12.50	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.13.19 12.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.13.19 12.50	
o-Terphenyl	84-15-1	114	%	70-135	12.13.19 12.50	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04A**  
 Lab Sample Id: 646243-005

Matrix: Soil  
 Date Collected: 12.12.19 13.45

Date Received: 12.13.19 09.05  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.13.19 14.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.13.19 14.00	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.13.19 14.00		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.13.19 14.00		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04B**  
 Lab Sample Id: 646243-006

Matrix: Soil  
 Date Collected: 12.12.19 14.00

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	219	10.0	mg/kg	12.13.19 14.37		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.13.19 12.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.13.19 12.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.13.19 12.50	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.13.19 12.50	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.13.19 12.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.13.19 12.50	
o-Terphenyl	84-15-1	111	%	70-135	12.13.19 12.50	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH04B**  
 Lab Sample Id: 646243-006

Matrix: Soil  
 Date Collected: 12.12.19 14.00

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.13.19 14.19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.13.19 14.19	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.13.19 14.19		
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.13.19 14.19		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05**  
Lab Sample Id: 646243-007

Matrix: Soil  
Date Collected: 12.12.19 14.20

Date Received: 12.13.19 09.05  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	10.1	mg/kg	12.13.19 14.43		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.13.19 13.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.13.19 13.10	
o-Terphenyl	84-15-1	111	%	70-135	12.13.19 13.10	





# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05**  
 Lab Sample Id: 646243-007

Matrix: Soil  
 Date Collected: 12.12.19 14.20

Date Received: 12.13.19 09.05  
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.13.19 14.38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.13.19 14.38	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.13.19 14.38		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.13.19 14.38		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05A**  
Lab Sample Id: 646243-008

Matrix: Soil  
Date Collected: 12.12.19 14.35

Date Received: 12.13.19 09.05  
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	134	9.90	mg/kg	12.13.19 14.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.13.19 13.10	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.13.19 13.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.13.19 13.10	
o-Terphenyl	84-15-1	109	%	70-135	12.13.19 13.10	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05A**  
 Lab Sample Id: 646243-008

Matrix: Soil  
 Date Collected: 12.12.19 14.35

Date Received: 12.13.19 09.05  
 Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.13.19 14.57	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.13.19 14.57	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.13.19 14.57		
4-Bromofluorobenzene	460-00-4	128	%	70-130	12.13.19 14.57		



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05B**  
 Lab Sample Id: 646243-009

Matrix: Soil  
 Date Collected: 12.12.19 14.45

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	10.1	mg/kg	12.13.19 14.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.13.19 13.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.13.19 13.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.13.19 13.30	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.13.19 13.30	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.13.19 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.13.19 13.30	
o-Terphenyl	84-15-1	112	%	70-135	12.13.19 13.30	



# Certificate of Analytical Results 646243

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **PH05B**  
 Lab Sample Id: 646243-009

Matrix: Soil  
 Date Collected: 12.12.19 14.45

Date Received: 12.13.19 09.05  
 Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.13.19 15.16	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.13.19 15.16	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.13.19 15.16		
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.13.19 15.16		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



## LT Environmental, Inc.

PLU BS II Federal Battery

## Analytical Method: Chloride by EPA 300

Seq Number: 3110529

MB Sample Id: 7692368-1-BLK

Matrix: Solid

LCS Sample Id: 7692368-1-BKS

Prep Method: E300P

Date Prep: 12.13.19

LCSD Sample Id: 7692368-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	262	105	90-110	1	20	mg/kg	12.13.19 13:34	

## Analytical Method: Chloride by EPA 300

Seq Number: 3110529

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: E300P

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	79.8	200	295	108	297	108	90-110	1	20	mg/kg	12.13.19 13:51	

## Analytical Method: Chloride by EPA 300

Seq Number: 3110529

Parent Sample Id: 646256-002

Matrix: Soil

MS Sample Id: 646256-002 S

Prep Method: E300P

Date Prep: 12.13.19

MSD Sample Id: 646256-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.93	199	213	105	220	109	90-110	3	20	mg/kg	12.13.19 15:12	

