



February 13, 2025

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

**Re: Closure Request Addendum
Poker Lake CVX JV RR #006H
Incident Number nAB1628728258
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request Addendum (2025 Addendum)* to the original *Closure Request* dated October 25, 2019 and subsequent *Closure Request Addendum (2023 Addendum)* dated September 22, 2023. This *2025 Addendum* provides an update to delineation and summarizes excavation activities at the Poker Lake CVX JV RR #006H (Site) in response to the New Mexico Oil Conservation Division (NMOCD) denial of the September 22, 2023, *2023 Addendum*. In the *2023 Addendum* XTO confirmed the Closure Criteria applied at the Site and requested Closure of the release in accordance with the approved *Remediation Work Plan (Work Plan)*; however, NMOCD denied the Closure Request. In the denial, NMOCD indicated that all areas not reasonably needed for production or subsequent drilling operations must be reclaimed to contain a minimum of four feet of non-waste containing earthen material. Based on the additional delineation and excavation activities described below, XTO is submitting this *2025 Addendum* requesting closure for Incident Number nAB1628728258.

RELEASE BACKGROUND AND SITE SUMMARY

The Site is located in Unit D, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.1226616°, -103.8935089°; Figure 1) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On October 10, 2016, a connection failed on the wellhead, causing approximately 13 barrels (bbls) of crude oil and 25 bbls of produced water to release onto the surface of the well pad and mist into the pasture area west of the pad. A vacuum truck recovered approximately 25 bbls of freestanding fluid and a response crew was dispatched to the Site to conduct an initial scrape of the impacted soil. The failed connection was replaced, and the well was put back online. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on October 12, 2016. The release was assigned Remediation Permit (RP) Number 2RP-3937 and Incident Number nAB1628728258.

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.

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Between March 2018 and July 2019, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the October 10, 2016 crude oil and produced water release. Preliminary soil samples SS1 through SS5 were collected at a depth of 0.5 feet below ground surface (bgs) within the historical release area to assess for impacted soil. Potholes PH01 through PH17 were advanced to depths ranging from 4 feet to 14 feet bgs to further delineate impacts laterally and vertically. Following excavation of soil surrounding SS2, composite soil samples SW01 through SW04 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 1.5 feet bgs. Composite soil samples FS01 through FS05 were collected from the floor of the excavation from a depth of 1.5 feet bgs. Soil sample FS04A was collected at a depth of 6 feet bgs from a pothole advanced through the floor of the excavation to assess for vertical impacts. Closure was requested on October 25, 2019, based on laboratory analytical results for the excavation and delineation soil samples indicating benzene, benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO), TPH, and chloride concentrations were compliant with the applied Closure Criteria. Additional details regarding the delineation and excavation activities are summarized in the October 25, 2019 *Closure Request*. The *Closure Report* is included in the 2023 *Addendum* which is attached in Appendix A.

On March 22, 2023, NMOCD denied the *Closure Request* for Incident Number nAB1628728258 for the following reason:

- *The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.*

In response to the denial, XTO submitted a *Work Plan* to the NMOCD on June 29, 2023. The *Work Plan* proposed installing a soil boring within 0.5 miles of the Site to investigate depth to groundwater and confirm the Closure Criteria at the Site. The *Work Plan* was approved by the NMOCD on June 30, 2023. In August 2023, XTO advanced a depth to water boring with ½ mile of the Site, confirming the Site Closure Criteria in accordance with the approved *Work Plan*. Figure 1 illustrates the location of the depth to water boring. XTO submitted the 2023 *Addendum* requesting no further action in September 2023 (Appendix A).

On October 17, 2023, NMOCD denied the 2023 *Addendum* for Incident Number nAB1628728258 for the following reasons:

- *All areas not reasonably needed for production or subsequent drilling operations must be 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. Remediation on an active site can be deferred in areas immediately under or around production equipment such as production tanks, wellheads, and pipelines where remediation could cause a major facility deconstruction so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. The deferral request must specify which sample points are being requested for deferral including an explanation why the contaminants can't be removed.*

Though the remediation activities occurred on pad, and XTO is not required to apply the reclamation requirement in this area, XTO proceeded with the requested additional excavation and soil sampling.

CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of 19.15.29 NMAC. Results from the characterization desktop review are presented on page

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3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Based on the results of the Site Characterization presented in the *2023 Addendum*, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- BTEX: 50 mg/kg
- TPH- GRO and TPH- DRO: 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

DELINEATION SOIL SAMPLING ACTIVITIES

In response to the denial of the *2023 Addendum*, analytical results from the *Closure Request* were reviewed to determine areas exceeding the reclamation requirement. A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation. Soil samples SS1 through SS4 at 0.5 feet bgs as well as all excavation soil samples collected in the top 1.5 feet bgs were identified as containing soil with contaminants of concern (COC) concentrations exceeding the reclamation requirement in the top 4 feet.

On February 14, 2024 and February 15, 2024, Ensolum personnel were at the Site to oversee additional delineation and excavation activities. Pothole PH01 was advanced via backhoe to a depth of 1 foot bgs, and potholes PH02 through PH04 were advanced via backhoe to a depth of 4 feet bgs to assess the current concentrations in the areas of 2019 samples SS1 through SS4 collected south of the previous excavation. Delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 4 feet bgs. Soil from the delineation potholes was field screened for volatile organic compounds (VOCs) and chloride using a photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. 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 Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix B. The potholes and delineation soil sample locations from February 2024 are depicted on Figure 2.

Laboratory analytical results for delineation soil samples PH02 through PH04 at 0.5 foot bgs confirmed the presence of waste-containing soil (soil reporting levels below Closure Criteria but above reclamation requirement). Laboratory analytical results for all other 2024 delineation soil samples indicated that all COC concentrations are compliant with the Closure Criteria and reclamation requirement in the top 4 feet. Laboratory analytical results are summarized in Table 1, and laboratory analytical reports are included in Appendix C.

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EXCAVATION AND SOIL SAMPLING ACTIVITIES

A flowline present west of the wellhead prevented full excavation of the top 4 feet of soil on the active pad. Two separate excavations were conducted north and south of the flowline in areas where remediation would not cause a major facility deconstruction. Impacted soil was excavated from the 2019 excavation north of the flowline and encompassing PH02 through PH04 south of the flowline using a backhoe. To direct excavation activities, Ensolum personnel screened soil for VOCs and chloride using methods described above. Following removal of impacted soil to the maximum extent possible, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor 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. The excavation soil samples were handled and analyzed following the same procedures as described above. The northern excavation was located in the same area as the 2019 excavation and measured approximately 1,789 square feet. Composite soil samples FS01 through FS09 were collected from the floor of the northern excavation at a depth of 1.5 feet bgs and composite soil samples SW01 through SW04 were collected from the sidewalls of the northern excavation at depths ranging from the ground surface to 1.5 feet bgs. The southern excavation was approximately 963 square feet. Composite soil samples FS10 through FS14 were collected from the floor of the southern excavation from depths ranging from 2 feet bgs to 4 feet bgs. Composite soil samples SS05 and SS06 were collected from the sidewalls of the southern excavation at depths ranging from the ground surface to 4 feet bgs. The excavation extents and excavation soil sample locations are presented on Figure 3. Photographs of the 2024 excavation are included in Appendix D.

The final 2024 excavation extent measured approximately 2,752 square feet. A total of approximately 410 cubic yards of impacted soil was removed during the February 2024 excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico. After completion of confirmation sampling, the excavation areas were secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the excavation floor soil samples FS01 through FS14 and sidewall soil samples SW01 through SW06, collected at depths ranging from ground surface to 4 feet bgs indicated that all COC concentrations were compliant with the Closure Criteria and reclamation requirement applied in the top 4 feet. Laboratory analytical results are summarized in Table 1, and the complete laboratory analytical reports are included as Appendix C.

CLOSURE REQUEST

Site assessment and excavation activities were completed at the Site to address the waste-containing soil observed at the Site in the top 4 feet in response to the 2023 Addendum denial. Laboratory analytical results for the February 2024 excavation soil samples are compliant with the reclamation requirement, and the observed depth to groundwater is greater than 100 feet bgs within 1/2 mile of the Site as presented in the 2023 Addendum. XTO respectfully requests no further action for Incident Number nAB1628728258.

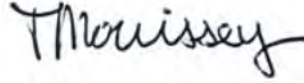
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Poker Lake CVX JV RR #006H

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

Sincerely,
Ensolum, LLC



Katherine Kahn, P.G.
Senior Managing Geologist



Tacoma Morrissey
Associate Principal

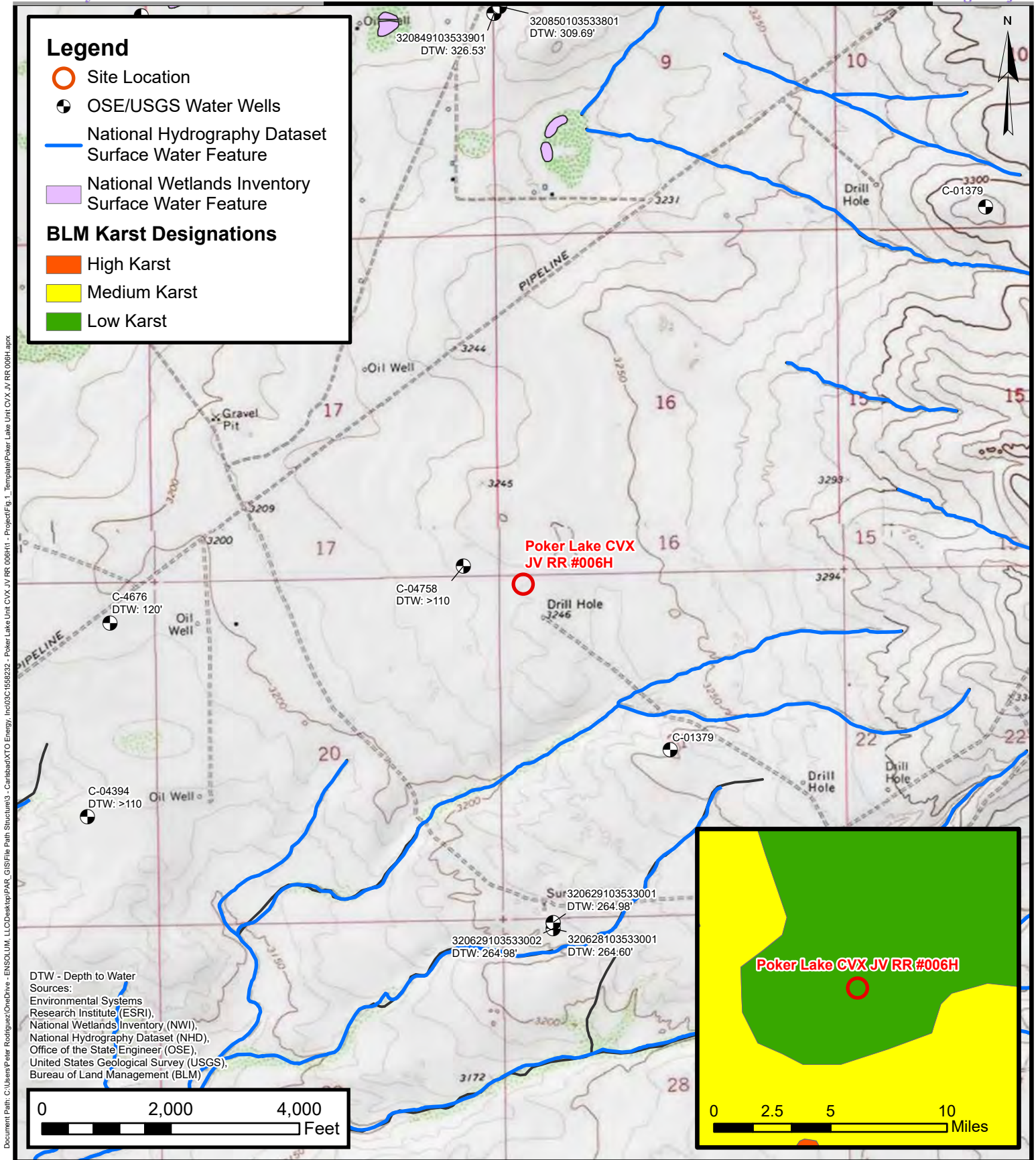
cc: Kaylan Dirkx, XTO
Colton Brown, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	2024 Soil Sample Analytical Results
Appendix A	September 22, 2023 <i>Closure Request Addendum</i>
Appendix B	Lithologic / Soil Sampling Logs
Appendix C	Laboratory Analytical Reports and Chain-of-Custody Documentation
Appendix D	Photographic Logs



FIGURES



Site Receptor Map

XTO Energy, Inc
Poker Lake CVX JV RR #006H
Incident Number: nAB1628728258
Unit D, Sec 21, T 25S, R 30E
Eddy County, New Mexico

FIGURE

1

ENSOLUM
Environmental, Engineering and
Hydrogeologic Consultants

Legend

- Delineation Soil Sample in Compliance with Reclamation Requirement
- Delineation Soil Sample with Concentrations Previously Exceeding Reclamation Requirement
- Oil and Gas Utility Line
- 2019 Excavation Extent



PH03@0.5'
PH03A@4'

PH02@0.5'
PH02A@4'

PH01@0.5'
PH01A@1'

PH04@0.5'
PH04A@4'

Notes:
Sample ID @ Depth Below Ground Surface
Grey text indicates soil sample removed during excavation

0 50 100
Feet

Source:
Bing Maps

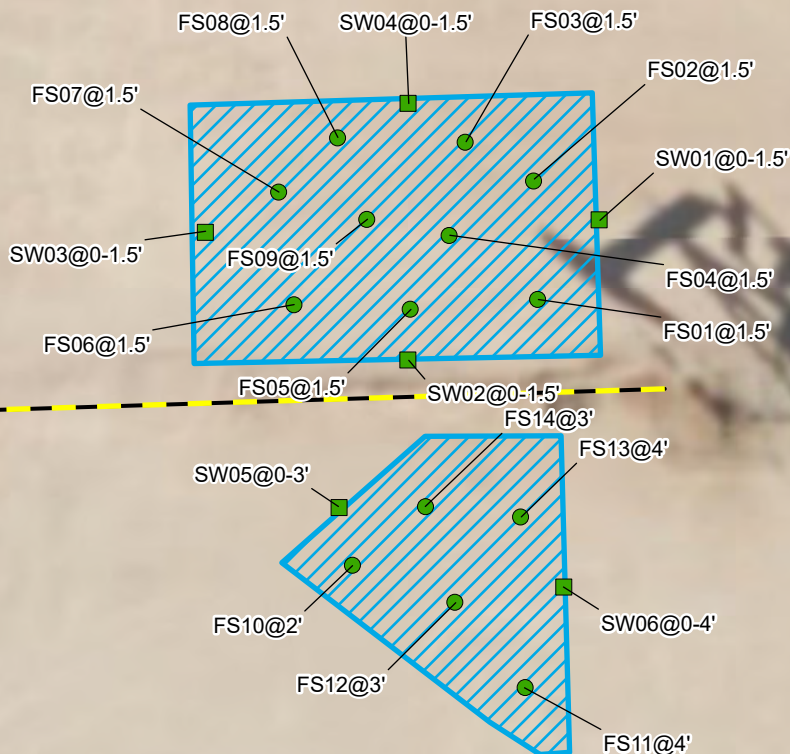
**Delineation Soil Sample Locations**

XTO Energy, Inc
Poker Lake CVX JV RR #006H
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Unit D, Sec 21, T 25S, R 30E
Eddy County, New Mexico

FIGURE
2

Legend

- Confirmation Floor Soil Sample in Compliance with Reclamation Requirement
- Confirmation Sidewall Soil Sample in Compliance with Reclamation Requirement
- Oil and Gas Utility Line
- ▨ 2024 Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface

0 25 50
Feet

Source:
Bing Maps

**Excavation Soil Sample Locations**

XTO Energy, Inc
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Incident Number: nAB1628728258
Unit D, Sec 21, T 25S, R 30E
Eddy County, New Mexico

FIGURE
3



TABLE



TABLE 1
2024 SOIL SAMPLE ANALYTICAL RESULTS
PL CVX JV RR #006H
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
2024 Delineation Soil Samples										
PH01	02/14/2024	0.5	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	95.6
PH01A	02/14/2024	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	43.0
PH02	02/14/2024	0.5	<0.00202	<0.00403	<49.9	71.3	<49.9	71.3	71.3	931
PH02A	02/14/2024	4	<0.00199	0.0133	<50.0	<50.0	<50.0	<50.0	<50.0	51.4
PH03	02/14/2024	0.5	<0.00200	<0.00399	<50.1	<50.1	<50.1	<50.1	<50.1	1,170
PH03A	02/14/2024	4	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	70.4
PH04	02/14/2024	0.5	<0.00201	<0.00402	<49.7	<49.7	<49.7	<49.7	<49.7	2,000
PH04A	02/14/2024	4	<0.00202	<0.00404	<49.7	<49.7	<49.7	<49.7	<49.7	96.9
2024 Confirmation Soil Samples										
FS01	02/14/2024	1.5	<0.00202	<0.00404	<50.2	<50.2	<50.2	<50.2	<50.2	144
FS02	02/14/2024	1.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	91.1
FS03	02/14/2024	1.5	<0.00202	<0.00403	<49.6	<49.6	<49.6	<49.6	<49.6	28.4
FS04	02/14/2024	1.5	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	10.8
FS05	02/14/2024	1.5	<0.00200	<0.00399	<50.3	<50.3	<50.3	<50.3	<50.3	95.6
FS06	02/14/2024	1.5	<0.00198	<0.00396	<50.2	<50.2	<50.2	<50.2	<50.2	33.8
FS07	02/14/2024	1.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	37.8
FS08	02/14/2024	1.5	<0.00202	<0.00404	<49.7	<49.7	<49.7	<49.7	<49.7	140
FS09	02/14/2024	1.5	0.00319	0.00849	<49.5	<49.5	<49.5	<49.5	<49.5	33.8
FS10	02/15/2024	2	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	319
FS11	02/15/2024	4	<0.00201	<0.00402	<50.3	<50.3	<50.3	<50.3	<50.3	18.9
FS12	02/15/2024	3	<0.00202	<0.00403	<50.1	<50.1	<50.1	<50.1	<50.1	48.6
FS13	02/15/2024	4	<0.00199	<0.00398	<50.4	<50.4	<50.4	<50.4	<50.4	349
FS14	02/15/2024	3	<0.00200	<0.00399	<50.5	<50.5	<50.5	<50.5	<50.5	257



TABLE 1
2024 SOIL SAMPLE ANALYTICAL RESULTS
PL CVX JV RR #006H
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
SW01	02/14/2024	0 - 1.5	<0.00198	<0.00396	<49.6	<49.6	<49.6	<49.6	<49.6	144
SW02	02/14/2024	0 - 1.5	<0.00200	<0.00400	<49.6	<49.6	<49.6	<49.6	<49.6	128
SW03	02/14/2024	0 - 1.5	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	58.8
SW04	02/14/2024	0 - 1.5	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	119
SW05	02/15/2024	0 - 3	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	150
SW06	02/15/2024	0 - 4	<0.00201	<0.00402	<49.7	<49.7	<49.7	<49.7	<49.7	28.7

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



APPENDIX A

September 22, 2023
Closure Request Addendum



September 22, 2023

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

**Re: Closure Request Addendum
Poker Lake Unit CVX JV RR 006H
Incident Number nAB1628728258
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following addendum to the original *Closure Request* dated October 25, 2019. This addendum provides an update to the depth to groundwater determination activities at the Poker Lake Unit CVX JV RR 006H (Site) in response to the New Mexico Oil Conservation Division (NMOCD) denial of the October 25, 2019, *Closure Request*. In the denial, NMOCD indicated that the depth to groundwater assessment was not sufficient. Based on the additional depth to groundwater determination activities described below, XTO is submitting this *Closure Request Addendum* and requesting closure for Incident Number nAB1628728258.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 21, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.122643°, -103.893491°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On October 10, 2016, a connection failed on the wellhead, causing approximately 13 barrels (bbls) of crude oil and 25 bbls of produced water to release onto the surface of the well pad and mist into the pasture area west of the pad. A vacuum truck recovered approximately 25 bbls of freestanding fluid and a response crew was dispatched to the Site to conduct an initial scrape of the impacted soil. The failed connection was replaced, and the well was put back online. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on October 12, 2016. The release was assigned Remediation Permit (RP) Number 2RP-3937 and Incident Number nAB1628728258.