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3110481

MB Sample Id: 7692406-1-BLK

Matrix: Solid

LCS Sample Id: 7692406-1-BKS

Prep Method: SW8015P

Date Prep: 12.13.19

LCSD Sample Id: 7692406-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1210	121	1010	101	70-135	18	35	mg/kg	12.13.19 11:30	
Diesel Range Organics (DRO)	<50.0	1000	1240	124	1050	105	70-135	17	35	mg/kg	12.13.19 11:30	

## Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		132		123		70-135	%	12.13.19 11:30
o-Terphenyl	107		133		122		70-135	%	12.13.19 11:30

## Analytical Method: TPH by SW8015 Mod

Seq Number: 3110481

Matrix: Solid

MB Sample Id: 7692406-1-BLK

Prep Method: SW8015P

Date Prep: 12.13.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.13.19 11:10	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 $\text{Log Diff.} = \text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU BS II Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3110481

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: SW8015P

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	1090	109	1080	108	70-135	1	35	mg/kg	12.13.19 11:50	
Diesel Range Organics (DRO)	<49.8	996	1120	112	1100	110	70-135	2	35	mg/kg	12.13.19 11:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		129		70-135	%	12.13.19 11:50
o-Terphenyl	123		124		70-135	%	12.13.19 11:50

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110527

MB Sample Id: 7692369-1-BLK

Matrix: Solid

LCS Sample Id: 7692369-1-BKS

Prep Method: SW5030B

Date Prep: 12.13.19

LCSD Sample Id: 7692369-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0897	90	0.0913	91	70-130	2	35	mg/kg	12.13.19 11:01	
Toluene	<0.00200	0.100	0.0913	91	0.0929	93	70-130	2	35	mg/kg	12.13.19 11:01	
Ethylbenzene	<0.00200	0.100	0.0905	91	0.0923	92	71-129	2	35	mg/kg	12.13.19 11:01	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.196	98	70-135	2	35	mg/kg	12.13.19 11:01	
o-Xylene	<0.00200	0.100	0.0964	96	0.0985	99	71-133	2	35	mg/kg	12.13.19 11:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		102		70-130	%	12.13.19 11:01
4-Bromofluorobenzene	110		116		117		70-130	%	12.13.19 11:01

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110527

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: SW5030B

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0903	90	0.0894	89	70-130	1	35	mg/kg	12.13.19 11:40	
Toluene	<0.00200	0.100	0.0903	90	0.0892	88	70-130	1	35	mg/kg	12.13.19 11:40	
Ethylbenzene	<0.00200	0.100	0.0865	87	0.0837	83	71-129	3	35	mg/kg	12.13.19 11:40	
m,p-Xylenes	<0.00401	0.200	0.182	91	0.176	88	70-135	3	35	mg/kg	12.13.19 11:40	
o-Xylene	<0.00200	0.100	0.0927	93	0.0900	89	71-133	3	35	mg/kg	12.13.19 11:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	12.13.19 11:40
4-Bromofluorobenzene	123		123		70-130	%	12.13.19 11:40

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec





# Chain of Custody

 Work Order No: 646243

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0600) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

 www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com

<b>Work Order Comments</b>	
Program: UST/PST <input type="checkbox"/> RRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>	

Project Name:	PLU BS 11 Federal Battery	Turn Around	
Project Number:	012918036	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Temperature (°C):	2.2	Thermometer ID		
Received Intact:	Yes <input checked="" type="radio"/> No <input type="radio"/>	T-NM-007		
Cooler Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	Correction Factor:		
Sample Custody Seals:	Yes <input checked="" type="radio"/> No <input type="radio"/> N/A	Total Containers:		

SAMPLE RECEIPT					ANALYSIS REQUEST										Work Order Notes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8016)	BTEX (EPA 8021)	Chloride (EPA 300.0)								
PH03	S	12/12/19	1220	2	1	X	X	X								
PH03A			1240	5												
PH03B			1300	8												
PH04			1325	2												
PH04A			1345	5												
PH04B			1400	8												
PH05			1420	2												
PH05A			1435	5												
PH05B			1445	8												

Total 200.7 / 6010 200.8 / 6020: BRCRA 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: BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Spencer Lo</i>	<i>Spencer Lo</i>	0850 12/13/19	2 <i>Kyle Littrell</i>	<i>Kyle Littrell</i>	12/13/19 0905
3			4		
5			6		

Revised Date 05/14/18 Rev. 2015



## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/13/2019 09:05:00 AM

Work Order #: 646243

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 12/13/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/13/2019

# Analytical Report 646256

for  
LT Environmental, Inc.

**Project Manager: Dan Moir**

**PLU BS II Federal Battery**

**012918036**

**16-DEC-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



16-DEC-19

Project Manager: **Dan Moir**

**LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **646256**

**PLU BS II Federal Battery**

Project Address:

**Dan Moir:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 646256. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 646256 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

---

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



## Sample Cross Reference 646256

LT Environmental, Inc., Arvada, CO

PLU BS II Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW16	S	12-12-19 11:15	0 - 6 ft	646256-001
SW17	S	12-12-19 11:15	0 - 6 ft	646256-002
SW18	S	12-12-19 11:15	0 - 6 ft	646256-003



## CASE NARRATIVE

**Client Name:** *LT Environmental, Inc.*

**Project Name:** *PLU BS II Federal Battery*

Project ID: 012918036

Work Order Number(s): 646256

Report Date: 16-DEC-19

Date Received: 12/13/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3110527 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





# Certificate of Analysis Summary 646256

LT Environmental, Inc., Arvada, CO

Project Name: PLU BS II Federal Battery

Project Id: 012918036

Contact: Dan Moir

Project Location:

Date Received in Lab: Fri Dec-13-19 09:05 am

Report Date: 16-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	646256-001	646256-002	646256-003			
	<i>Field Id:</i>	SW16	SW17	SW18			
	<i>Depth:</i>	0-6 ft	0-6 ft	0-6 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Dec-12-19 11:15	Dec-12-19 11:15	Dec-12-19 11:15			
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Dec-13-19 10:06	Dec-13-19 10:06	Dec-13-19 10:06			
	<i>Analyzed:</i>	Dec-13-19 15:35	Dec-13-19 16:39	Dec-13-19 16:58			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199			
m,p-Xylenes		<0.00399 0.00399	<0.00400 0.00400	<0.00398 0.00398			
o-Xylene		0.00201 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Total Xylenes		0.00201 0.00200	<0.00200 0.00200	<0.00199 0.00199			
Total BTEX		0.00201 0.00200	<0.00200 0.00200	<0.00199 0.00199			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Dec-13-19 11:02	Dec-13-19 11:02	Dec-13-19 11:02			
	<i>Analyzed:</i>	Dec-13-19 15:00	Dec-13-19 15:06	Dec-13-19 15:23			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<9.98 9.98	<9.94 9.94	<9.92 9.92			
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Dec-13-19 11:30	Dec-13-19 11:30	Dec-13-19 11:30			
	<i>Analyzed:</i>	Dec-13-19 13:30	Dec-13-19 13:50	Dec-13-19 14:10			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.2 50.2	<50.1 50.1			
Diesel Range Organics (DRO)		2060 50.0	685 50.2	741 50.1			
Motor Oil Range Hydrocarbons (MRO)		211 50.0	122 50.2	81.5 50.1			
Total GRO-DRO		2060 50.0	685 50.2	741 50.1			
Total TPH		2270 50.0	807 50.2	823 50.1			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW16**  
Lab Sample Id: 646256-001

Matrix: Soil  
Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.13.19 15.00	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.13.19 13.30	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>2060</b>	50.0	mg/kg	12.13.19 13.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>211</b>	50.0	mg/kg	12.13.19 13.30		1
<b>Total GRO-DRO</b>	PHC628	<b>2060</b>	50.0	mg/kg	12.13.19 13.30		1
<b>Total TPH</b>	PHC635	<b>2270</b>	50.0	mg/kg	12.13.19 13.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.13.19 13.30	
o-Terphenyl	84-15-1	122	%	70-135	12.13.19 13.30	





# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW16**  
 Lab Sample Id: 646256-001