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.

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BACKGROUND

The October 25, 2019, Closure Request detailed site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of 19.15.29 NMAC. Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

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

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

Between March 2018 and July 2019, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the October 10, 2016, crude oil and produced water release. Closure was requested on October 25, 2019, based on laboratory analytical results for the excavation and delineation soil samples indicating benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Additional details regarding the delineation and excavation activities can be referenced in the October 25, 2019, *Closure Request*.

On March 22, 2023, NMOCD denied the *Closure Request* for Incident Number nAB1628728258 for the following reason:

- *The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.*

In response to the denial, XTO submitted a *Remediation Work Plan (Work Plan)* to the NMOCD on June 29, 2023. The *Work Plan* proposed to install a soil boring within 0.5 miles of the Site to investigate depth to groundwater and confirm the Closure Criteria at the Site. The *Work Plan* was approved by the NMOCD on June 30, 2023.

ADDITIONAL DEPTH TO GROUNDWATER DETERMINATION

As outlined in the June 29, 2023 *Work Plan*, XTO proceeded with the installation of a soil boring for determination of groundwater depth and confirmation of the Site Closure Criteria. During August 2023, a borehole, permitted as New Mexico Office of the State Engineer (NMOSE) well C-04758, was advanced to a depth of 110 feet bgs via air rotary drill rig. The borehole was located approximately 0.19 miles northwest of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling of the borehole. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater is greater than 110 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

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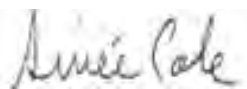
Based on confirmed depth to groundwater greater than 100 feet bgs within 0.5 miles of the Site, the Table I Closure Criteria identified in the original *Closure Request* are applicable and appropriate for protection of groundwater at this Site.

CLOSURE REQUEST

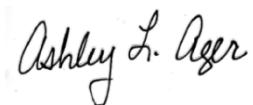
Site assessment and excavation activities were completed at the Site to address the impacted soil resulting from the October 10, 2016, release of crude oil and produced water. Based on depth to groundwater greater than 100 feet bgs within 0.5 miles of the Site as presented in this addendum and laboratory analytical results for the final excavation and delineation soil samples compliant with the confirmed Site Closure Criteria, as documented in the October 25, 2019, *Closure Request*, XTO respectfully requests no further action for Incident Number nAB1628728258. The October 25, 2019, *Closure Request* is included as Appendix B.

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

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist



Ashley Ager, P.G.
Program Director

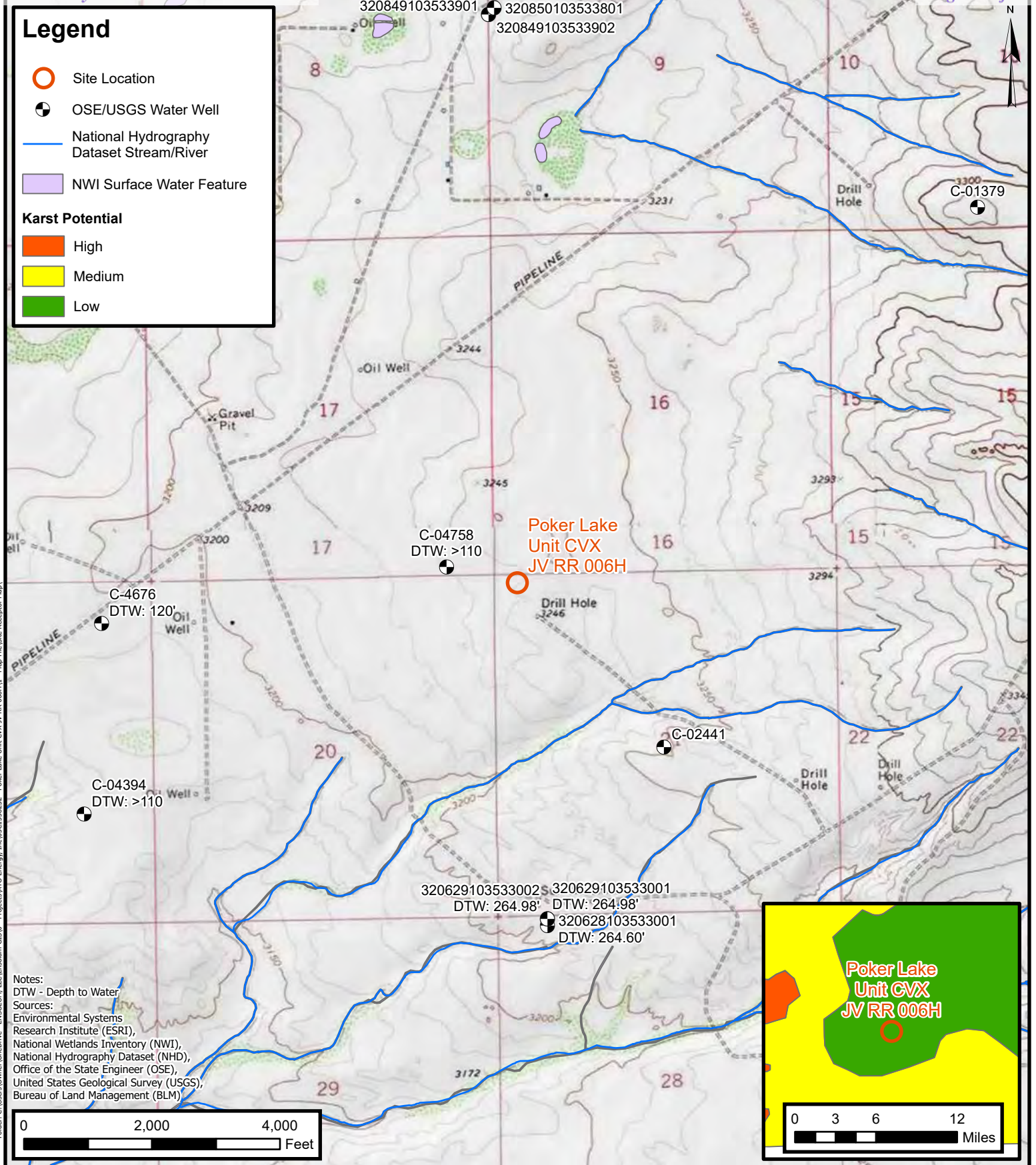
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1 Site Receptor Map
Appendix A Referenced Well Records
Appendix B October 25, 2019, Closure Request



FIGURES





APPENDIX A

Referenced Well Records

 ENSOLUM		Sample Name: BH01 / C-04758		Date: 8/08/2023				
		Site Name: PLU PC 17 BATTERY						
		Incident Number: nAPP2233951574						
		Job Number: 03C1558215						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.123284, -103.897084		Logged By: M. O'Dell/S. Welvang		Method: Air Rotary Rig				
		Hole Diameter: 5"		Total Depth: 110'				
Comments: No field screening was conducted.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
						10	CCHE	0-10'. Caliche w/sand. Tan to light brown, very fine to fine grained, well graded, subrounded to subangular grains, dry.
						20	SW	10-20'. Sand. Reddish brown, very fine to fine grained, subrounded to subangular grains, well graded, trace CCHE, dry.
						30	SW	20-30'. Sand w/CCHE mixture. Very fine to fine grained, CCHE medium to coarse grains, sand reddish brown, tan to light brown CCHE Well graded.
						40	SC	30-50'. Clayey sand w/ gravel. Brown, very fine to fine grained, gravel small grained, trace CCHE, dry.
						50		
						60	SP	50-80'. Sand, brown (trace red), very fine to fine grained, poorly graded, subrounded to subangular, dry.
						70		
						80		80-90'. Sand. Yellowish tan, very fine to fine grained, poorly graded, trace silty, trace orange sand, trace CCHE, dry.
						90		90'-110'. Sand. Brownish red, very fine to fine grained, poorly graded, subrounded to subangular, dry.
						100		
						110		110': stopped drilling and set casing to 110'.
TD at 110' bgs.								

Mike A. Hamman, P.E.
State Engineer



Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 749154
File Nbr: C 04758

Jul. 24, 2023

BENJAMIN BELILL
ENSOLUM, LLC
3122 NATIONAL PARKS HIGHWAY
CARLSBAD, NM 88220

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- * If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- * If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- * The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- * This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

A handwritten signature in cursive script, reading "Vanessa Clements", is written over the printed name.

Vanessa Clements
(575) 622-6521

Enclosure

explore

Mike A. Hamman, P.E.
State Engineer



Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 749154
File Nbr: C 04758

Jul. 24, 2023

GARRETT GREEN
XTO ENERGY, INC.
3401 E GREENE ST
CARLSBAD, NM 88220

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- * If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- * If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- * The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- * This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

A handwritten signature in black ink that reads "Vanessa Clements".

Vanessa Clements
(575) 622-6521

Enclosure

explore

File No. C-4758

NEW MEXICO OFFICE OF THE STATE ENGINEER



WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☒ Temporary Request - Requested Start Date: 7/17/2023	Requested End Date: TBD
---	-------------------------

Plugging Plan of Operations Submitted? ☒ Yes ☐ No

1. APPLICANT(S)

Name: XTO Energy, Inc	Name: Ensolum, LLC
Contact or Agent: check here if Agent ☐ Garrett Green	Contact or Agent: check here if Agent ☒ Benjamin Belill
Mailing Address: 3401 E. Greene Street	Mailing Address: 3122 National Parks Highway
City: Carlsbad	City: Carlsbad
State: New Mexico Zip Code: 88220	State: New Mexico Zip Code: 88220
Phone: 575-200-0729 ☐ Home ☒ Cell Phone (Work):	Phone: 989-854-0852 ☐ Home ☒ Cell Phone (Work):
E-mail (optional): Garrett.Green@ExxonMobil.com	E-mail (optional): bbelill@ensolum.com

OSE DTI JUL 7 2023 11:30

FOR OSE INTERNAL USE

Application for Permit, Form WR-07, Rev 11/17/16

File No.: C-4758	Tm. No.: 749154	Receipt No.: 245957
Trans Description (optional): MON		
Sub-Basin: CUB	PCW/LOG Due Date: 7-24-24	

Page 1 of 3

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.			
☐ NM State Plane (NAD83) (Feet) ☐ UTM (NAD83) (Meters) ☒ Lat/Long (WGS84) (to the nearest 1/10 th of second) ☐ NM West Zone ☐ Zone 12N ☐ NM East Zone ☐ Zone 13N ☐ NM Central Zone			
Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
C-4758 Pod 1 BH01	-103.896478	32.123445	Unit P, S17, T25S, R30E, Eddy County
NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions) Additional well descriptions are attached: ☐ Yes ☒ No If yes, how many _____			
Other description relating well to common landmarks, streets, or other: Located on active well pad facility at the the Poker Lake Unit CVX JV RR #010H (32.123445,-103.896478).			
Well is on land owned by: Federal - Bureau of Land Management			
Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ Yes ☒ No If yes, how many _____			
Approximate depth of well (feet): 110		Outside diameter of well casing (inches): 2	
Driller Name: Scarborough Drilling		Driller License Number: WD-1188	

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

One soil boring to be advanced at the site to assess subsurface soil and regional groundwater depth. Temporary 2-inch inside diameter PVC well screen will be placed in open borehole to determine depth to water at the site. The borehole will be abandoned after 72 hours from the time the borehole is completed. The borehole location is depicted on the attached figure.

OSE 011 JUL 7 2023 AM 11:30

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: C-4758

Trm No.: 749154

Page 2 of 3

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: ☐ Include a description of any proposed pump test, if applicable.	Pollution Control and/or Recovery: ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	Construction De-Watering: ☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	Mine De-Watering: ☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water.
Monitoring: ☒ Include the reason for the monitoring well, and, ☒ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	Ground Source Heat Pump: ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Benjamin Belill

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Benjamin Belill Digitally signed by Benjamin Belill
Date: 2023.07.06 10:37:13 -04'00'

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved

☐ partially approved

☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 26th day of July 20 23, for the State Engineer,

DSE 011 JUL 7 2023 AM 11:30

Mike A. Hamman, P.E.

State Engineer

By: K. Parekh
Signature

Print

Kashyap Parekh

Title: Water Resources Manager I
Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: C-4758

Trn No.: 749154

Page 3 of 3

**NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE**

SPECIFIC CONDITIONS OF APPROVAL

- 17-16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller. This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.
- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

Trn Desc: C 04758 POD1

File Number: C 04758

Trn Number: 749154

page: 1

**NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE**

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- 17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

Trn Desc: C 04758 POD1

File Number: C 04758

Trn Number: 749154

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion C 04758 POD1 must be completed and the Well Log filed on or before 07/23/2024.

IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 07/07/2023	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 24 day of Jul A.D., 2023

Mike A. Hamman, P.E., State Engineer

By: K. Parekh
KASHYAP PAREKH

Trn Desc: C 04758 POD1

File Number: C 04758

Trn Number: 749154

page: 3



STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

Mike A. Hamman, P.E.
State Engineer

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

July 10, 2023

XTO Energy Inc.
3401 E. Greene Street
Carlsbad, NM 88220

RE: Well Plugging Plan of Operations for well no. C-4758-POD1

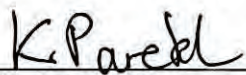
Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link <https://www.ose.state.nm.us/Statewide/wdForms.php>.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,



Kashyap Parekh
Water Resources Manager I



STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
ROSWELL

1900 West Second St.
 Roswell, New Mexico 88201
 Phone: (575) 622-6521
 Fax: (575) 623- 8559

Applicant has identified wells, listed below, to be plugged. Scarborough Drilling Inc. (WD-1188) will perform the plugging.

Permittee: XTO Energy Inc.
 NMOSE Permit Number: C-4758-POD1

NMOSE File	Casing diameter (inches)	Well depth (feet bgl)	Approximate static water level (feet bgl)	Latitude	Longitude
C-4758-POD1	8.0 (Soil Boring)	110	Unknown	32° 7' 24.40"	103° 53' 47.32"

Specific Plugging Conditions of Approval for Well located in Eddy County, New Mexico.

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

2. Ground Water encountered: The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 287.0 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 110 feet.

3. Dry Hole: The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 26.0 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 10 feet.

4. Ground Water encountered: Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for the plugging the well.

5. Dry Hole: (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet – Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

6. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces

the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.

7. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. and 4. of these Specific Conditions of Approval.

8. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.

9. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

10. NMOSE witnessing of the plugging of the soil boring will not be required.

11. Any deviation from this plan must obtain an approved variance from this office prior to implementation.

12. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 10th day of July 2023

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh
Water Resources Manager I



2



WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nm.gov/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email ambg-waterlevels@amt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: TBD 2-6-258-POD1

Name of well owner: XTO Energy Inc

Mailing address: 3401 E. Greene Street

County: Eddy

City: Carlsbad

State: New Mexico

Zip code: 88220

Phone number: 575-200-0729

E-mail: Garrett.Green@ExxonMobil.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Scarborough Drilling Inc

New Mexico Well Driller License No.: WD-1188

Expiration Date: 3/31/2024

IV. WELL INFORMATION: ☐ Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 7 min, 24.40 sec
Longitude: 103 deg, 53 min, 47.32 sec, NAD 83

2) Reason(s) for plugging well(s):

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Monitoring well to be plugged when no longer needed. Dry borehole will be plugged within 3 days of completion if encountered

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? NA If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: NA feet below land surface / feet above land surface (circle one)

6) Depth of the well: 110 feet

- 7) Inside diameter of innermost casing: 2 inches.
- 8) Casing material: Temporary SCH 40 PVC
- 9) The well was constructed with:
☐ an open-hole production interval, state the open interval: NA
☐ a well screen or perforated pipe, state the screened interval(s): NA
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? NA
- 11) Was the well built with surface casing? NO If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? NA If yes, please describe:
- 12) Has all pumping equipment and associated piping been removed from the well? NA If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING: ☐ If plugging method differs between multiple wells on same site, a separate form must be completed for each method.

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

Temporary 2 inch well will be removed. If no water is encountered, drill cuttings will be used to ten feet below ground surface (bgs) and plugged from 0 to 10 feet bgs with hydrated bentonite. If groundwater is encountered, borehole will be plugged, tremie pipe from the bottom upwards to a slurry of Type I/II neat cement.
- 2) Will well head be cut-off below land surface after plugging? YES

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

- 1) For plugging intervals that employ cement grout, complete and attach Table A.
- 2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
- 3) Theoretical volume of grout required to plug the well to land surface: 287 gallons(8 inch borehole)
- 4) Type of Cement proposed: Type I/II Neat Cement
- 5) Proposed cement grout mix: <6.0 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: batch-mixed and delivered to the site
x mixed on site

OSE DII JUL 7 2023 11:30

- 7) Grout additives requested, and percent by dry weight relative to cement:

NA

- 8) Additional notes and calculations:

NA

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

NA

VIII. SIGNATURE:

I, Benjamin Belill, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Benjamin Belill

Digitally signed by Benjamin Belill
Date: 2023.07.06 10:36:39 -04'00'

Signature of Applicant

Date

05E 011 JUL 7 2023 am 11:30

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

☒ Approved subject to the attached conditions.
☐ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 10th day of July, 2023

Mike A. Hammon P.E., New Mexico State Engineer

By: K. Parekh
KASHYAP PAREKH
W. R. M. I



WD-08 Well Plugging Plan
Version: July 31, 2019
Page 3 of 5

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	NA	NA	0
Bottom of proposed interval of grout placement (ft bgl)	NA	NA	110
Theoretical volume of grout required per interval (gallons)	NA	NA	287
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	NA	NA	<6.0
Mixed on-site or batch-mixed and delivered?	NA	NA	onsite
Grout additive 1 requested	NA	NA	NA
Additive 1 percent by dry weight relative to cement	NA	NA	NA
Grout additive 2 requested	NA	NA	NA DSE DIT JUL 7 2023 PM 11:30
Additive 2 percent by dry weight relative to cement	NA	NA	NA

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	NA	NA	0
Bottom of proposed sealant of grout placement (ft bgl)	NA	NA	10
Theoretical volume of sealant required per interval (gallons)	NA	NA	26
Proposed abandonment sealant (manufacturer and trade name)	NA	NA	Bariod Hole Plug

05E D11 JUL 7 2023 AM 11:31

**PLU PC 17 BATTERY,
PLU PC 17 SWD 1,
PLU CVX JV RR 006H,
PLU-CVX-JV-PC #001H
SWD Line**

32.123445, -103.896478
Surface Owner: BLM

Legend

- 0.5 Mile Radius
- Proposed Soil Boring
- Incident Sites
- XTO Wells

PLU PC 17 SWD 1

Poker Lake Unit CVX JV RR 010H
Well Pad

PLU-CVX-JV-PC #001H SWD Line

PLU PC 17 BATTERY
Proposed Soil Boring

PLU CVX JV RR 006H

DOSE ON JUL 7 2023 11:30

Google Earth

Image © 2023 Maxar Technologies

Released to Imaging: 2/27/2025 9:09:55 AM

3000 ft



APPENDIX B

October 25, 2019 Closure Request



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

October 25, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505**RE: Closure Request
Poker Lake Unit CVX JV RR 006H
Remediation Permit Number 2RP-3937
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request report detailing site assessment, soil sampling, and excavation activities at the Poker Lake Unit (PLU) CVX JV RR 006H (Site) in Unit D, Section 21, Township 25 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 after a release of crude oil and produced water at the Site.