Matrix: Soil  
 Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
 Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.13.19 15.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.13.19 15.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.13.19 15.35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.13.19 15.35	U	1
<b>o-Xylene</b>	95-47-6	<b>0.00201</b>	0.00200	mg/kg	12.13.19 15.35		1
<b>Total Xylenes</b>	1330-20-7	<b>0.00201</b>	0.00200	mg/kg	12.13.19 15.35		1
<b>Total BTEX</b>		<b>0.00201</b>	0.00200	mg/kg	12.13.19 15.35		1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.13.19 15.35		
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.13.19 15.35		



# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW17**  
Lab Sample Id: 646256-002

Matrix: Soil  
Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	12.13.19 15.06	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.13.19 13.50	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>685</b>	50.2	mg/kg	12.13.19 13.50		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>122</b>	50.2	mg/kg	12.13.19 13.50		1
<b>Total GRO-DRO</b>	PHC628	<b>685</b>	50.2	mg/kg	12.13.19 13.50		1
<b>Total TPH</b>	PHC635	<b>807</b>	50.2	mg/kg	12.13.19 13.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.13.19 13.50	
o-Terphenyl	84-15-1	114	%	70-135	12.13.19 13.50	



# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW17**  
 Lab Sample Id: 646256-002

Matrix: Soil  
 Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
 Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.13.19 16.39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.13.19 16.39	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.13.19 16.39		
4-Bromofluorobenzene	460-00-4	105	%	70-130	12.13.19 16.39		



# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW18**  
Lab Sample Id: 646256-003

Matrix: Soil  
Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110529

Date Prep: 12.13.19 11.02

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.13.19 15.23	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110481

Date Prep: 12.13.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.13.19 14.10	U	1
<b>Diesel Range Organics (DRO)</b>	C10C28DRO	<b>741</b>	50.1	mg/kg	12.13.19 14.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<b>81.5</b>	50.1	mg/kg	12.13.19 14.10		1
<b>Total GRO-DRO</b>	PHC628	<b>741</b>	50.1	mg/kg	12.13.19 14.10		1
<b>Total TPH</b>	PHC635	<b>823</b>	50.1	mg/kg	12.13.19 14.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.13.19 14.10	
o-Terphenyl	84-15-1	126	%	70-135	12.13.19 14.10	



# Certificate of Analytical Results 646256

## LT Environmental, Inc., Arvada, CO

### PLU BS II Federal Battery

Sample Id: **SW18**  
 Lab Sample Id: 646256-003

Matrix: Soil  
 Date Collected: 12.12.19 11.15

Date Received: 12.13.19 09.05  
 Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.13.19 10.06

Basis: Wet Weight

Seq Number: 3110527

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.13.19 16.58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.13.19 16.58	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.13.19 16.58		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.13.19 16.58		



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



**LT Environmental, Inc.**  
PLU BS II Federal Battery

**Analytical Method: Chloride by EPA 300**

Seq Number: 3110529

MB Sample Id: 7692368-1-BLK

Matrix: Solid

LCS Sample Id: 7692368-1-BKS

Prep Method: E300P

Date Prep: 12.13.19

LCSD Sample Id: 7692368-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	262	105	90-110	1	20	mg/kg	12.13.19 13:34	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3110529

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: E300P

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	79.8	200	295	108	297	108	90-110	1	20	mg/kg	12.13.19 13:51	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3110529

Parent Sample Id: 646256-002

Matrix: Soil

MS Sample Id: 646256-002 S

Prep Method: E300P

Date Prep: 12.13.19

MSD Sample Id: 646256-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.93	199	213	105	220	109	90-110	3	20	mg/kg	12.13.19 15:12	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3110481

MB Sample Id: 7692406-1-BLK

Matrix: Solid

LCS Sample Id: 7692406-1-BKS

Prep Method: SW8015P

Date Prep: 12.13.19

LCSD Sample Id: 7692406-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1210	121	1010	101	70-135	18	35	mg/kg	12.13.19 11:30	
Diesel Range Organics (DRO)	<50.0	1000	1240	124	1050	105	70-135	17	35	mg/kg	12.13.19 11:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		132		123		70-135	%	12.13.19 11:30
o-Terphenyl	107		133		122		70-135	%	12.13.19 11:30