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 October 10, 2016, a connection failed on the wellhead, causing approximately 13 barrels (bbls) of crude oil and 25 bbls of produced water to release onto the surface of the well pad and mist into pasture area west of the pad. A vacuum truck recovered approximately 25 bbls of free-standing fluid and a response crew was dispatched to the Site to conduct an initial scrape of the impacted soil. The failed connection was replaced, and the well was put back online. 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 October 12, 2016, and was assigned Remediation Permit (RP) Number 2RP-3937 (Attachment 1).





Billings, B.
Page 2

Although the release occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Based on the site assessment activities and results of the soil sampling events, XTO is requesting no further action for this release event.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 of the NMAC. Depth to groundwater at the Site is estimated to be 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 320629103533002, located approximately 5,277 feet south-southwest of the Site. The water well has a depth to groundwater of 264 feet and a total depth of 280 feet. Ground surface elevation at the water well location is 3,209 feet above mean sea level (AMSL), which is approximately 37 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 2,353 feet southeast 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;
- TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg;
- Total petroleum hydrocarbons (TPH): 2,500 mg/kg; and
- Chloride: 20,000 mg/kg.

SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

On March 5, 2018, LTE personnel inspected the Site to evaluate the release extent. Five preliminary soil samples (SS1 through SS5) were collected within the historical release area to assess for 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





Billings, B.
Page 3

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 Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

Between January and July 2019, LTE personnel returned to the Site to oversee additional site assessment and excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples.

Potholes were advanced via backhoe at seventeen locations on the well pad and pasture area west of the pad to assess for soil impacts. Potholes PH01 through PH17 were advanced to depths ranging from 4 feet to 14 feet bgs. Delineation soil samples were collected from each pothole PH01 through PH17 from depths ranging from 2 feet to 14 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (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 3.

Impacted soil was excavated from the release area as indicated by field screening, potholing 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 PID and Hach® chloride QuanTab® test strips, respectively. 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 SW04 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 1.5 feet bgs. Composite soil samples FS01 through FS05 were collected from the floor of the excavation from a depth of 1.5 feet bgs. Soil sample FS04A was collected at a depth of 6 feet bgs from a pothole advanced through the floor of the excavation to assess for vertical impacts. The excavation extent and excavation soil sample locations are depicted on Figure 4.

The delineation and excavation 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 1,750 square feet in area. A total of approximately 100 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land Landfill located in Hobbs, New Mexico.



Billings, B.
Page 4

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS01 through SS05. Based on field screening activities and elevated chloride concentrations in preliminary soil sample SS02, delineation and excavation of impacted soil was conducted.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH17, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for excavation soil samples SW01 through SW04, FS01 through FS05, and FS04A, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Impacted soil was excavated from the release area to address impacts to soil resulting from a historical release of crude oil and produced water at the Site. Laboratory analytical results for the excavation soil samples collected from the final excavation extent indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Delineation soil sampling was completed in and around the release area. Laboratory analytical results for the delineation soil samples indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the excavation and delineation soil sample analytical results, no further remediation was required.

Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Number 2RP-3937. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included in Attachment 1.





Billings, B.
Page 5

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 blue ink, appearing to read 'Bryan Paraspolo'.

Bryan Paraspolo
Project Environmental Scientist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Bureau of Land Management
Mike Bratcher, NMOCD

Attachments:

Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Delineation Soil Sample Locations
Figure 4 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-3937)
Attachment 2 Lithologic / Soil Sample Logs
Attachment 3 Photographic Log
Attachment 4 Laboratory Analytical Reports



FIGURES



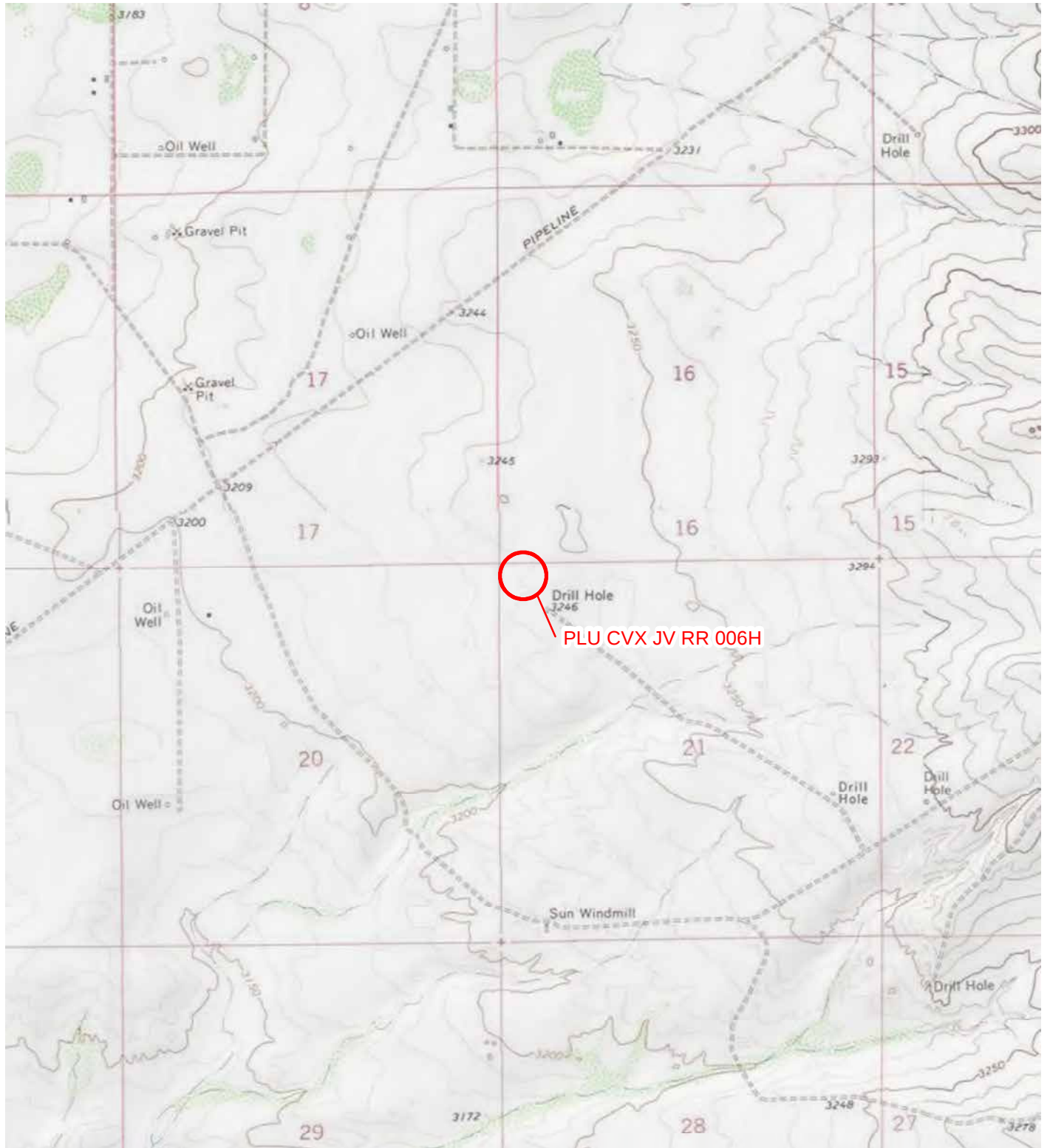
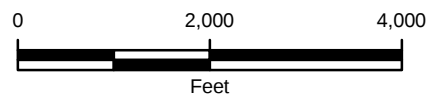


IMAGE COURTESY OF ESRI/USGS

LEGEND

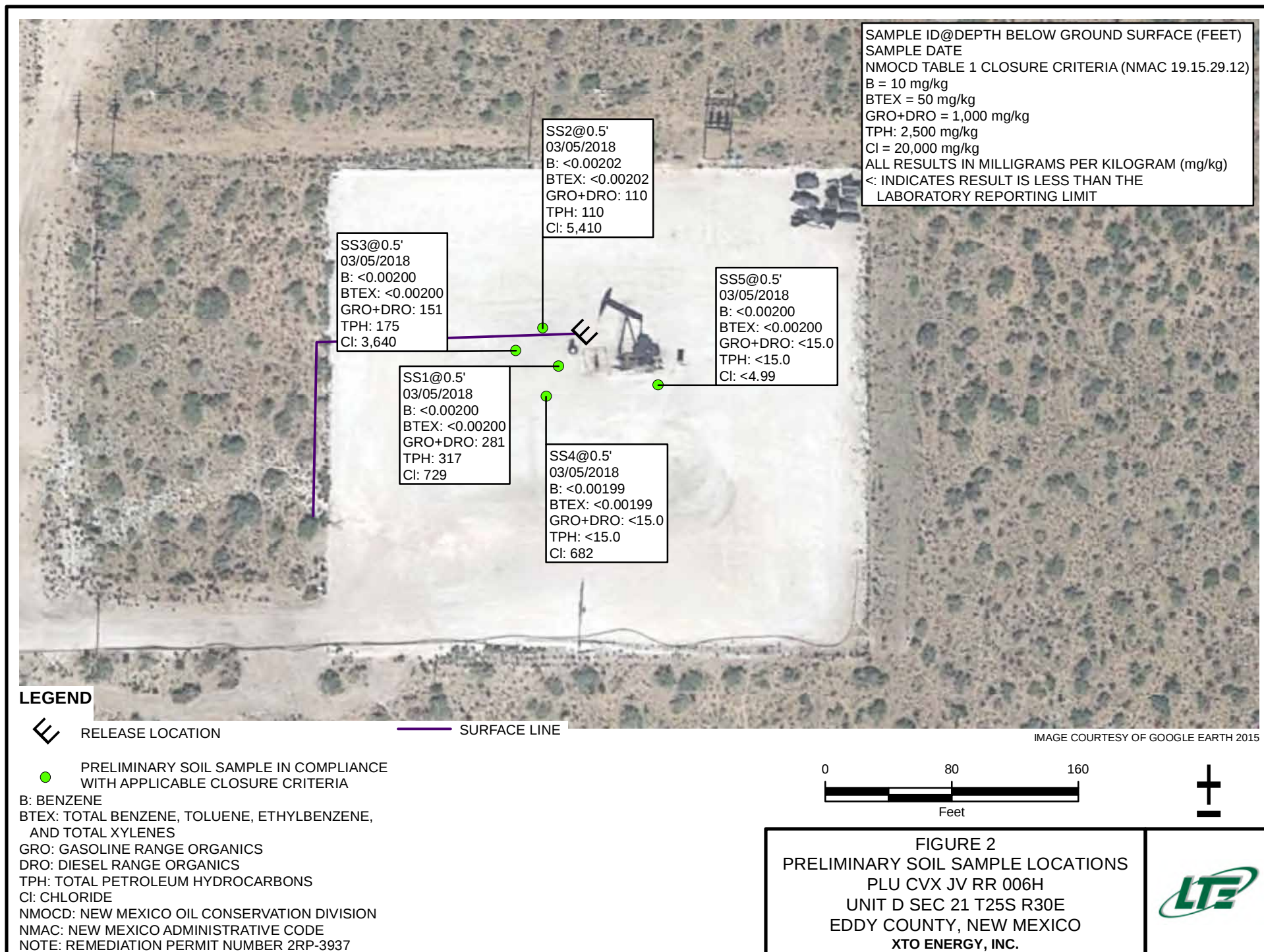
 SITE LOCATION

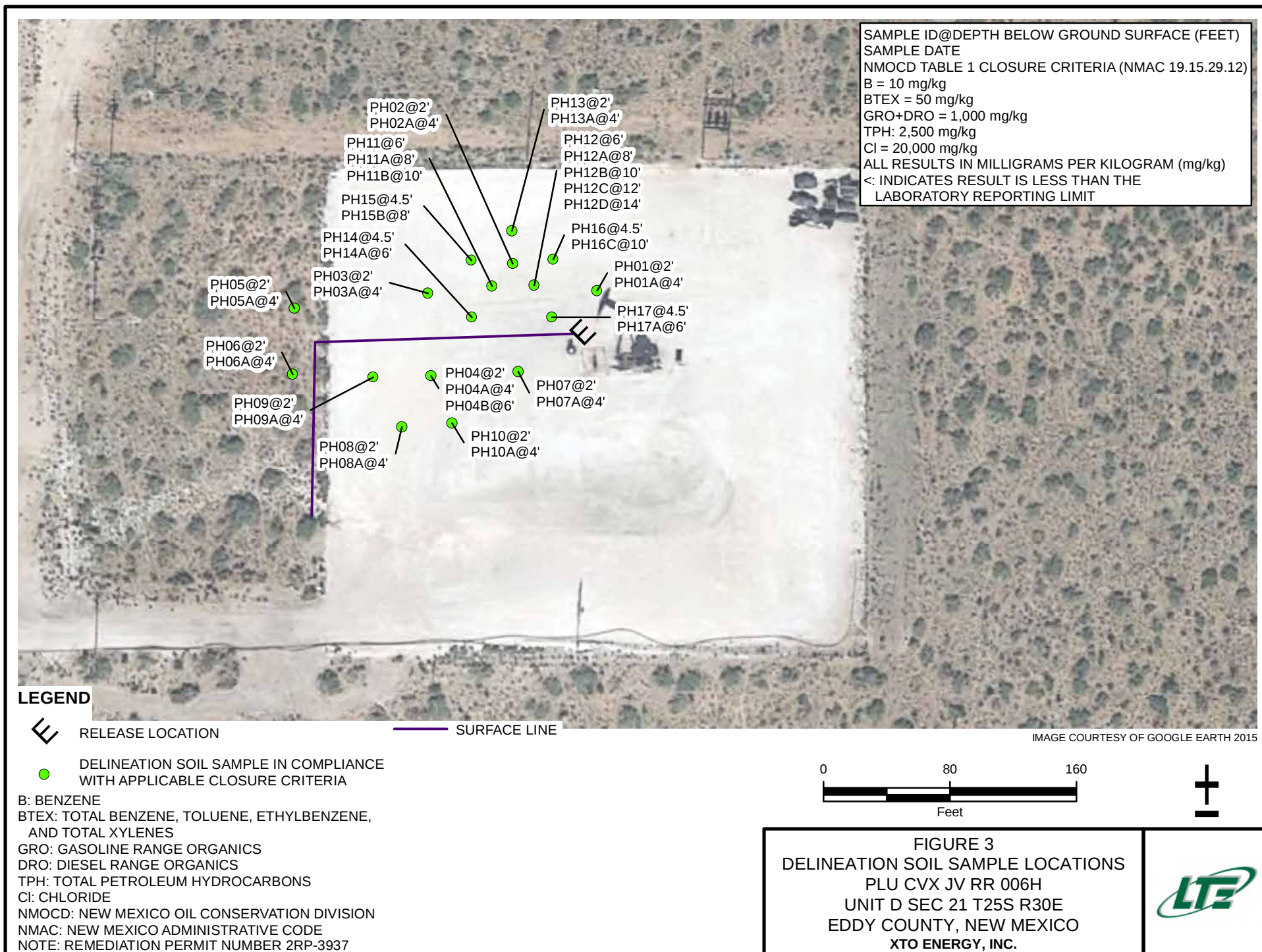


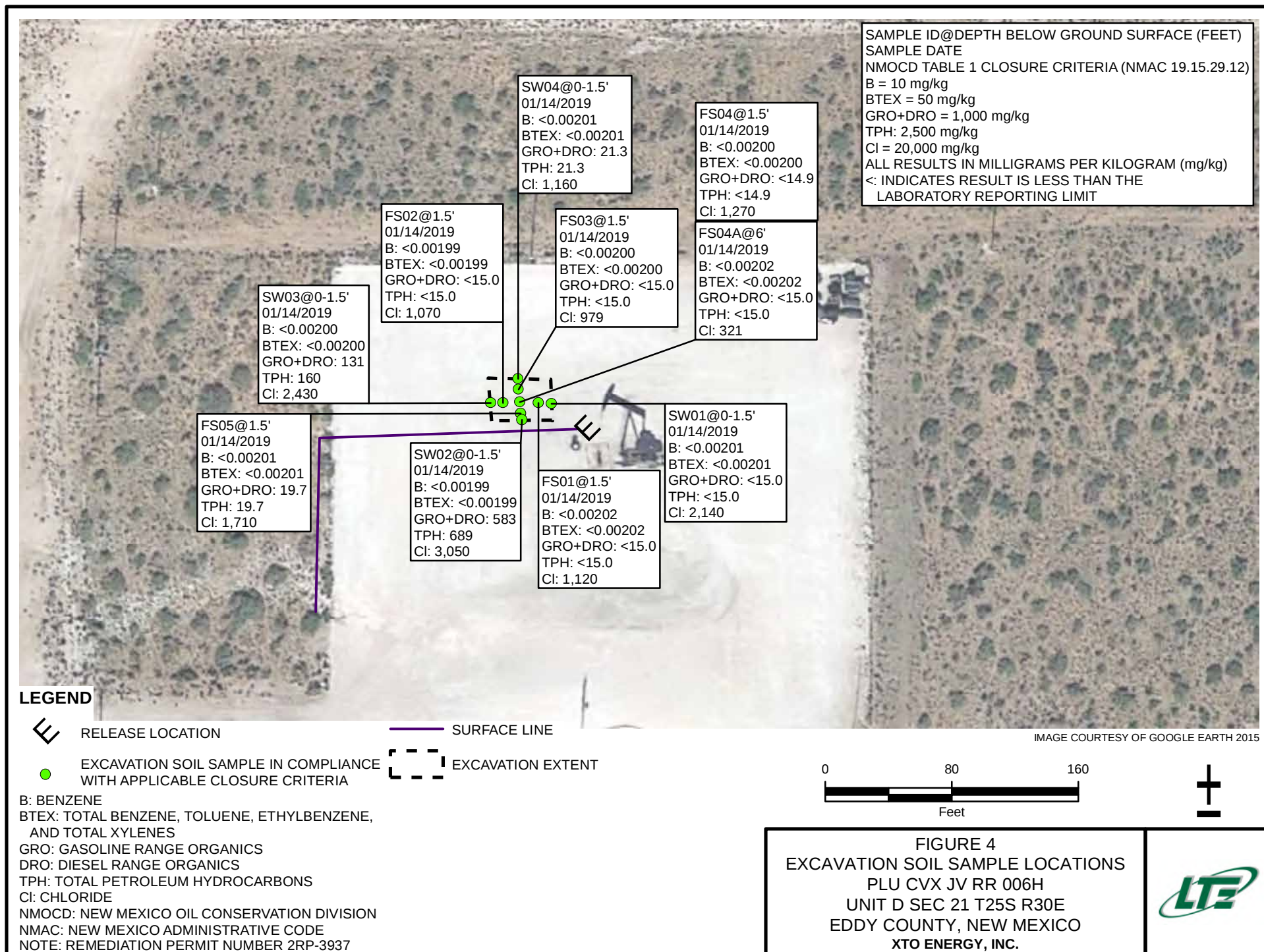
NOTE: REMEDIATION PERMIT
NUMBER 2RP-3937

FIGURE 1
SITE LOCATION MAP
PLU CVX JV RR 006H
UNIT D SEC 21 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.









TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

PLU CVX JV RR 006H
REMEDIATION PERMIT NUMBER 2RP-3937
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)
SS1	0.5	03/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	281	36.2	281	317	729
SS2	0.5	03/05/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<14.9	110	<14.9	110	110	5,410
SS3	0.5	03/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	151	24.4	151	175	3,640
SS4	0.5	03/05/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	682
SS5	0.5	03/05/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
PH01	2	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	63.0
PH01A	4	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	29.6
PH02	2	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	836
PH02A	4	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	377
PH03	2	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	80.1
PH03A	4	01/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	55.0
PH04	2	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	108
PH04A	4	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	1,040
PH04B	6	07/08/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	58.3
PH05	2	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
PH05A	4	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	122
PH06	2	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	13.9
PH06A	4	01/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	109
PH07	2	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	425
PH07A	4	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	165
PH08	2	07/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	73.7
PH08A	4	07/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	161
PH09	2	07/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	22.3
PH09A	4	07/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	43.2

TABLE 1
SOIL ANALYTICAL RESULTS

PLU CVX JV RR 006H
REMEDIATION PERMIT NUMBER 2RP-3937
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)
PH10	2	07/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	42.3
PH10A	4	07/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02
PH11	6	07/08/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	887
PH11A	8	07/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,140
PH11B	10	07/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	38.2
PH12	6	07/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,080
PH12A	8	07/08/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	1,240
PH12B	10	07/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	71.6
PH12C	12	07/08/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	73.7
PH12D	14	07/08/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	286
PH13	2	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	50.5
PH13A	4	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	47.3
PH14	4.5	07/09/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	138
PH14A	6	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	154
PH15	4.5	07/09/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	794
PH15B	8	07/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	83.6
PH16	4.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	47.7
PH16C	10	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	40.5
PH17	4.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	207
PH17A	6	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	111
SW01	0 - 1.5	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	2,140
SW02	0 - 1.5	01/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	583	106	583	689	3,050
SW03	0 - 1.5	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	131	28.6	131	160	2,430
SW04	0 - 1.5	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	21.3	<15.0	21.3	21.3	1,160

**TABLE 1
SOIL ANALYTICAL RESULTS**

**PLU CVX JV RR 006H
REMEDATION PERMIT NUMBER 2RP-3937
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)
FS01	1.5	01/14/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	1,120
FS02	1.5	01/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	1,070
FS03	1.5	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	979
FS04	1.5	01/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	1,270
FS04A	6	01/14/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	321
FS05	1.5	01/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	19.7	<15.0	19.7	19.7	1,710
NMOCDC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

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

NMOCDC - 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 NIM OCD FORM C-141 (2RP-3937)

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

OCT 12 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
accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

NAB1028728258

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. <i>260737</i>	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: PLU CVX JV RR 006H	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No. 3001540580
------------------------	------------------------	--------------------

LOCATION OF RELEASE

Unit Letter D	Section 21	Township 25S	Range 30E	Feet from the 125	North/South Line	Feet from the 400	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	----------------------	------------------	----------------------	----------------	----------------

Latitude: 32.122643 Longitude: 103.893491

NATURE OF RELEASE

Type of Release: Crude Oil/ Produced Water	Volume of Release: 13 barrels oil and 25 barrels PW	Volume Recovered: 10 barrels oil and 15 barrels PW
Source of Release: Tee connection failed on wellhead.	Date and Hour of Occurrence: 10-10-16 @ 10:00am	Date and Hour of Discovery: 10-10-16 @ 10:30am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Heather Patterson, Jim Amos BLM	
By Whom? Bradley Blevins	Date and Hour: 10-10-16 @ 12:09pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A tee connection failed on the wellhead releasing oil and produced water to the well pad, a light mist to pasture area. A vacuum truck was called to the location and was able to recover 25 barrels of oil and PW mix. The connection was replaced and the well was put back online

Describe Area Affected and Cleanup Action Taken.*

An initial response crew will be dispatched to the location to conduct an initial scrape of the location and sampling event. The failed connection was replaced and the well was put back online.

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: <i>Bradley Blevins</i>	OIL CONSERVATION DIVISION	
Printed Name: Bradley Blevins	Signed By <i>Mike Bratcher</i> Approved by Environmental Specialist:	
Title: Assistant Remediation Foreman	Approval Date: <i>10/13/16</i>	Expiration Date: <i>N/A</i>
E-mail Address: bblevins@basspet.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines	
Date: <i>10/12/16</i> Phone: 432-214-3704	Attached ☐ SUBMIT REMEDIATION PROPOSAL NO LATER THAN: <i>11/13/16</i>	

* Attach Additional Sheets If Necessary

22P-3937

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-3937
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-3937
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.122643 Longitude W -103.893491
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: PLU CVX JV RR 006H	Site Type: Production Well Facility
Date Release Discovered: 10/10/2016	API# (if applicable): 30-015-40580

Unit Letter	Section	Township	Range	County
D	21	25S	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)

☒ Crude Oil	Volume Released (bbls): 13	Volume Recovered (bbls): 10
☒ Produced Water	Volume Released (bbls): 25	Volume Recovered (bbls): 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

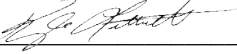
A tee connection failed on the wellhead releasing oil and produced water to the well pad and light mist to the pasture area.

Incident ID	
District RP	2RP-3937
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume 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 Belvins to Mike Bratcher (NMOCD), Heather Patterson, and Jim Amos (BLM) on 10-10-2016 at 12:09 pm.	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <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&E Supervisor</u>
Signature: 	Date: <u>10/25/2019</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	2RP-3937
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>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

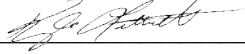
State of New Mexico
Oil Conservation Division

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Incident ID	
District RP	2RP-3937
Facility ID	
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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: 10/25/2019

email: Kyle Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-3937
Facility ID	
Application ID	

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/25/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH01	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122749, -103.893492		Field Screening: PID, CHLORIDES	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
Moist	< 112	0.2	N	PH01	1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					2			
					3			CALICHE, tan/buff, dry, moderately consolidated, no odor.
	< 112	0.5	N	PH01A	4			EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH02	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122821, -103.893645		Field Screening: PID, CHLORIDES	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
Moist	569	0.7	N	PH02	1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					2			
					3			CALICHE, tan/buff, dry, moderately consolidated, no odor.
	112	0.5	N	PH02A	4			EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH03	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122766, -103.893855		Field Screening: PID, CHLORIDES	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
Moist	< 112	0.7	N	PH03	1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					2			
					3			CALICHE, tan/buff, dry, moderately consolidated, no odor.
	< 112	0.6	N	PH03A	4			EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH04	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122628, -103.893851		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
Moist	< 112	0.3	N	PH04	1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					2			
					3			CALICHE, tan/buff, dry, moderately consolidated, no odor.
	518	1.2	N	PH04A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH05	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122743, -103.894110		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M					0		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					1			
	< 112	1.2	N	PH05	2			CALICHE, tan/buff, dry, moderately consolidated, no odor.
					3			
	< 112	1.1	N	PH05A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH06	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122634, -103.894108		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M					0		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
					1			
	< 112	1.2	N	PH06	2			CALICHE, tan/buff, dry, moderately consolidated, no odor.
					3			
	< 112	1.1	N	PH06A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH07	Date: 1/14/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: Backhoe					
Lat/Long: 32.122625, -103.893645		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	518	0.5	N	PH07	0		SP	CALICHE, tan/buff, dry, moderately consolidated, no odor.
					1			SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
	< 112	0.8	N	PH07A	2			CALICHE, tan/buff, dry, moderately consolidated, no odor.
					3			
					4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
12								

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH08	Date: 7/8/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: TRACKHOE					
Lat/Long:		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
			Total Depth: 4 feet					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
					1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
Moist	< 124	0.3	N	PH08	2			CALICHE, tan/buff, dry, moderately consolidated, fine crystalline no odor.
					3			
Dry	<124	0.4	N	PH08A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH09		Date: 7/8/2019				
		Project Name: PLU CVX JV RR 006H		RP Number: 2RP-3937				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: BB				
Lat/Long:		Field Screening: PID, CHLORIDES.		Hole Diameter: NA				
Total Depth: 4 feet								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
					1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
Moist	< 124	0.1	N	PH09	2			CALICHE, tan/buff, dry, moderately consolidated, fine crystalline, no odor.
					3			
Dry	<124	0.1	N	PH09A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH10	Date: 7/8/2019					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: TRACKHOE					
Lat/Long:		Field Screening: PID, CHLORIDES.	Hole Diameter: NA					
		Total Depth: 4 feet						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
Dry					0			CALICHE, light-brown/tan, dry, moderately consolidated, fill, no odor.
					1		SP	SAND, brown-red, poorly graded (medium to fine sand), moist, trace silt, no odor.
Moist	< 124	0.1	N	PH10	2			CALICHE, tan/buff, dry, moderately consolidated, fine crystalline, no odor.
					3			
Dry	<124	0.5	N	PH10A	4			SAA EOB @ 4' bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

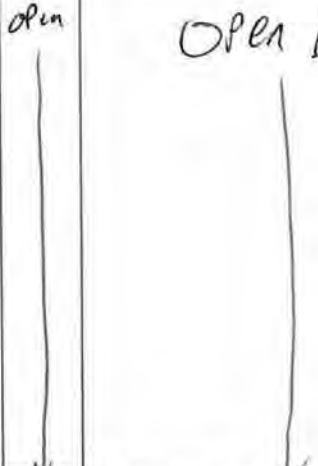
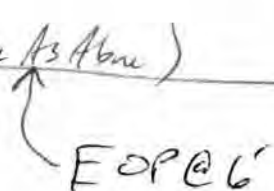
 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH11	Date: 7/8/19					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: TRACKHOE					
Lat/Long:		Field Screening: CHLORIDES, PID.	Hole Diameter: NA					
			Total Depth: 10'					
Comment: All Chloride test include a 60% error factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		open	Open Excavation
					1			
					2			
					3			
					4			
					5		CLCHE	CALICHE, dry, of P wht, well consolidated, fine crystalline, no odor.
D	408	0.7	N	PH11	6	6	CLCHE	
					7			
					8			SAA (Same as Above)
D	1184	0.3	N	PH11A	8	8	CLCHE	
					9			
					10			SAA
D	<124	0.4	N	PH11B	10	10	CLCHE	
					11			
					12			EOB @ 10'

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH12 Date: 7/8/19						
		Project Name: PLU CVX JV RR 006H RP Number: 2RP-3937						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: CHLORIDES, PID						
		Hole Diameter: N/A						
		Method: TRACKHOE						
		Total Depth: 14'						
Comment: All Chloride test include a 60% error factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		Open	OPEN Excavation
					1			
					2			
					3			
					4		CLICHE	CALICHE, dry, off wht, well consolidated, fine crystalline, no odor.
					5			
D	1,184	0.3	N	PH12	6	6	CLICHE	
					7			
					8		CLICHE	SAT (Same As Above)
D	1,184	0.3	N	PH12A	8	8	CLICHE	
					9			SAT
					10			
D	595	0.4	N	PH12B	10	10	CLICHE	SAT
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH12 (cont)		Date: 7/8/19		
Project Name: PLU CVX JV RR 006H		RP Number: ZRP-3937		Logged By: BEN BELILL		Method: Track & Trace		
Lat/Long:		Field Screening: CHLORIDES, PID		Hole Diameter: NA		Total Depth: 14'		
Comment: All Chloride test include a 60% error factor								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	595	0.3	✓	PH12C	12	12	CLCHT	SAA
					13			
D	403	0.5	N	PH12D	14	14	CLCHT	SAA
					15			↑ EOR 14'
					16			
					17			
					18			
					19			
					20			
					21			
					22			
					23			
					24			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH13 Date: 7/19						
Project Name: PLU CVX JV RR 006H RP Number: 2RP-3937								
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB Method: TRACKHOE						
Lat/Long: _____ Field Screening: CHLORIDES, PID		Hole Diameter: N/A Total Depth: 4'						
Comment: All Chloride test include a 60% error factor								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		CLCHZ fill	CALICHE, dry, tan, poorly cnsld, no odor, fill
D	<124	0.5	N	PH13	2	2'	(SP)	SAND, dry, brown, poly grated, f. gr. to caliche sand, no odor.
D	<124	0.4	N	PH15A	4	4'	CLCHZ	CALICHE, dry, off wht, well cnsld, fn xls, no odor.
					5			↑ EOP 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH 14	Date: 7/9/19
Project Name: PLU CVX JV RR 006H		RP Number: 2RP-3937	
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB	Method: TRACKHOE
Lat/Long:		Field Screening: CHLORIDES, PID	Hole Diameter: N/A
Comment: All Chloride test include a 60% error factor		Total Depth: 6'	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		open	OPEN Excavation 
					1			
					2			
					3			
					4			
D	<124	0.4	N	PH14	4.5'		CLLWE	CALICHE, dry, off wht/ten, well consolidated, fn xln, no odor.
D	185	0.3	N	PH14A	6'		CLLWE	SIA (Same As Above)
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH 15	Date: 7/9/19					
		Project Name: PLU CVX JV RR 006H	RP Number: 2RP-3937					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: CHLORIDES, PID:	Logged By: BB Hole Diameter: N/A					
			Method: TRACKHOE Total Depth: 8'					
Comment: All Chloride test include a 60% error factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		Open	OPEN Excavation
					1			
					2			
					3			
					4			
D	710	0.8	N	PHLS	4.5'	CLAYE	CLAYE, dry, off wht tan, well cased, A ₂ in, no odor.	
D	640	0.5	N	PHISA	6	CLAYE	SAA (Same As Above)	
					7			
D	<124	0.3	N	PHLSB	8	CLAYE	SAA	
					9			FORE 8'
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH16	Date: 7 / 9 / 19					
Project Name: PLU CVX JVRR 006H		RP Number: ZRP-3937						
Logged By: BB		Method: Track hoe						
Hole Diameter: NM		Total Depth: 10						
Comment: All Chloride test include a 60% error factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		Open	OPEN Excavation
					1			
					2			
					3			
					4			
D	1,134	0.3	N	PH16		4.5'	CLCHE	CALICHE, dry, off wht/ tan, well cnsld, fa xln, no odor.
D	640	0.3	N	PH16A		6'	CLCHE	S/AH (Same As Above)
P	640	0.3	N	PH16B		8'	CLCHE	S/AH
D	<124	0.2	N	PH16C		10'	CLCHE	S/AH
					11			FOPE 10'
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH 17 Date: 7/9/19						
Project Name: PLU CVX JV RR 006H		RP Number: ZRP 3937						
Lat/Long:		Field Screening: CHLORIDES, PID.						
Logged By: BB		Method: Track Hoe						
Hole Diameter: N/A		Total Depth: 6'						
Comment: All Chloride test include a 60% error factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		Open	Open Excavation
					1			
					2			
					3			
					4			
D	185	0.3	N	PH17		4.5'	CLICHE	CALICHE, dry, off wht/ tan, well consolidated, fn xln, no odor.
D	2124	0.3	N	PH17A	6	6'	CLICHE	SNA (same As Above)
					7			EOP @ 6'
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of excavation facing east (2RP-3937).



Photograph 2: View of excavation facing north (2RP-3937).



Photograph 3: View of excavation facing south (2RP-3937).



Photograph 4: View of excavation facing west (2RP-3937).

PLU CVX JV RR 006H
Eddy County, New Mexico
Photographs Taken: January 14, 2019



PHOTOGRAPHIC LOG



Photograph 5: View of excavation facing east (2RP-3937).



Photograph 6: View of excavation facing south (2RP-3937).



Photograph 7: View of excavation facing west (2RP-3937).



Photograph 8: View of excavation facing northeast (2RP-3937).

PHOTOGRAPHIC LOG



Photograph 9: View of excavation facing southeast (2RP-3937).



Photograph 10: View of excavation facing west (2RP-3937).



Photograph 11: View of excavation facing east (2RP-3937).



Photograph 12: View of excavation facing southeast (2RP-3937).

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Analytical Report 578597

for

LT Environmental, Inc.