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3110481

Matrix: Solid

MB Sample Id: 7692406-1-BLK

Prep Method: SW8015P

Date Prep: 12.13.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.13.19 11:10	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
 A = Parent Result  
 C = MS/LCS Result  
 E = MSD/LCSD Result

MS = Matrix Spike  
 B = Spike Added  
 D = MSD/LCSD % Rec



**LT Environmental, Inc.**  
PLU BS II Federal Battery

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3110481

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: SW8015P

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	1090	109	1080	108	70-135	1	35	mg/kg	12.13.19 11:50	
Diesel Range Organics (DRO)	<49.8	996	1120	112	1100	110	70-135	2	35	mg/kg	12.13.19 11:50	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		129		70-135	%	12.13.19 11:50
o-Terphenyl	123		124		70-135	%	12.13.19 11:50

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110527

MB Sample Id: 7692369-1-BLK

Matrix: Solid

LCS Sample Id: 7692369-1-BKS

Prep Method: SW5030B

Date Prep: 12.13.19

LCSD Sample Id: 7692369-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0897	90	0.0913	91	70-130	2	35	mg/kg	12.13.19 11:01	
Toluene	<0.00200	0.100	0.0913	91	0.0929	93	70-130	2	35	mg/kg	12.13.19 11:01	
Ethylbenzene	<0.00200	0.100	0.0905	91	0.0923	92	71-129	2	35	mg/kg	12.13.19 11:01	
m,p-Xylenes	<0.00400	0.200	0.192	96	0.196	98	70-135	2	35	mg/kg	12.13.19 11:01	
o-Xylene	<0.00200	0.100	0.0964	96	0.0985	99	71-133	2	35	mg/kg	12.13.19 11:01	

**Surrogate**

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		102		70-130	%	12.13.19 11:01
4-Bromofluorobenzene	110		116		117		70-130	%	12.13.19 11:01

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3110527

Parent Sample Id: 646243-001

Matrix: Soil

MS Sample Id: 646243-001 S

Prep Method: SW5030B

Date Prep: 12.13.19

MSD Sample Id: 646243-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0903	90	0.0894	89	70-130	1	35	mg/kg	12.13.19 11:40	
Toluene	<0.00200	0.100	0.0903	90	0.0892	88	70-130	1	35	mg/kg	12.13.19 11:40	
Ethylbenzene	<0.00200	0.100	0.0865	87	0.0837	83	71-129	3	35	mg/kg	12.13.19 11:40	
m,p-Xylenes	<0.00401	0.200	0.182	91	0.176	88	70-135	3	35	mg/kg	12.13.19 11:40	
o-Xylene	<0.00200	0.100	0.0927	93	0.0900	89	71-133	3	35	mg/kg	12.13.19 11:40	

**Surrogate**

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		70-130	%	12.13.19 11:40
4-Bromofluorobenzene	123		123		70-130	%	12.13.19 11:40

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

[D] = 100\*(C-A) / B  
RPD = 200\* |(C-E) / (C+E)|  
[D] = 100 \* (C) / [B]  
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





# Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8900 Tampa, FL (813) 820-2000

Work Order No: 1944250

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@lterrv.com, dmoir@lterrv.com

Work Order Comments	
Program: UST/PST	<input checked="" type="checkbox"/> RP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	PLV 85 11 Federal Battery	Turn Around	
Project Number:	012918036	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	
Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	2.2
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer ID:	T-NM-007
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Correction Factor:	-0.2
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Total Containers:	3

SAMPLE RECEIPT					ANALYSIS REQUEST															Work Order Notes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8-8021)	Chloride (EPA 300.0)													
SW16	S	12-12-19	1115	0-6	1	✓	✓	✓													
SW17	S	12-12-19	1130	0-6	1	✓	✓	✓													
SW18	S	12-12-19	1145	0-6	1	✓	✓	✓													
<i>Spencer Lo</i>																					

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 1631 / 245.1 / 7470 / 7471 : Hg

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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
<i>Spencer Lo</i>	<i>Walter Nicks</i>	0850 12/13/19	<i>Walter Nicks</i>	<i>Walter Nicks</i>	12/13/19 0905