Project Manager: Adrian Baker

PLU CVX JV RR 006H 2RP-3437

15-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-16), 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 (T104704400-18-14)

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)

Xenco-Atlanta (LELAP Lab ID #04176)



15-MAR-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **578597**

PLU CVX JV RR 006H 2RP-3437

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) 578597. 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. 578597 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 578597****LT Environmental, Inc., Arvada, CO**

PLU CVX JV RR 006H 2RP-3437

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	03-05-18 11:30	6 In	578597-001
SS2	S	03-05-18 11:40	6 In	578597-002
SS3	S	03-05-18 11:50	6 In	578597-003
SS4	S	03-05-18 12:00	6 In	578597-004
SS5	S	03-05-18 12:10	6 In	578597-005

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU CVX JV RR 006H 2RP-3437**

Project ID:
Work Order Number(s): 578597

Report Date: 15-MAR-18
Date Received: 03/07/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043536 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Lab Sample ID 578597-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene 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: 578597-001, -002, -003, -004, -005.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 578597

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H 2RP-3437



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Wed Mar-07-18 03:08 pm

Report Date: 15-MAR-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	578597-001	578597-002	578597-003	578597-004	578597-005	
	<i>Field Id:</i>	SS1	SS2	SS3	SS4	SS5	
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Mar-05-18 11:30	Mar-05-18 11:40	Mar-05-18 11:50	Mar-05-18 12:00	Mar-05-18 12:10	
BTEX by EPA 8021B	<i>Extracted:</i>	Mar-13-18 08:00	Mar-13-18 08:00	Mar-13-18 08:00	Mar-13-18 08:00	Mar-13-18 08:00	
	<i>Analyzed:</i>	Mar-13-18 10:30	Mar-13-18 12:25	Mar-13-18 12:44	Mar-13-18 17:54	Mar-13-18 13:22	
	<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	<0.00199 0.00199	<0.00200 0.00200	
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
m,p-Xylenes		<0.00399 0.00399	<0.00404 0.00404	<0.00401 0.00401	<0.00398 0.00398	<0.00400 0.00400	
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	
Inorganic Anions by EPA 300	<i>Extracted:</i>	Mar-12-18 16:00	Mar-13-18 16:30	Mar-13-18 16:30	Mar-13-18 16:30	Mar-13-18 16:30	
	<i>Analyzed:</i>	Mar-13-18 20:51	Mar-14-18 00:08	Mar-14-18 00:14	Mar-13-18 23:52	Mar-14-18 00:19	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		729 4.99	5410 50.0	3640 24.9	682 4.96	<4.99 4.99	
TPH by SW8015 Mod	<i>Extracted:</i>	Mar-13-18 16:00	Mar-13-18 16:00	Mar-13-18 16:00	Mar-13-18 16:00	Mar-13-18 16:00	
	<i>Analyzed:</i>	Mar-13-18 22:09	Mar-13-18 23:30	Mar-13-18 23:55	Mar-14-18 00:22	Mar-14-18 00:47	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Diesel Range Organics (DRO)		281 15.0	110 14.9	151 15.0	<15.0 15.0	<15.0 15.0	
Oil Range Hydrocarbons (ORO)		36.2 15.0	<14.9 14.9	24.4 15.0	<15.0 15.0	<15.0 15.0	
Total TPH		317 15.0	110 14.9	175 15.0	<15.0 15.0	<15.0 15.0	

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 - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: **SS1** Matrix: **Soil** Date Received: 03.07.18 15.08
 Lab Sample Id: 578597-001 Date Collected: 03.05.18 11.30 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: **OJS** % Moisture:
 Analyst: **OJS** Date Prep: 03.12.18 16.00 Basis: **Wet Weight**
 Seq Number: 3043580

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	729	4.99	mg/kg	03.13.18 20.51		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 03.13.18 16.00 Basis: **Wet Weight**
 Seq Number: 3043650

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 22.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	281	15.0	mg/kg	03.13.18 22.09		1
Oil Range Hydrocarbons (ORO)	PHCG2835	36.2	15.0	mg/kg	03.13.18 22.09		1
Total TPH	PHC635	317	15.0	mg/kg	03.13.18 22.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.13.18 22.09	
o-Terphenyl	84-15-1	110	%	70-135	03.13.18 22.09	



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS1
Lab Sample Id: 578597-001

Matrix: Soil
Date Collected: 03.05.18 11.30

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.13.18 08.00

Basis: Wet Weight

Seq Number: 3043536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.13.18 10.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.13.18 10.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	03.13.18 10.30		
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.13.18 10.30		



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS2 Matrix: Soil Date Received: 03.07.18 15.08
 Lab Sample Id: 578597-002 Date Collected: 03.05.18 11.40 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 03.13.18 16.30 Basis: Wet Weight
 Seq Number: 3043636

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5410	50.0	mg/kg	03.14.18 00.08		10

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 03.13.18 16.00 Basis: Wet Weight
 Seq Number: 3043650

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.13.18 23.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	110	14.9	mg/kg	03.13.18 23.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.13.18 23.30	U	1
Total TPH	PHC635	110	14.9	mg/kg	03.13.18 23.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.13.18 23.30	
o-Terphenyl	84-15-1	99	%	70-135	03.13.18 23.30	



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS2
Lab Sample Id: 578597-002

Matrix: Soil
Date Collected: 03.05.18 11.40

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.13.18 08.00

Basis: Wet Weight

Seq Number: 3043536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	03.13.18 12.25	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.13.18 12.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	03.13.18 12.25		
4-Bromofluorobenzene	460-00-4	112	%	70-130	03.13.18 12.25		



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS3 Matrix: Soil Date Received: 03.07.18 15.08
 Lab Sample Id: 578597-003 Date Collected: 03.05.18 11.50 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 03.13.18 16.30 Basis: Wet Weight
 Seq Number: 3043636

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3640	24.9	mg/kg	03.14.18 00.14		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 03.13.18 16.00 Basis: Wet Weight
 Seq Number: 3043650

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 23.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	151	15.0	mg/kg	03.13.18 23.55		1
Oil Range Hydrocarbons (ORO)	PHCG2835	24.4	15.0	mg/kg	03.13.18 23.55		1
Total TPH	PHC635	175	15.0	mg/kg	03.13.18 23.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.13.18 23.55	
o-Terphenyl	84-15-1	107	%	70-135	03.13.18 23.55	



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS3
Lab Sample Id: 578597-003

Matrix: Soil
Date Collected: 03.05.18 11.50

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3043536

Date Prep: 03.13.18 08.00

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	03.13.18 12.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.13.18 12.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.13.18 12.44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.13.18 12.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.13.18 12.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.13.18 12.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.13.18 12.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.13.18 12.44		
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.13.18 12.44		



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS4
Lab Sample Id: 578597-004

Matrix: Soil
Date Collected: 03.05.18 12.00

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3043636

Date Prep: 03.13.18 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	682	4.96	mg/kg	03.13.18 23.52		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3043650

Date Prep: 03.13.18 16.00

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	03.14.18 00.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.14.18 00.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.14.18 00.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.14.18 00.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	03.14.18 00.22	
o-Terphenyl	84-15-1	110	%	70-135	03.14.18 00.22	



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS4
Lab Sample Id: 578597-004

Matrix: Soil
Date Collected: 03.05.18 12.00

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.13.18 08.00

Basis: Wet Weight

Seq Number: 3043536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.13.18 17.54	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.13.18 17.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.13.18 17.54		
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.13.18 17.54		



Certificate of Analytical Results 578597

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS5
 Lab Sample Id: 578597-005
 Analytical Method: Inorganic Anions by EPA 300
 Tech: OJS
 Analyst: OJS
 Seq Number: 3043636

Matrix: Soil
 Date Collected: 03.05.18 12.10
 Date Prep: 03.13.18 16.30

Date Received: 03.07.18 15.08
 Sample Depth: 6 In
 Prep Method: E300P
 % Moisture:
 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	03.14.18 00.19	U	1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3043650

Date Prep: 03.13.18 16.00

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	03.14.18 00.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.14.18 00.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.14.18 00.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.14.18 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.14.18 00.47	
o-Terphenyl	84-15-1	108	%	70-135	03.14.18 00.47	



Certificate of Analytical Results 578597



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H 2RP-3437

Sample Id: SS5
Lab Sample Id: 578597-005

Matrix: Soil
Date Collected: 03.05.18 12.10

Date Received: 03.07.18 15.08
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.13.18 08.00

Basis: Wet Weight

Seq Number: 3043536

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.13.18 13.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.13.18 13.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.13.18 13.22		
4-Bromofluorobenzene	460-00-4	102	%	70-130	03.13.18 13.22		



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 CVX JV RR 006H 2RP-3437

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043580

MB Sample Id: 7640646-1-BLK

Matrix: Solid

LCS Sample Id: 7640646-1-BKS

Prep Method: E300P

Date Prep: 03.12.18

LCSD Sample Id: 7640646-1-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	271	108	244	98	90-110	10	20	mg/kg	03.13.18 15:11	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043636

MB Sample Id: 7640733-1-BLK

Matrix: Solid

LCS Sample Id: 7640733-1-BKS

Prep Method: E300P

Date Prep: 03.13.18

LCSD Sample Id: 7640733-1-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	255	102	275	110	90-110	8	20	mg/kg	03.13.18 23:42	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043580

Parent Sample Id: 578595-002

Matrix: Soil

MS Sample Id: 578595-002 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578595-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.9	249	381	116	383	117	90-110	1	20	mg/kg	03.13.18 17:56	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043580

Parent Sample Id: 578928-001

Matrix: Soil

MS Sample Id: 578928-001 S

Prep Method: E300P

Date Prep: 03.12.18

MSD Sample Id: 578928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	174	247	444	109	442	109	90-110	0	20	mg/kg	03.13.18 15:34	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043636

Parent Sample Id: 578597-004

Matrix: Soil

MS Sample Id: 578597-004 S

Prep Method: E300P

Date Prep: 03.13.18

MSD Sample Id: 578597-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	682	248	937	103	946	106	90-110	1	20	mg/kg	03.13.18 23:58	

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 CVX JV RR 006H 2RP-3437

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3043636

Parent Sample Id: 578599-004

Matrix: Soil

MS Sample Id: 578599-004 S

Prep Method: E300P

Date Prep: 03.13.18

MSD Sample Id: 578599-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	250	101	285	115	90-110	13	20	mg/kg	03.14.18 01:12	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3043650

MB Sample Id: 7640764-1-BLK

Matrix: Solid

LCS Sample Id: 7640764-1-BKS

Prep Method: TX1005P

Date Prep: 03.13.18

LCSD Sample Id: 7640764-1-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	1050	105	978	98	70-135	7	35	mg/kg	03.13.18 21:19	
Diesel Range Organics (DRO)	<15.0	1000	1090	109	1010	101	70-135	8	35	mg/kg	03.13.18 21:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		118		110		70-135	%	03.13.18 21:19
o-Terphenyl	124		117		109		70-135	%	03.13.18 21:19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3043650

Parent Sample Id: 578597-001

Matrix: Soil

MS Sample Id: 578597-001 S

Prep Method: TX1005P

Date Prep: 03.13.18

MSD Sample Id: 578597-001 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)	<15.0	999	1030	103	1050	105	70-135	2	35	mg/kg	03.13.18 22:37	
Diesel Range Organics (DRO)	281	999	1290	101	1290	101	70-135	0	35	mg/kg	03.13.18 22:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		115		70-135	%	03.13.18 22:37
o-Terphenyl	113		114		70-135	%	03.13.18 22:37

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 CVX JV RR 006H 2RP-3437

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043536

MB Sample Id: 7640690-1-BLK

Matrix: Solid

LCS Sample Id: 7640690-1-BKS

Prep Method: SW5030B

Date Prep: 03.13.18

LCSD Sample Id: 7640690-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0768	77	0.0766	77	70-130	0	35	mg/kg	03.13.18 06:58	
Toluene	<0.00199	0.0994	0.0824	83	0.0825	83	70-130	0	35	mg/kg	03.13.18 06:58	
Ethylbenzene	<0.00199	0.0994	0.0953	96	0.0962	96	70-130	1	35	mg/kg	03.13.18 06:58	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.190	95	70-130	1	35	mg/kg	03.13.18 06:58	
o-Xylene	<0.00199	0.0994	0.0951	96	0.0959	96	70-130	1	35	mg/kg	03.13.18 06:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		92		90		70-130	%	03.13.18 06:58
4-Bromofluorobenzene	108		110		115		70-130	%	03.13.18 06:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043536

Parent Sample Id: 578597-001

Matrix: Soil

MS Sample Id: 578597-001 S

Prep Method: SW5030B

Date Prep: 03.13.18

MSD Sample Id: 578597-001 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	0.0674	67	0.0563	56	70-130	18	35	mg/kg	03.13.18 07:37	X
Toluene	<0.00200	0.100	0.0640	64	0.0594	59	70-130	7	35	mg/kg	03.13.18 07:37	X
Ethylbenzene	<0.00200	0.100	0.0617	62	0.0613	61	70-130	1	35	mg/kg	03.13.18 07:37	X
m,p-Xylenes	<0.00401	0.200	0.113	57	0.113	56	70-130	0	35	mg/kg	03.13.18 07:37	X
o-Xylene	<0.00200	0.100	0.0602	60	0.0585	58	70-130	3	35	mg/kg	03.13.18 07:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		85		70-130	%	03.13.18 07:37
4-Bromofluorobenzene	114		127		70-130	%	03.13.18 07:37

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

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY

Page 1 of 1

PLU CX JV RR
0064 2RP-3937

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes						
Company Name / Branch: LTE / Permian				Project Name/Number: PLU #612				Project Location: NM				W = Water S = Soil/Sediment GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wipe OI = Oil WW = Waste Water A = Air						
Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705				Invoice To: XTO Energy - Kyle Litrell				Project Contact: Adrian Baker				Matrix Codes						
Email: Abaker@lternv.com				Phone No: 432-704-5178				PO Number: 288-3937 00-15-40500				Field Comments						
Sampler's Name: Aaron Williamson				Collection				Number of preserved bottles										
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Btex EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	
1	SS1	6'	3/5/19	1140	S	1									X	X	X	
2	SS2			1150											X	X	X	
3	SS3			1300											X	X	X	
4	SS4			1310											X	X	X	
5	SS5														X	X	X	
6																		
7																		
8																		
9																		
10																		
Turnaround Time (Business days)				Data Deliverable Information														
☐ Same Day TAT				☐ 6 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg (raw data))						
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV						
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG -411						
☐ 3 Day EMERGENCY				☒ STANDARD TAT				☐ TRRP Checklist										
TAT Starts Day received by Lab, if received by 5:00 pm																		
Relinquished by Sampler:				SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY				FED-EX / UPS, Tracking #										
1	Relinquished by:	3/6/19 1:30	Received By:	1	Relinquished by:	3/6/19 1:30	Received By:	2	Relinquished by:	3/6/19 1:30	Received By:	3	Relinquished by:	3/6/19 1:30	Received By:	4	Relinquished by:	3/6/19 1:30
2	Relinquished by:	3/7/19 14:50	Received By:	3	Relinquished by:	3/7/19 14:50	Received By:	4	Relinquished by:	3/7/19 14:50	Received By:	5	Relinquished by:	3/7/19 14:50	Received By:	6	Relinquished by:	3/7/19 14:50
3	Relinquished by:	3/7/19 14:50	Received By:	4	Relinquished by:	3/7/19 14:50	Received By:	5	Relinquished by:	3/7/19 14:50	Received By:	6	Relinquished by:	3/7/19 14:50	Received By:	7	Relinquished by:	3/7/19 14:50
4	Relinquished by:	3/7/19 14:50	Received By:	5	Relinquished by:	3/7/19 14:50	Received By:	6	Relinquished by:	3/7/19 14:50	Received By:	7	Relinquished by:	3/7/19 14:50	Received By:	8	Relinquished by:	3/7/19 14:50
5	Relinquished by:	3/7/19 14:50	Received By:	6	Relinquished by:	3/7/19 14:50	Received By:	7	Relinquished by:	3/7/19 14:50	Received By:	8	Relinquished by:	3/7/19 14:50	Received By:	9	Relinquished by:	3/7/19 14:50
6	Relinquished by:	3/7/19 14:50	Received By:	7	Relinquished by:	3/7/19 14:50	Received By:	8	Relinquished by:	3/7/19 14:50	Received By:	9	Relinquished by:	3/7/19 14:50	Received By:	10	Relinquished by:	3/7/19 14:50
7	Relinquished by:	3/7/19 14:50	Received By:	8	Relinquished by:	3/7/19 14:50	Received By:	9	Relinquished by:	3/7/19 14:50	Received By:	10	Relinquished by:	3/7/19 14:50	Received By:	11	Relinquished by:	3/7/19 14:50
8	Relinquished by:	3/7/19 14:50	Received By:	9	Relinquished by:	3/7/19 14:50	Received By:	10	Relinquished by:	3/7/19 14:50	Received By:	11	Relinquished by:	3/7/19 14:50	Received By:	12	Relinquished by:	3/7/19 14:50
9	Relinquished by:	3/7/19 14:50	Received By:	10	Relinquished by:	3/7/19 14:50	Received By:	11	Relinquished by:	3/7/19 14:50	Received By:	12	Relinquished by:					

Notice: Xencio. Signature of this document and relinquish of samples constitutes a valid purchase order from client company to Xencio. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio 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 Xencio. A minimum charge of \$75 will be applied to each project. Xencio's liability will be limited to the cost of samples. Any samples received by Xencio but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/07/2018 03:08:00 PM

Work Order #: 578597

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)?	2.4	
#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?	No	TPH received in bulk jars
#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: 03/08/2018

Checklist reviewed by:

Jessica Kramer

Date: 03/08/2018

Analytical Report 611651

for
LT Environmental, Inc.

Project Manager: Adrian Baker

PLU CVX JV RR 006H

28-JAN-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)
Xenco-Lakeland: Florida (E84098)



28-JAN-19

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **611651**
PLU CVX JV RR 006H
Project Address: Delaware Basin

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) 611651. 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. 611651 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 611651

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	01-14-19 11:50	1.5 ft	611651-001
FS05	S	01-14-19 12:00	1.5 ft	611651-002
FS04	S	01-14-19 12:05	1.5 ft	611651-003
FS02	S	01-14-19 12:20	1.5 ft	611651-004
FS03	S	01-14-19 12:25	1.5 ft	611651-005
SW01	S	01-14-19 12:40	0 - 1.5 ft	611651-006
SW02	S	01-14-19 12:45	0 - 1.5 ft	611651-007
SW03	S	01-14-19 12:50	0 - 1.5 ft	611651-008
SW04	S	01-14-19 12:55	0 - 1.5 ft	611651-009
FS04A	S	01-14-19 13:40	6 ft	611651-010
PH01	S	01-14-19 14:00	2 ft	611651-011
PH01A	S	01-14-19 14:05	4 ft	611651-012
PH02	S	01-14-19 14:10	2 ft	611651-013
PH02A	S	01-14-19 14:15	4 ft	611651-014
PH03	S	01-14-19 14:20	2 ft	611651-015
PH03A	S	01-14-19 14:25	14 ft	611651-016
PH07	S	01-14-19 14:35	2 ft	611651-017
PH07A	S	01-14-19 14:30	4 ft	611651-018
PH04	S	01-14-19 14:40	2 ft	611651-019
PH04A	S	01-14-19 14:45	4 ft	611651-020
PH05	S	01-14-19 14:50	2 ft	611651-021
PH05A	S	01-14-19 14:55	4 ft	611651-022
PH06	S	01-14-19 15:00	2 ft	611651-023
PH06A	S	01-14-19 15:05	4 ft	611651-024

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU CVX JV RR 006H**Project ID:
Work Order Number(s): 611651Report Date: 28-JAN-19
Date Received: 01/17/2019

Sample receipt non conformances and comments:None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076513 Inorganic Anions by EPA 300

Lab Sample ID 611651-024 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: 611651-022, -023, -024.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3076634 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3076660 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3076760 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 611651

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H



Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Thu Jan-17-19 12:05 pm

Report Date: 28-JAN-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	611651-001	611651-002	611651-003	611651-004	611651-005	611651-006
	<i>Field Id:</i>	FS01	FS05	FS04	FS02	FS03	SW01
	<i>Depth:</i>	1.5- ft	1.5- ft	1.5- ft	1.5- ft	1.5- ft	0-1.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-14-19 11:50	Jan-14-19 12:00	Jan-14-19 12:05	Jan-14-19 12:20	Jan-14-19 12:25	Jan-14-19 12:40
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 14:30
	<i>Analyzed:</i>	Jan-23-19 04:20	Jan-23-19 04:39	Jan-23-19 04:58	Jan-23-19 05:17	Jan-23-19 05:36	Jan-23-19 05:55
	<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	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00403 0.00403	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00400 0.00400	<0.00402 0.00402
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300	<i>Extracted:</i>	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30
	<i>Analyzed:</i>	Jan-18-19 23:51	Jan-19-19 00:12	Jan-19-19 00:18	Jan-19-19 00:24	Jan-19-19 00:31	Jan-19-19 00:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1120 4.98	1710 24.8	1270 5.00	1070 4.96	979 4.99	2140 25.0
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-24-19 07:00	Jan-24-19 07:00	Jan-24-19 07:00	Jan-24-19 07:00	Jan-24-19 07:00	Jan-24-19 07:00
	<i>Analyzed:</i>	Jan-24-19 16:10	Jan-24-19 17:10	Jan-24-19 17:30	Jan-24-19 17:49	Jan-24-19 18:09	Jan-24-19 18:29
	<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	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	19.7 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	19.7 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0