Revised Date 051418 Rev. 2018.1



## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/13/2019 09:05:00 AM

Work Order #: 646256

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 12/13/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/13/2019

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**Oil Conservation Division**  
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**Santa Fe, NM 87505**

QUESTIONS

Action 489826

**QUESTIONS**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 489826
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

Prerequisites	
Incident ID (n#)	nAB1625934302
Incident Name	NAB1625934302 PLU BIG SINKS 11 FEDERAL BATTERY @ 30-015-37147
Incident Type	Oil Release
Incident Status	Reclamation Report Received
Incident Well	[30-015-37147] POKER LAKE UNIT CVX JV BS #002H

**Location of Release Source**

Please answer all the questions in this group.

Site Name	PLU BIG SINKS 11 FEDERAL BATTERY
Date Release Discovered	09/13/2016
Surface Owner	Federal

**Incident Details**

Please answer all the questions in this group.

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

**Nature and Volume of Release**

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Cause: Equipment Failure   Valve   Crude Oil   Released: 79 BBL   Recovered: 42 BBL   Lost: 37 BBL.
Produced Water Released (bbls) Details	Not answered.
Is the concentration of chloride in the produced water >10,000 mg/l	Not answered.
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 489826

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 489826
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
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: 07/29/2025
--	--

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QUESTIONS, Page 3

Action 489826

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Site Characterization</b>	
<i>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.</i>	
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	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 200 and 300 (ft.)
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 ½ and 1 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

<b>Remediation Plan</b>	
<i>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.</i>	
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
<b>Soil Contamination Sampling:</b> (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	416
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	97.1
GRO+DRO (EPA SW-846 Method 8015M)	77.9
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
<i>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>	
On what estimated date will the remediation commence	05/24/2018
On what date will (or did) the final sampling or liner inspection occur	05/13/2025
On what date will (or was) the remediation complete(d)	05/29/2025
What is the estimated surface area (in square feet) that will be reclaimed	6970
What is the estimated volume (in cubic yards) that will be reclaimed	3000
What is the estimated surface area (in square feet) that will be remediated	6970
What is the estimated volume (in cubic yards) that will be remediated	3000
<i>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.</i>	
<i>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.</i>	



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QUESTIONS, Page 4

Action 489826

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>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.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>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>	
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: 07/29/2025
<i>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.</i>	

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QUESTIONS, Page 5

Action 489826

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

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

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QUESTIONS, Page 6

Action 489826

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

Sampling Event Information	
Last sampling notification (C-141N) recorded	444084
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	03/24/2025
What was the (estimated) number of samples that were to be gathered	60
What was the sampling surface area in square feet	7000

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
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	6970
What was the total volume (cubic yards) remediated	3000
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	6970
What was the total volume (in cubic yards) reclaimed	3000
Summarize any additional remediation activities not included by answers (above)	Excavation activities were conducted at the Site to address the impacted soil resulting from the September 13, 2016, crude oil release. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation is required.
<i>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>	
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: 07/29/2025



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QUESTIONS, Page 7

Action 489826

**QUESTIONS (continued)**

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Reclamation Report</b>	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	6970
What was the total volume of replacement material (in cubic yards) for this site	3000
<i>Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.</i>	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeded commence(d)	08/30/2025
Summarize any additional reclamation activities not included by answers (above)	Following backfill activities, the disturbed area was contoured to match the surrounding topography and the surface was prepared for seeding. Upon confirmation that the excavation was backfilled with non-waste containing material, the disturbed pasture area will be seeded with a certified weed-free seed mix. The BLM Loamy Site #1 Seed Mixture will be used to seed the Site. The seed mix will be applied via drill seeding. The Site will be monitored for vegetation growth to ensure that reclamation activities were successful.
<i>The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeding plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 NMAC.</i>	
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: 07/29/2025

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QUESTIONS, Page 8

Action 489826

QUESTIONS (continued)

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

<b>Revegetation Report</b>	
<i>Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.</i>	
Requesting a restoration complete approval with this submission	No
<i>Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.</i>	

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CONDITIONS

Action 489826

CONDITIONS

Operator:  XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID:  5380
	Action Number:  489826
	Action Type:  [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	8/18/2025