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 Analysis Summary 611651

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H

Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Thu Jan-17-19 12:05 pm

Report Date: 28-JAN-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	611651-007	611651-008	611651-009	611651-010	611651-011	611651-012
	Field Id:	SW02	SW03	SW04	FS04A	PH01	PH01A
	Depth:	0-1.5 ft	0-1.5 ft	0-1.5 ft	6- ft	2- ft	4- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-14-19 12:45	Jan-14-19 12:50	Jan-14-19 12:55	Jan-14-19 13:40	Jan-14-19 14:00	Jan-14-19 14:05
BTEX by EPA 8021B	Extracted:	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 14:30	Jan-22-19 17:00	Jan-22-19 17:00	Jan-22-19 17:00
	Analyzed:	Jan-23-19 06:14	Jan-23-19 06:33	Jan-23-19 06:52	Jan-23-19 14:08	Jan-23-19 14:27	Jan-23-19 14:46
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	<0.00402 0.00402	<0.00403 0.00403	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
Inorganic Anions by EPA 300	Extracted:	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30
	Analyzed:	Jan-19-19 01:01	Jan-19-19 01:08	Jan-19-19 01:29	Jan-19-19 01:35	Jan-19-19 01:42	Jan-19-19 01:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3050 25.0	2430 25.0	1160 5.00	321 4.97	63.0 4.99	29.6 4.99
TPH by SW8015 Mod	Extracted:	Jan-24-19 07:00	Jan-24-19 07:00	Jan-24-19 07:00	Jan-25-19 09:00	Jan-25-19 09:00	Jan-25-19 09:00
	Analyzed:	Jan-24-19 18:49	Jan-24-19 15:51	Jan-24-19 19:09	Jan-25-19 20:48	Jan-25-19 21:48	Jan-25-19 22:08
	Units/RL:	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	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		583 15.0	131 15.0	21.3 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		106 15.0	28.6 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		689 15.0	160 15.0	21.3 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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 Analysis Summary 611651

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H

Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Thu Jan-17-19 12:05 pm

Report Date: 28-JAN-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	611651-013	611651-014	611651-015	611651-016	611651-017	611651-018
	<i>Field Id:</i>	PH02	PH02A	PH03	PH03A	PH07	PH07A
	<i>Depth:</i>	2- ft	4- ft	2- ft	14- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-14-19 14:10	Jan-14-19 14:15	Jan-14-19 14:20	Jan-14-19 14:25	Jan-14-19 14:35	Jan-14-19 14:30
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-22-19 17:00	Jan-22-19 17:00	Jan-22-19 17:00	Jan-22-19 17:00	Jan-22-19 17:00	Jan-22-19 17:00
	<i>Analyzed:</i>	Jan-23-19 15:05	Jan-23-19 15:24	Jan-23-19 15:43	Jan-23-19 16:02	Jan-23-19 16:21	Jan-23-19 16:40
	<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	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00400 0.00400	<0.00402 0.00402	<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	Jan-18-19 12:30	Jan-18-19 12:30	Jan-18-19 12:30	Jan-21-19 08:30	Jan-21-19 11:30	Jan-21-19 11:30
	<i>Analyzed:</i>	Jan-19-19 01:54	Jan-19-19 02:00	Jan-19-19 02:06	Jan-21-19 12:12	Jan-21-19 18:08	Jan-21-19 18:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		836 4.96	377 4.96	80.1 4.96	55.0 5.00	425 4.99	165 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-25-19 09:00	Jan-25-19 09:00	Jan-25-19 09:00	Jan-25-19 09:00	Jan-25-19 09:00	Jan-25-19 09:00
	<i>Analyzed:</i>	Jan-25-19 22:28	Jan-25-19 22:48	Jan-25-19 23:08	Jan-25-19 23:28	Jan-25-19 23:47	Jan-26-19 00:07
	<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)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 611651

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H



Project Id:

Contact: Adrian Baker

Project Location: Delaware Basin

Date Received in Lab: Thu Jan-17-19 12:05 pm

Report Date: 28-JAN-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	611651-019	611651-020	611651-021	611651-022	611651-023	611651-024
	<i>Field Id:</i>	PH04	PH04A	PH05	PH05A	PH06	PH06A
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-14-19 14:40	Jan-14-19 14:45	Jan-14-19 14:50	Jan-14-19 14:55	Jan-14-19 15:00	Jan-14-19 15:05
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-22-19 17:00	Jan-23-19 09:00	Jan-23-19 09:00	Jan-23-19 09:00	Jan-23-19 09:00	Jan-22-19 17:00
	<i>Analyzed:</i>	Jan-23-19 17:02	Jan-23-19 16:13	Jan-23-19 16:34	Jan-23-19 17:59	Jan-23-19 18:20	Jan-23-19 12:15
	<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	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00401 0.00401	<0.00401 0.00401	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Inorganic Anions by EPA 300	<i>Extracted:</i>	Jan-21-19 11:30	Jan-21-19 11:30	Jan-21-19 16:30	Jan-21-19 16:00	Jan-21-19 16:00	Jan-21-19 16:00
	<i>Analyzed:</i>	Jan-21-19 18:20	Jan-21-19 18:26	Jan-22-19 00:09	Jan-21-19 19:06	Jan-21-19 19:31	Jan-21-19 20:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		108 4.98	1040 4.98	<4.99 4.99	122 4.98	13.9 5.00	109 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-25-19 09:00	Jan-25-19 09:00	Jan-22-19 15:00	Jan-22-19 15:00	Jan-22-19 15:00	Jan-22-19 15:00
	<i>Analyzed:</i>	Jan-26-19 00:27	Jan-26-19 00:47	Jan-23-19 02:37	Jan-23-19 02:57	Jan-23-19 03:17	Jan-23-19 03:37
	<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)		<14.9 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)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS01**
Lab Sample Id: 611651-001

Matrix: Soil
Date Collected: 01.14.19 11.50

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1120	4.98	mg/kg	01.18.19 23.51		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 16.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 16.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 16.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 16.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.24.19 16.10	
o-Terphenyl	84-15-1	94	%	70-135	01.24.19 16.10	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS01**
Lab Sample Id: 611651-001

Matrix: Soil
Date Collected: 01.14.19 11.50

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.23.19 04.20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.23.19 04.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.23.19 04.20		
4-Bromofluorobenzene	460-00-4	115	%	70-130	01.23.19 04.20		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS05**
Lab Sample Id: 611651-002

Matrix: Soil
Date Collected: 01.14.19 12.00

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1710	24.8	mg/kg	01.19.19 00.12		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 17.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.7	15.0	mg/kg	01.24.19 17.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 17.10	U	1
Total TPH	PHC635	19.7	15.0	mg/kg	01.24.19 17.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.24.19 17.10	
o-Terphenyl	84-15-1	93	%	70-135	01.24.19 17.10	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS05**
Lab Sample Id: 611651-002

Matrix: Soil
Date Collected: 01.14.19 12.00

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 04.39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 04.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	01.23.19 04.39		
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.23.19 04.39		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS04**
Lab Sample Id: 611651-003

Matrix: Soil
Date Collected: 01.14.19 12.05

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1270	5.00	mg/kg	01.19.19 00.18		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 17.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.24.19 17.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	01.24.19 17.30	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.24.19 17.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	01.24.19 17.30	
o-Terphenyl	84-15-1	89	%	70-135	01.24.19 17.30	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS04**
Lab Sample Id: 611651-003

Matrix: Soil
Date Collected: 01.14.19 12.05

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.23.19 04.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 04.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.23.19 04.58		
4-Bromofluorobenzene	460-00-4	118	%	70-130	01.23.19 04.58		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS02**
Lab Sample Id: 611651-004

Matrix: Soil
Date Collected: 01.14.19 12.20

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1070	4.96	mg/kg	01.19.19 00.24		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 17.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 17.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 17.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 17.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.24.19 17.49	
o-Terphenyl	84-15-1	91	%	70-135	01.24.19 17.49	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS02**
Lab Sample Id: 611651-004

Matrix: Soil
Date Collected: 01.14.19 12.20

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076634

Date Prep: 01.22.19 14.30

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	01.23.19 05.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.23.19 05.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.23.19 05.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.23.19 05.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.23.19 05.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.23.19 05.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.23.19 05.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.23.19 05.17		
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.23.19 05.17		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS03**
Lab Sample Id: 611651-005

Matrix: Soil
Date Collected: 01.14.19 12.25

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	979	4.99	mg/kg	01.19.19 00.31		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 18.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 18.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 18.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 18.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.24.19 18.09	
o-Terphenyl	84-15-1	94	%	70-135	01.24.19 18.09	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS03**
Lab Sample Id: 611651-005

Matrix: Soil
Date Collected: 01.14.19 12.25

Date Received: 01.17.19 12.05
Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.23.19 05.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 05.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.23.19 05.36		
4-Bromofluorobenzene	460-00-4	120	%	70-130	01.23.19 05.36		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW01**
Lab Sample Id: 611651-006

Matrix: Soil
Date Collected: 01.14.19 12.40

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2140	25.0	mg/kg	01.19.19 00.37		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 18.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 18.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 18.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 18.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.24.19 18.29	
o-Terphenyl	84-15-1	95	%	70-135	01.24.19 18.29	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW01**
Lab Sample Id: 611651-006

Matrix: Soil
Date Collected: 01.14.19 12.40

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 05.55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 05.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	01.23.19 05.55		
1,4-Difluorobenzene	540-36-3	107	%	70-130	01.23.19 05.55		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW02**
Lab Sample Id: 611651-007

Matrix: Soil
Date Collected: 01.14.19 12.45

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3050	25.0	mg/kg	01.19.19 01.01		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 18.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	583	15.0	mg/kg	01.24.19 18.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	106	15.0	mg/kg	01.24.19 18.49		1
Total TPH	PHC635	689	15.0	mg/kg	01.24.19 18.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.24.19 18.49	
o-Terphenyl	84-15-1	101	%	70-135	01.24.19 18.49	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW02**
Lab Sample Id: 611651-007

Matrix: Soil
Date Collected: 01.14.19 12.45

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.23.19 06.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.23.19 06.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	01.23.19 06.14		
1,4-Difluorobenzene	540-36-3	110	%	70-130	01.23.19 06.14		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW03**
Lab Sample Id: 611651-008

Matrix: Soil
Date Collected: 01.14.19 12.50

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2430	25.0	mg/kg	01.19.19 01.08		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 15.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	131	15.0	mg/kg	01.24.19 15.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	28.6	15.0	mg/kg	01.24.19 15.51		1
Total TPH	PHC635	160	15.0	mg/kg	01.24.19 15.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.24.19 15.51	
o-Terphenyl	84-15-1	94	%	70-135	01.24.19 15.51	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW03**
Lab Sample Id: 611651-008

Matrix: Soil
Date Collected: 01.14.19 12.50

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.23.19 06.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 06.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	01.23.19 06.33		
4-Bromofluorobenzene	460-00-4	119	%	70-130	01.23.19 06.33		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW04**
Lab Sample Id: 611651-009

Matrix: Soil
Date Collected: 01.14.19 12.55

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1160	5.00	mg/kg	01.19.19 01.29		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 07.00

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	01.24.19 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	21.3	15.0	mg/kg	01.24.19 19.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 19.09	U	1
Total TPH	PHC635	21.3	15.0	mg/kg	01.24.19 19.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	01.24.19 19.09	
o-Terphenyl	84-15-1	88	%	70-135	01.24.19 19.09	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **SW04**
Lab Sample Id: 611651-009

Matrix: Soil
Date Collected: 01.14.19 12.55

Date Received: 01.17.19 12.05
Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 14.30

Basis: Wet Weight

Seq Number: 3076634

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 06.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 06.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.23.19 06.52		
1,4-Difluorobenzene	540-36-3	111	%	70-130	01.23.19 06.52		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS04A**
Lab Sample Id: 611651-010

Matrix: Soil
Date Collected: 01.14.19 13.40

Date Received: 01.17.19 12.05
Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	321	4.97	mg/kg	01.19.19 01.35		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 20.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 20.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 20.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 20.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.25.19 20.48	
o-Terphenyl	84-15-1	89	%	70-135	01.25.19 20.48	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **FS04A**
Lab Sample Id: 611651-010

Matrix: Soil
Date Collected: 01.14.19 13.40

Date Received: 01.17.19 12.05
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Seq Number: 3076660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.23.19 14.08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.23.19 14.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	01.23.19 14.08		
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.23.19 14.08		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH01**
Lab Sample Id: 611651-011

Matrix: Soil
Date Collected: 01.14.19 14.00

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	63.0	4.99	mg/kg	01.19.19 01.42		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 21.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 21.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 21.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 21.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.25.19 21.48	
o-Terphenyl	84-15-1	86	%	70-135	01.25.19 21.48	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH01**
Lab Sample Id: 611651-011

Matrix: Soil
Date Collected: 01.14.19 14.00

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Seq Number: 3076660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 14.27	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 14.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.23.19 14.27		
4-Bromofluorobenzene	460-00-4	122	%	70-130	01.23.19 14.27		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH01A**
Lab Sample Id: 611651-012

Matrix: Soil
Date Collected: 01.14.19 14.05

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.6	4.99	mg/kg	01.19.19 01.48		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 22.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 22.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 22.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.25.19 22.08	
o-Terphenyl	84-15-1	87	%	70-135	01.25.19 22.08	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH01A**
Lab Sample Id: 611651-012

Matrix: Soil
Date Collected: 01.14.19 14.05

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Seq Number: 3076660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.23.19 14.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 14.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	01.23.19 14.46		
1,4-Difluorobenzene	540-36-3	109	%	70-130	01.23.19 14.46		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH02**
Lab Sample Id: 611651-013

Matrix: Soil
Date Collected: 01.14.19 14.10

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	836	4.96	mg/kg	01.19.19 01.54		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 22.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 22.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 22.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 22.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.25.19 22.28	
o-Terphenyl	84-15-1	89	%	70-135	01.25.19 22.28	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH02**
Lab Sample Id: 611651-013

Matrix: Soil
Date Collected: 01.14.19 14.10

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Prep Method: SW5030B

% Moisture:

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.23.19 15.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 15.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	01.23.19 15.05		
1,4-Difluorobenzene	540-36-3	109	%	70-130	01.23.19 15.05		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH02A**
Lab Sample Id: 611651-014

Matrix: Soil
Date Collected: 01.14.19 14.15

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	377	4.96	mg/kg	01.19.19 02.00		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 22.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 22.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 22.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 22.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	01.25.19 22.48	
o-Terphenyl	84-15-1	82	%	70-135	01.25.19 22.48	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH02A**
Lab Sample Id: 611651-014

Matrix: Soil
Date Collected: 01.14.19 14.15

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Prep Method: SW5030B

% Moisture:

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	01.23.19 15.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 15.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.23.19 15.24		
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.23.19 15.24		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH03**
Lab Sample Id: 611651-015

Matrix: Soil
Date Collected: 01.14.19 14.20

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076409

Date Prep: 01.18.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.1	4.96	mg/kg	01.19.19 02.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 23.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.25.19 23.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	01.25.19 23.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.25.19 23.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	01.25.19 23.08	
o-Terphenyl	84-15-1	85	%	70-135	01.25.19 23.08	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH03**
Lab Sample Id: 611651-015

Matrix: Soil
Date Collected: 01.14.19 14.20

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Seq Number: 3076660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 15.43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 15.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	01.23.19 15.43		
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.23.19 15.43		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH03A**
Lab Sample Id: 611651-016

Matrix: Soil
Date Collected: 01.14.19 14.25

Date Received: 01.17.19 12.05
Sample Depth: 14 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076503

Date Prep: 01.21.19 08.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	55.0	5.00	mg/kg	01.21.19 12.12		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 23.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 23.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 23.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 23.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.25.19 23.28	
o-Terphenyl	84-15-1	88	%	70-135	01.25.19 23.28	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH03A**
Lab Sample Id: 611651-016

Matrix: Soil
Date Collected: 01.14.19 14.25

Date Received: 01.17.19 12.05
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Prep Method: SW5030B

% Moisture:

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.23.19 16.02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.23.19 16.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	01.23.19 16.02		
4-Bromofluorobenzene	460-00-4	114	%	70-130	01.23.19 16.02		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH07**
Lab Sample Id: 611651-017

Matrix: Soil
Date Collected: 01.14.19 14.35

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	425	4.99	mg/kg	01.21.19 18.08		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.25.19 23.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.25.19 23.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.25.19 23.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.25.19 23.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.25.19 23.47	
o-Terphenyl	84-15-1	89	%	70-135	01.25.19 23.47	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH07**
Lab Sample Id: 611651-017

Matrix: Soil
Date Collected: 01.14.19 14.35

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Seq Number: 3076660

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 16.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 16.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	01.23.19 16.21		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.23.19 16.21		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH07A**
Lab Sample Id: 611651-018

Matrix: Soil
Date Collected: 01.14.19 14.30

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	165	4.98	mg/kg	01.21.19 18.14		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.26.19 00.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.26.19 00.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.26.19 00.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.26.19 00.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.26.19 00.07	
o-Terphenyl	84-15-1	88	%	70-135	01.26.19 00.07	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH07A**
Lab Sample Id: 611651-018

Matrix: Soil
Date Collected: 01.14.19 14.30

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Prep Method: SW5030B

% Moisture:

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.23.19 16.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 16.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	01.23.19 16.40		
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.23.19 16.40		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04**
Lab Sample Id: 611651-019

Matrix: Soil
Date Collected: 01.14.19 14.40

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	108	4.98	mg/kg	01.21.19 18.20		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.26.19 00.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.26.19 00.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	01.26.19 00.27	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.26.19 00.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.26.19 00.27	
o-Terphenyl	84-15-1	85	%	70-135	01.26.19 00.27	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04**
Lab Sample Id: 611651-019

Matrix: Soil
Date Collected: 01.14.19 14.40

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Date Prep: 01.22.19 17.00

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	01.23.19 17.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 17.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 17.02	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.23.19 17.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 17.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 17.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 17.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	01.23.19 17.02		
1,4-Difluorobenzene	540-36-3	107	%	70-130	01.23.19 17.02		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04A**
Lab Sample Id: 611651-020

Matrix: Soil
Date Collected: 01.14.19 14.45

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1040	4.98	mg/kg	01.21.19 18.26		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3077206

Date Prep: 01.25.19 09.00

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	01.26.19 00.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.26.19 00.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.26.19 00.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.26.19 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	01.26.19 00.47	
o-Terphenyl	84-15-1	91	%	70-135	01.26.19 00.47	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04A**
Lab Sample Id: 611651-020

Matrix: Soil
Date Collected: 01.14.19 14.45

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.23.19 09.00

Basis: Wet Weight

Seq Number: 3076760

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.23.19 16.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.23.19 16.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.23.19 16.13		
4-Bromofluorobenzene	460-00-4	105	%	70-130	01.23.19 16.13		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH05**
Lab Sample Id: 611651-021

Matrix: Soil
Date Collected: 01.14.19 14.50

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076514

Date Prep: 01.21.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	01.22.19 00.09	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076651

Date Prep: 01.22.19 15.00

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	01.23.19 02.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 02.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 02.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 02.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.23.19 02.37	
o-Terphenyl	84-15-1	94	%	70-135	01.23.19 02.37	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH05**
Lab Sample Id: 611651-021

Matrix: Soil
Date Collected: 01.14.19 14.50

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.23.19 09.00

Basis: Wet Weight

Seq Number: 3076760

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.23.19 16.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 16.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	01.23.19 16.34		
1,4-Difluorobenzene	540-36-3	89	%	70-130	01.23.19 16.34		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH05A**
Lab Sample Id: 611651-022

Matrix: Soil
Date Collected: 01.14.19 14.55

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076513

Date Prep: 01.21.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	122	4.98	mg/kg	01.21.19 19.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076651

Date Prep: 01.22.19 15.00

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	01.23.19 02.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	01.23.19 02.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	01.23.19 02.57	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	01.23.19 02.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.23.19 02.57	
o-Terphenyl	84-15-1	93	%	70-135	01.23.19 02.57	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH05A**
Lab Sample Id: 611651-022

Matrix: Soil
Date Collected: 01.14.19 14.55

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.23.19 09.00

Basis: Wet Weight

Seq Number: 3076760

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.23.19 17.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 17.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.23.19 17.59		
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.23.19 17.59		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH06**
Lab Sample Id: 611651-023

Matrix: Soil
Date Collected: 01.14.19 15.00

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076513

Date Prep: 01.21.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.9	5.00	mg/kg	01.21.19 19.31		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076651

Date Prep: 01.22.19 15.00

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	01.23.19 03.17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 03.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 03.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 03.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.23.19 03.17	
o-Terphenyl	84-15-1	92	%	70-135	01.23.19 03.17	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH06**
Lab Sample Id: 611651-023

Matrix: Soil
Date Collected: 01.14.19 15.00

Date Received: 01.17.19 12.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.23.19 09.00

Basis: Wet Weight

Seq Number: 3076760

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.23.19 18.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.23.19 18.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	01.23.19 18.20		
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.23.19 18.20		



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH06A**
Lab Sample Id: 611651-024

Matrix: Soil
Date Collected: 01.14.19 15.05

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076513

Date Prep: 01.21.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	109	5.00	mg/kg	01.21.19 20.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076651

Date Prep: 01.22.19 15.00

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	01.23.19 03.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.23.19 03.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.23.19 03.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.23.19 03.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.23.19 03.37	
o-Terphenyl	84-15-1	93	%	70-135	01.23.19 03.37	



Certificate of Analytical Results 611651



LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH06A**
Lab Sample Id: 611651-024

Matrix: Soil
Date Collected: 01.14.19 15.05

Date Received: 01.17.19 12.05
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076660

Prep Method: SW5030B

% Moisture:

Date Prep: 01.22.19 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.23.19 12.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.23.19 12.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.23.19 12.15		
1,4-Difluorobenzene	540-36-3	109	%	70-130	01.23.19 12.15		



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 CVX JV RR 006H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076409

MB Sample Id: 7670022-1-BLK

Matrix: Solid

LCS Sample Id: 7670022-1-BKS

Prep Method: E300P

Date Prep: 01.18.19

LCSD Sample Id: 7670022-1-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	253	101	246	98	90-110	3	20	mg/kg	01.18.19 23:01	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076503

MB Sample Id: 7670116-1-BLK

Matrix: Solid

LCS Sample Id: 7670116-1-BKS

Prep Method: E300P

Date Prep: 01.21.19

LCSD Sample Id: 7670116-1-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	235	94	236	94	90-110	0	20	mg/kg	01.21.19 09:27	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

MB Sample Id: 7670119-1-BLK

Matrix: Solid

LCS Sample Id: 7670119-1-BKS

Prep Method: E300P

Date Prep: 01.21.19

LCSD Sample Id: 7670119-1-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	252	101	239	96	90-110	5	20	mg/kg	01.21.19 15:21	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076513

MB Sample Id: 7670156-1-BLK

Matrix: Solid

LCS Sample Id: 7670156-1-BKS

Prep Method: E300P

Date Prep: 01.21.19

LCSD Sample Id: 7670156-1-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	248	99	236	94	90-110	5	20	mg/kg	01.21.19 18:54	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076514

MB Sample Id: 7670158-1-BLK

Matrix: Solid

LCS Sample Id: 7670158-1-BKS

Prep Method: E300P

Date Prep: 01.21.19

LCSD Sample Id: 7670158-1-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	238	95	243	97	90-110	2	20	mg/kg	01.21.19 22:27	

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 CVX JV RR 006H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076409

Parent Sample Id: 611687-021

Matrix: Soil

MS Sample Id: 611687-021 S

Prep Method: E300P

Date Prep: 01.18.19

MSD Sample Id: 611687-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.5	248	249	95	257	98	90-110	3	20	mg/kg	01.18.19 23:20	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076409

Parent Sample Id: 611687-023

Matrix: Soil

MS Sample Id: 611687-023 S

Prep Method: E300P

Date Prep: 01.18.19

MSD Sample Id: 611687-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.6	250	264	99	257	96	90-110	3	20	mg/kg	01.19.19 00:49	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076503

Parent Sample Id: 611426-005

Matrix: Soil

MS Sample Id: 611426-005 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611426-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	143	249	385	97	386	98	90-110	0	20	mg/kg	01.21.19 09:58	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076503

Parent Sample Id: 611651-016

Matrix: Soil

MS Sample Id: 611651-016 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611651-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	55.0	250	291	94	291	94	90-110	0	20	mg/kg	01.21.19 12:22	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

Parent Sample Id: 611795-001

Matrix: Soil

MS Sample Id: 611795-001 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611795-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	229	248	464	95	463	94	90-110	0	20	mg/kg	01.21.19 15:40	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 $\text{Log Diff.} = \text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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 CVX JV RR 006H

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

Parent Sample Id: 611798-002

Matrix: Soil

MS Sample Id: 611798-002 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	245	98	227	91	90-110	8	20	mg/kg	01.21.19 17:09	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076513

Parent Sample Id: 611651-022

Matrix: Soil

MS Sample Id: 611651-022 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611651-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	122	249	378	103	344	89	90-110	9	20	mg/kg	01.21.19 19:12	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076513

Parent Sample Id: 611651-024

Matrix: Soil

MS Sample Id: 611651-024 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611651-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	109	250	332	89	327	87	90-110	2	20	mg/kg	01.21.19 20:42	X

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076514

Parent Sample Id: 611650-001

Matrix: Soil

MS Sample Id: 611650-001 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611650-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	730	250	966	94	962	93	90-110	0	20	mg/kg	01.21.19 22:45	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076514

Parent Sample Id: 611651-021

Matrix: Soil

MS Sample Id: 611651-021 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611651-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.39	250	273	108	256	101	90-110	6	20	mg/kg	01.22.19 00:15	

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 CVX JV RR 006H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076651

MB Sample Id: 7670272-1-BLK

Matrix: Solid

LCS Sample Id: 7670272-1-BKS

Prep Method: TX1005P

Date Prep: 01.22.19

LCSD Sample Id: 7670272-1-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	899	90	924	92	70-135	3	20	mg/kg	01.22.19 20:57	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1030	103	70-135	2	20	mg/kg	01.22.19 20:57	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	97		114		116		70-135	%	01.22.19 20:57			
o-Terphenyl	100		108		105		70-135	%	01.22.19 20:57			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076974

MB Sample Id: 7670421-1-BLK

Matrix: Solid

LCS Sample Id: 7670421-1-BKS

Prep Method: TX1005P

Date Prep: 01.24.19

LCSD Sample Id: 7670421-1-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	950	95	898	90	70-135	6	20	mg/kg	01.24.19 14:14	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	978	98	70-135	5	20	mg/kg	01.24.19 14:14	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	95		118		113		70-135	%	01.24.19 14:14			
o-Terphenyl	98		111		111		70-135	%	01.24.19 14:14			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3077206

MB Sample Id: 7670531-1-BLK

Matrix: Solid

LCS Sample Id: 7670531-1-BKS

Prep Method: TX1005P

Date Prep: 01.25.19

LCSD Sample Id: 7670531-1-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	1040	104	937	94	70-135	10	20	mg/kg	01.25.19 16:33	
Diesel Range Organics (DRO)	<8.13	1000	1100	110	1040	104	70-135	6	20	mg/kg	01.25.19 16:33	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	114		109		123		70-135	%	01.25.19 16:33			
o-Terphenyl	116		126		114		70-135	%	01.25.19 16:33			

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 CVX JV RR 006H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076651

Parent Sample Id: 612048-001

Matrix: Soil

MS Sample Id: 612048-001 S

Prep Method: TX1005P

Date Prep: 01.22.19

MSD Sample Id: 612048-001 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)	<7.99	999	955	96	961	96	70-135	1	20	mg/kg	01.22.19 21:57	
Diesel Range Organics (DRO)	<8.12	999	1100	110	1110	111	70-135	1	20	mg/kg	01.22.19 21:57	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		128		70-135	%	01.22.19 21:57
o-Terphenyl	120		124		70-135	%	01.22.19 21:57

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076974

Parent Sample Id: 611651-001

Matrix: Soil

MS Sample Id: 611651-001 S

Prep Method: TX1005P

Date Prep: 01.24.19

MSD Sample Id: 611651-001 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)	12.0	997	857	85	870	86	70-135	2	20	mg/kg	01.24.19 16:30	
Diesel Range Organics (DRO)	12.2	997	980	97	976	96	70-135	0	20	mg/kg	01.24.19 16:30	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		120		70-135	%	01.24.19 16:30
o-Terphenyl	111		109		70-135	%	01.24.19 16:30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3077206

Parent Sample Id: 611788-001

Matrix: Soil

MS Sample Id: 611788-001 S

Prep Method: TX1005P

Date Prep: 01.25.19

MSD Sample Id: 611788-001 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)	<9.30	1160	1040	90	1060	91	70-135	2	20	mg/kg	01.25.19 17:31	
Diesel Range Organics (DRO)	<9.45	1160	1150	99	1180	102	70-135	3	20	mg/kg	01.25.19 17:31	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		126		70-135	%	01.25.19 17:31
o-Terphenyl	104		108		70-135	%	01.25.19 17:31

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 CVX JV RR 006H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076634

MB Sample Id: 7670219-1-BLK

Matrix: Solid

LCS Sample Id: 7670219-1-BKS

Prep Method: SW5030B

Date Prep: 01.22.19

LCSD Sample Id: 7670219-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.113	113	0.109	109	70-130	4	35	mg/kg	01.22.19 22:22	
Toluene	<0.000454	0.0996	0.101	101	0.0977	98	70-130	3	35	mg/kg	01.22.19 22:22	
Ethylbenzene	<0.000563	0.0996	0.0961	96	0.0923	92	70-130	4	35	mg/kg	01.22.19 22:22	
m,p-Xylenes	<0.00101	0.199	0.189	95	0.181	91	70-130	4	35	mg/kg	01.22.19 22:22	
o-Xylene	<0.000343	0.0996	0.0949	95	0.0912	91	70-130	4	35	mg/kg	01.22.19 22:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		105		70-130	%	01.22.19 22:22
4-Bromofluorobenzene	95		103		105		70-130	%	01.22.19 22:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076660

MB Sample Id: 7670248-1-BLK

Matrix: Solid

LCS Sample Id: 7670248-1-BKS

Prep Method: SW5030B

Date Prep: 01.22.19

LCSD Sample Id: 7670248-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000385	0.100	0.115	115	0.118	118	70-130	3	35	mg/kg	01.23.19 08:10	
Toluene	<0.000456	0.100	0.0993	99	0.102	102	70-130	3	35	mg/kg	01.23.19 08:10	
Ethylbenzene	<0.000565	0.100	0.0922	92	0.0952	95	70-130	3	35	mg/kg	01.23.19 08:10	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.185	92	70-130	3	35	mg/kg	01.23.19 08:10	
o-Xylene	<0.000344	0.100	0.0911	91	0.0944	94	70-130	4	35	mg/kg	01.23.19 08:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		106		107		70-130	%	01.23.19 08:10
4-Bromofluorobenzene	91		101		104		70-130	%	01.23.19 08:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076760

MB Sample Id: 7670263-1-BLK

Matrix: Solid

LCS Sample Id: 7670263-1-BKS

Prep Method: SW5030B

Date Prep: 01.23.19

LCSD Sample Id: 7670263-1-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	0.111	111	0.114	113	70-130	3	35	mg/kg	01.23.19 11:15	
Toluene	<0.00200	0.100	0.0957	96	0.0983	97	70-130	3	35	mg/kg	01.23.19 11:15	
Ethylbenzene	<0.00200	0.100	0.119	119	0.123	122	70-130	3	35	mg/kg	01.23.19 11:15	
m,p-Xylenes	<0.00400	0.200	0.242	121	0.243	120	70-130	0	35	mg/kg	01.23.19 11:15	
o-Xylene	<0.00200	0.100	0.114	114	0.116	115	70-130	2	35	mg/kg	01.23.19 11:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		97		108		70-130	%	01.23.19 11:15
4-Bromofluorobenzene	91		81		74		70-130	%	01.23.19 11:15

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 CVX JV RR 006H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076634

Parent Sample Id: 611651-001

Matrix: Soil

MS Sample Id: 611651-001 S

Prep Method: SW5030B

Date Prep: 01.22.19

MSD Sample Id: 611651-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0751	75	0.102	102	70-130	30	35	mg/kg	01.22.19 23:00	
Toluene	<0.000457	0.100	0.0821	82	0.0895	90	70-130	9	35	mg/kg	01.22.19 23:00	
Ethylbenzene	<0.000567	0.100	0.0775	78	0.0816	82	70-130	5	35	mg/kg	01.22.19 23:00	
m,p-Xylenes	<0.00102	0.201	0.159	79	0.159	80	70-130	0	35	mg/kg	01.22.19 23:00	
o-Xylene	0.000403	0.100	0.0795	79	0.0796	79	70-130	0	35	mg/kg	01.22.19 23:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		105		70-130	%	01.22.19 23:00
4-Bromofluorobenzene	112		105		70-130	%	01.22.19 23:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076660

Parent Sample Id: 611651-024

Matrix: Soil

MS Sample Id: 611651-024 S

Prep Method: SW5030B

Date Prep: 01.22.19

MSD Sample Id: 611651-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.107	107	0.104	104	70-130	3	35	mg/kg	01.23.19 08:48	
Toluene	<0.000457	0.100	0.0941	94	0.0902	90	70-130	4	35	mg/kg	01.23.19 08:48	
Ethylbenzene	<0.000566	0.100	0.0882	88	0.0839	84	70-130	5	35	mg/kg	01.23.19 08:48	
m,p-Xylenes	<0.00102	0.200	0.172	86	0.163	82	70-130	5	35	mg/kg	01.23.19 08:48	
o-Xylene	<0.000345	0.100	0.0868	87	0.0823	82	70-130	5	35	mg/kg	01.23.19 08:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		107		70-130	%	01.23.19 08:48
4-Bromofluorobenzene	106		105		70-130	%	01.23.19 08:48

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076760

Parent Sample Id: 611803-001

Matrix: Soil

MS Sample Id: 611803-001 S

Prep Method: SW5030B

Date Prep: 01.23.19

MSD Sample Id: 611803-001 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	0.107	107	0.102	102	70-130	5	35	mg/kg	01.23.19 11:57	
Toluene	<0.00200	0.100	0.0938	94	0.0888	89	70-130	5	35	mg/kg	01.23.19 11:57	
Ethylbenzene	<0.00200	0.100	0.117	117	0.110	110	70-130	6	35	mg/kg	01.23.19 11:57	
m,p-Xylenes	<0.00400	0.200	0.231	116	0.213	107	70-130	8	35	mg/kg	01.23.19 11:57	
o-Xylene	<0.00200	0.100	0.109	109	0.103	103	70-130	6	35	mg/kg	01.23.19 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	129		119		70-130	%	01.23.19 11:57
4-Bromofluorobenzene	79		85		70-130	%	01.23.19 11:57

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:

01151

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
Phoenix, AZ (480-335-0900) Atlanta, GA (770-449-8800) Tampa, FL (813)
Hobbs, NM (575-392-7550)

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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:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	bbelill@ltenv.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project: Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐ Deliverables: EDD ☐ ADAPT ☐ Other:	

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (I)	Chloride	Sample Comments									
FS01	S	1/14/19	1150	1.5'	1	X	X	X	Composite									
SS2A08 FS05			1200	1.5'		X	X	X										
SS2A08 FS04			1205	1.5'		X	X	X										
FS02			1220	1.5'		X	X	X										
FS03			1225	1.5'		X	X	X										
SW01			1240	0-1.5'		X	X	X	Discrete									
SW02			1245	0-1.5'		X	X	X										
SW03			1250	0-1.5'		X	X	X										
SW04			1255	0-1.5'		X	X	X										
RM-SS2B FS04A			1340	6'		X	X	X										

Total 200.7 / 6010		200.8 / 6020:	
Circle Method(s) and Metal(s) to be analyzed			
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
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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		11/6/19 11:55	2 		1/17/19 12:05
3 			4 		
5		6			



Chain of Custody

Work Order No:

1611651

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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Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Litrell
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:	432.704.5178	Email:	bbell@ltenv.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project:	
Reporting Level: ☐ I ☐ II ☐ III ☐ ST/UST ☐ RRP ☐ Level IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	PLU CVXSV RR 606H	Turn Around	Routine
Project Number:	289-3937	Rush:	
P.O. Number:		Due Date:	
Sampler's Name:	Benjamin Beill		

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
	Temperature (°C):	0.310.2	Thermometer ID:	601
	Received Intact:	Yes ☒ No ☐	Correction Factor:	
	Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	
	Sample Custody Seals:	Yes ☒ No ☐ N/A		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Work Order Notes	
PH01	S	1/14/18	1400	2'	1	X	X	X												
PH01A			1405	4'		X	X	X												
PH02			1410	2'		X	X	X												
PH02A			1415	4'		X	X	X												
PH03			1420	2'		X	X	X												
PH03A			1425	4'		X	X	X												
RM554A PH07			1435	2'		X	X	X												
RM554B PH07A			1430	4'		X	X	X												
PH04			1440	2'		X	X	X												
PH04A			1445	4'		X	X	X												
																		</		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SIO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed: TC1P / 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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>[Signature]</i>	1 <i>[Signature]</i>	1/16/18 11:55	2 <i>[Signature]</i>	2 <i>[Signature]</i>	1/19/18 10:05
3 <i>[Signature]</i>	3 <i>[Signature]</i>		4 <i>[Signature]</i>	4 <i>[Signature]</i>	
5			6		



Chain of Custody

Work Order No:

411651

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

www.xenco.com

Page 3 of 3

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littlell
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:	432.704.5178	Email:	lbelill@ltenv.com

Program: ☒ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project:	
Reporting: Level II ☐ Level III ☐ TST/UST ☐ RRP ☐ pvel IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	PLU CVX JV RK 006H	Turn Around	
Project Number:	2RP-3937	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Benjamin Bellill	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
	Temperature (°C):	0.360	Thermometer ID:	6
	Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.1
	Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	
	Sample Custody Seals:	Yes ☒ No ☐		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST														Work Order Notes
PH05	S	1/14/19	1450	2'	1	TPH (EPA 8015)														
PH05A			1455	4'		BTEX (EPA 0-8021)														
PH06			1500	2'		Chloride (EPA 300.0)														
PH06A			1505	4'																
BTB 1/16/19 Discrete																				

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>[Signature]</i>	<i>[Signature]</i>	1/14/19 11:55	<i>[Signature]</i>	<i>[Signature]</i>	1/14/19 12:05



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01/17/2019 12:05:00 PM

Work Order #: 611651

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)?	.2
#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: 01/17/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/18/2019

Analytical Report 630260

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU CVX JV RR 006H

16-JUL-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



16-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630260**

PLU CVX JV RR 006H

Project Address: Delaware Basin

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) 630260. 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. 630260 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 630260****LT Environmental, Inc., Arvada, CO**

PLU CVX JV RR 006H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH04B	S	07-08-19 10:00	6 ft	630260-001
PH08	S	07-08-19 10:15	2 ft	630260-002
PH08A	S	07-08-19 10:25	4 ft	630260-003
PH09	S	07-08-19 10:45	2 ft	630260-004
PH09A	S	07-08-19 10:55	4 ft	630260-005
PH10	S	07-08-19 11:05	2 ft	630260-006
PH10A	S	07-08-19 11:15	4 ft	630260-007
PH11	S	07-08-19 11:25	6 ft	630260-008
PH11A	S	07-08-19 11:30	8 ft	630260-009
PH11B	S	07-08-19 11:40	10 ft	630260-010
PH12	S	07-08-19 11:50	6 ft	630260-011
PH12A	S	07-08-19 12:00	8 ft	630260-012
PH12B	S	07-08-19 12:10	10 ft	630260-013
PH12C	S	07-08-19 12:20	12 ft	630260-014
PH12D	S	07-08-19 12:25	14 ft	630260-015

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU CVX JV RR 006H**

Project ID:
Work Order Number(s): 630260

Report Date: 16-JUL-19
Date Received: 07/09/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094975 Chloride by EPA 300

Lab Sample ID 630260-013 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: 630260-002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3095353 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 630260-010.

Lab Sample ID 630260-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene 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: 630260-006, -007, -008, -009, -010, -011, -012, -013, -014, -015.

The Laboratory Control Sample for Benzene 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.

Batch: LBA-3095357 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 630260



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Tue Jul-09-19 02:30 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630260-001	630260-002	630260-003	630260-004	630260-005	630260-006
	<i>Field Id:</i>	PH04B	PH08	PH08A	PH09	PH09A	PH10
	<i>Depth:</i>	6- ft	2- ft	4- ft	2- ft	4- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 10:00	Jul-08-19 10:15	Jul-08-19 10:25	Jul-08-19 10:45	Jul-08-19 10:55	Jul-08-19 11:05
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-12-19 14:03	Jul-12-19 14:03	Jul-12-19 14:03	Jul-12-19 14:03	Jul-12-19 14:03	Jul-12-19 15:10
	<i>Analyzed:</i>	Jul-14-19 16:36	Jul-14-19 16:58	Jul-14-19 17:20	Jul-14-19 17:42	Jul-14-19 18:04	Jul-14-19 22:59
	<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	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00397 0.00397
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-10-19 16:00	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25
	<i>Analyzed:</i>	Jul-10-19 21:23	Jul-10-19 19:34	Jul-10-19 19:56	Jul-10-19 20:03	Jul-10-19 20:11	Jul-10-19 20:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		58.3 5.00	73.7 5.03	161 4.96	22.3 5.00	43.2 4.97	42.3 5.00
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00
	<i>Analyzed:</i>	Jul-15-19 21:25	Jul-15-19 22:37	Jul-15-19 23:01	Jul-15-19 23:25	Jul-15-19 23:49	Jul-16-19 00:13
	<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	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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 Analysis Summary 630260



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Tue Jul-09-19 02:30 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630260-007	630260-008	630260-009	630260-010	630260-011	630260-012
	<i>Field Id:</i>	PH10A	PH11	PH11A	PH11B	PH12	PH12A
	<i>Depth:</i>	4- ft	6- ft	8- ft	10- ft	6- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 11:15	Jul-08-19 11:25	Jul-08-19 11:30	Jul-08-19 11:40	Jul-08-19 11:50	Jul-08-19 12:00
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10
	<i>Analyzed:</i>	Jul-14-19 23:22	Jul-14-19 23:45	Jul-15-19 00:08	Jul-15-19 00:32	Jul-15-19 00:55	Jul-15-19 01:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00400 0.00400	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25
	<i>Analyzed:</i>	Jul-10-19 20:40	Jul-10-19 20:47	Jul-10-19 20:54	Jul-10-19 21:01	Jul-10-19 21:09	Jul-10-19 21:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.02 5.02	887 4.98	1140 4.96	38.2 24.8	1080 4.95	1240 5.02
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00
	<i>Analyzed:</i>	Jul-16-19 00:36	Jul-16-19 01:00	Jul-16-19 01:24	Jul-16-19 01:48	Jul-16-19 02:35	Jul-16-19 02:59
	<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	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 630260



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV RR 006H

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Tue Jul-09-19 02:30 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630260-013	630260-014	630260-015			
	<i>Field Id:</i>	PH12B	PH12C	PH12D			
	<i>Depth:</i>	10- ft	12- ft	14- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jul-08-19 12:10	Jul-08-19 12:20	Jul-08-19 12:25			
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10			
	<i>Analyzed:</i>	Jul-15-19 01:41	Jul-15-19 02:04	Jul-15-19 02:27			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
m,p-Xylenes		<0.00401 0.00401	<0.00400 0.00400	<0.00402 0.00402			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25			
	<i>Analyzed:</i>	Jul-10-19 21:16	Jul-10-19 21:45	Jul-10-19 22:07			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		71.6 5.00	73.7 4.99	286 25.0			
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-15-19 12:00	Jul-15-19 12:00	Jul-15-19 12:00			
	<i>Analyzed:</i>	Jul-16-19 03:22	Jul-16-19 03:46	Jul-16-19 04:09			
	<i>Units/RL:</i>	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			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0			

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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04B**
Lab Sample Id: 630260-001

Matrix: Soil
Date Collected: 07.08.19 10.00

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094967

Date Prep: 07.10.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.3	5.00	mg/kg	07.10.19 21.23		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.15.19 21.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.15.19 21.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.15.19 21.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.15.19 21.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.15.19 21.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.15.19 21.25	
o-Terphenyl	84-15-1	88	%	70-135	07.15.19 21.25	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH04B**
Lab Sample Id: 630260-001

Matrix: Soil
Date Collected: 07.08.19 10.00

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095357

Date Prep: 07.12.19 14.03

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.14.19 16.36	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.14.19 16.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	07.14.19 16.36		
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.14.19 16.36		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH08**
Lab Sample Id: 630260-002

Matrix: Soil
Date Collected: 07.08.19 10.15

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	73.7	5.03	mg/kg	07.10.19 19.34		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.15.19 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.15.19 22.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.15.19 22.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.15.19 22.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.15.19 22.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.15.19 22.37	
o-Terphenyl	84-15-1	82	%	70-135	07.15.19 22.37	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH08**
Lab Sample Id: 630260-002

Matrix: Soil
Date Collected: 07.08.19 10.15

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095357

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 14.03

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.14.19 16.58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.14.19 16.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.14.19 16.58		
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.14.19 16.58		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH08A**
Lab Sample Id: 630260-003

Matrix: Soil
Date Collected: 07.08.19 10.25

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	161	4.96	mg/kg	07.10.19 19.56		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.15.19 23.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.15.19 23.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.15.19 23.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.15.19 23.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.15.19 23.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.15.19 23.01	
o-Terphenyl	84-15-1	87	%	70-135	07.15.19 23.01	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH08A**
Lab Sample Id: 630260-003

Matrix: Soil
Date Collected: 07.08.19 10.25

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095357

Date Prep: 07.12.19 14.03

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.14.19 17.20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.14.19 17.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.14.19 17.20		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.14.19 17.20		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH09** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630260-004 Date Collected: 07.08.19 10.45 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.10.19 16.25 Basis: Wet Weight
 Seq Number: 3094975 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.3	5.00	mg/kg	07.10.19 20.03		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.15.19 12.00 Basis: Wet Weight
 Seq Number: 3095444 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.15.19 23.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.15.19 23.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.15.19 23.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.15.19 23.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.15.19 23.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.15.19 23.25	
o-Terphenyl	84-15-1	92	%	70-135	07.15.19 23.25	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH09**
Lab Sample Id: 630260-004

Matrix: Soil
Date Collected: 07.08.19 10.45

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095357

Date Prep: 07.12.19 14.03

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.14.19 17.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.14.19 17.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.14.19 17.42		
4-Bromofluorobenzene	460-00-4	108	%	70-130	07.14.19 17.42		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH09A**
Lab Sample Id: 630260-005

Matrix: Soil
Date Collected: 07.08.19 10.55

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.2	4.97	mg/kg	07.10.19 20.11		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.15.19 23.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.15.19 23.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.15.19 23.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.15.19 23.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.15.19 23.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.15.19 23.49	
o-Terphenyl	84-15-1	92	%	70-135	07.15.19 23.49	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH09A**
Lab Sample Id: 630260-005

Matrix: Soil
Date Collected: 07.08.19 10.55

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095357

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 14.03

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.14.19 18.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.14.19 18.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	07.14.19 18.04		
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.14.19 18.04		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH10**
Lab Sample Id: 630260-006

Matrix: Soil
Date Collected: 07.08.19 11.05

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.3	5.00	mg/kg	07.10.19 20.18		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 00.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 00.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 00.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 00.13	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.16.19 00.13	
o-Terphenyl	84-15-1	85	%	70-135	07.16.19 00.13	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH10**
Lab Sample Id: 630260-006

Matrix: Soil
Date Collected: 07.08.19 11.05

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.14.19 22.59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.14.19 22.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.14.19 22.59		
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.14.19 22.59		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH10A**
Lab Sample Id: 630260-007

Matrix: Soil
Date Collected: 07.08.19 11.15

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	07.10.19 20.40	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 00.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 00.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 00.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.16.19 00.36	
o-Terphenyl	84-15-1	88	%	70-135	07.16.19 00.36	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH10A**
Lab Sample Id: 630260-007

Matrix: Soil
Date Collected: 07.08.19 11.15

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.14.19 23.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.14.19 23.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	70-130	07.14.19 23.22		
4-Bromofluorobenzene	460-00-4	125	%	70-130	07.14.19 23.22		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630260-008 Date Collected: 07.08.19 11.25 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.10.19 16.25 Basis: Wet Weight
 Seq Number: 3094975 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	887	4.98	mg/kg	07.10.19 20.47		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.15.19 12.00 Basis: Wet Weight
 Seq Number: 3095444 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 01.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 01.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 01.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 01.00	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 01.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.16.19 01.00	
o-Terphenyl	84-15-1	89	%	70-135	07.16.19 01.00	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11**
Lab Sample Id: 630260-008

Matrix: Soil
Date Collected: 07.08.19 11.25

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.14.19 23.45	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.14.19 23.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.14.19 23.45		
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.14.19 23.45		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11A**
Lab Sample Id: 630260-009

Matrix: Soil
Date Collected: 07.08.19 11.30

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1140	4.96	mg/kg	07.10.19 20.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 01.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 01.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 01.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 01.24	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 01.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.16.19 01.24	
o-Terphenyl	84-15-1	88	%	70-135	07.16.19 01.24	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11A**
Lab Sample Id: 630260-009

Matrix: Soil
Date Collected: 07.08.19 11.30

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.15.19 00.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 00.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.15.19 00.08		
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.15.19 00.08		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11B**
Lab Sample Id: 630260-010

Matrix: Soil
Date Collected: 07.08.19 11.40

Date Received: 07.09.19 14.30
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.2	24.8	mg/kg	07.10.19 21.01		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 01.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 01.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 01.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 01.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 01.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.16.19 01.48	
o-Terphenyl	84-15-1	87	%	70-135	07.16.19 01.48	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH11B**
Lab Sample Id: 630260-010

Matrix: Soil
Date Collected: 07.08.19 11.40

Date Received: 07.09.19 14.30
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 00.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 00.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	159	%	70-130	07.15.19 00.32	**	
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.15.19 00.32		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12**
Lab Sample Id: 630260-011

Matrix: Soil
Date Collected: 07.08.19 11.50

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1080	4.95	mg/kg	07.10.19 21.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 02.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 02.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 02.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 02.35	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 02.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.16.19 02.35	
o-Terphenyl	84-15-1	96	%	70-135	07.16.19 02.35	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12**
Lab Sample Id: 630260-011

Matrix: Soil
Date Collected: 07.08.19 11.50

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 00.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 00.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	07.15.19 00.55		
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.15.19 00.55		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12A**
Lab Sample Id: 630260-012

Matrix: Soil
Date Collected: 07.08.19 12.00

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	5.02	mg/kg	07.10.19 21.38		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.16.19 02.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.16.19 02.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.16.19 02.59	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.16.19 02.59	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.16.19 02.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.16.19 02.59	
o-Terphenyl	84-15-1	92	%	70-135	07.16.19 02.59	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12A**
Lab Sample Id: 630260-012

Matrix: Soil
Date Collected: 07.08.19 12.00

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 01.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 01.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.15.19 01.18		
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.15.19 01.18		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12B**
Lab Sample Id: 630260-013

Matrix: Soil
Date Collected: 07.08.19 12.10

Date Received: 07.09.19 14.30
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.6	5.00	mg/kg	07.10.19 21.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 03.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 03.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 03.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 03.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 03.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	07.16.19 03.22	
o-Terphenyl	84-15-1	101	%	70-135	07.16.19 03.22	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12B**
Lab Sample Id: 630260-013

Matrix: Soil
Date Collected: 07.08.19 12.10

Date Received: 07.09.19 14.30
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.15.19 01.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 01.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.15.19 01.41		
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 01.41		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12C**
Lab Sample Id: 630260-014

Matrix: Soil
Date Collected: 07.08.19 12.20

Date Received: 07.09.19 14.30
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	73.7	4.99	mg/kg	07.10.19 21.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 03.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 03.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 03.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 03.46	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 03.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.16.19 03.46	
o-Terphenyl	84-15-1	78	%	70-135	07.16.19 03.46	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12C**
Lab Sample Id: 630260-014

Matrix: Soil
Date Collected: 07.08.19 12.20

Date Received: 07.09.19 14.30
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 02.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 02.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.15.19 02.04		
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 02.04		



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12D**
Lab Sample Id: 630260-015

Matrix: Soil
Date Collected: 07.08.19 12.25

Date Received: 07.09.19 14.30
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	286	25.0	mg/kg	07.10.19 22.07		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095444

Date Prep: 07.15.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 04.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 04.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 04.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 04.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 04.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.16.19 04.09	
o-Terphenyl	84-15-1	88	%	70-135	07.16.19 04.09	



Certificate of Analytical Results 630260

LT Environmental, Inc., Arvada, CO

PLU CVX JV RR 006H

Sample Id: **PH12D**
Lab Sample Id: 630260-015

Matrix: Soil
Date Collected: 07.08.19 12.25

Date Received: 07.09.19 14.30
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.15.19 02.27	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.15.19 02.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	07.15.19 02.27		
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 02.27		



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 CVX JV RR 006H

Analytical Method: Chloride by EPA 300

Seq Number: 3094967

MB Sample Id: 7681736-1-BLK

Matrix: Solid

LCS Sample Id: 7681736-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681736-1-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	250	100	248	99	90-110	1	20	mg/kg	07.10.19 19:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

MB Sample Id: 7681737-1-BLK

Matrix: Solid

LCS Sample Id: 7681737-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681737-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.74	250	244	98	244	98	90-110	0	20	mg/kg	07.10.19 19:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3094967

Parent Sample Id: 630227-016

Matrix: Soil

MS Sample Id: 630227-016 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630227-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.05	253	266	105	268	106	90-110	1	20	mg/kg	07.10.19 19:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3094967

Parent Sample Id: 630227-017

Matrix: Soil

MS Sample Id: 630227-017 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630227-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.16	251	276	109	277	109	90-110	0	20	mg/kg	07.10.19 20:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

Parent Sample Id: 630260-002

Matrix: Soil

MS Sample Id: 630260-002 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630260-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.7	252	362	114	363	115	90-110	0	20	mg/kg	07.10.19 19:42	X

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 CVX JV RR 006H

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

Parent Sample Id: 630260-013

Matrix: Soil

MS Sample Id: 630260-013 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630260-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.6	250	337	106	337	106	90-110	0	20	mg/kg	07.10.19 21:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095444

MB Sample Id: 7682077-1-BLK

Matrix: Solid

LCS Sample Id: 7682077-1-BKS

Prep Method: TX1005P

Date Prep: 07.15.19

LCSD Sample Id: 7682077-1-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	937	94	931	93	70-135	1	20	mg/kg	07.15.19 20:37	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	1040	104	70-135	1	20	mg/kg	07.15.19 20:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		83		87		70-135	%	07.15.19 20:37
o-Terphenyl	80		88		96		70-135	%	07.15.19 20:37

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095444

Parent Sample Id: 630260-001

Matrix: Soil

MS Sample Id: 630260-001 S

Prep Method: TX1005P

Date Prep: 07.15.19

MSD Sample Id: 630260-001 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)	<7.99	998	978	98	957	96	70-135	2	20	mg/kg	07.15.19 21:49	
Diesel Range Organics (DRO)	11.5	998	1080	107	1010	100	70-135	7	20	mg/kg	07.15.19 21:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	82		80		70-135	%	07.15.19 21:49
o-Terphenyl	96		88		70-135	%	07.15.19 21:49

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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 CVX JV RR 006H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095357

MB Sample Id: 7681937-1-BLK

Matrix: Solid

LCS Sample Id: 7681937-1-BKS

Prep Method: SW5030B

Date Prep: 07.12.19

LCSD Sample Id: 7681937-1-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	0.0845	85	0.0843	84	70-130	0	35	mg/kg	07.14.19 07:10	
Toluene	<0.00200	0.100	0.0864	86	0.0858	86	70-130	1	35	mg/kg	07.14.19 07:10	
Ethylbenzene	<0.00200	0.100	0.0949	95	0.0936	94	70-130	1	35	mg/kg	07.14.19 07:10	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.191	96	70-130	1	35	mg/kg	07.14.19 07:10	
o-Xylene	<0.00200	0.100	0.0923	92	0.0936	94	70-130	1	35	mg/kg	07.14.19 07:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		94		97		70-130	%	07.14.19 07:10
4-Bromofluorobenzene	99		107		117		70-130	%	07.14.19 07:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095353

MB Sample Id: 7681938-1-BLK

Matrix: Solid

LCS Sample Id: 7681938-1-BKS

Prep Method: SW5030B

Date Prep: 07.12.19

LCSD Sample Id: 7681938-1-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	0.0709	71	0.0816	82	70-130	14	35	mg/kg	07.14.19 20:33	
Toluene	<0.00200	0.100	0.0884	88	0.102	102	70-130	14	35	mg/kg	07.14.19 20:33	
Ethylbenzene	<0.00200	0.100	0.0932	93	0.110	110	70-130	17	35	mg/kg	07.14.19 20:33	
m,p-Xylenes	<0.00101	0.200	0.181	91	0.212	106	70-130	16	35	mg/kg	07.14.19 20:33	
o-Xylene	<0.00200	0.100	0.0861	86	0.101	101	70-130	16	35	mg/kg	07.14.19 20:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		87		88		70-130	%	07.14.19 20:33
4-Bromofluorobenzene	107		95		101		70-130	%	07.14.19 20:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095357

Parent Sample Id: 630227-012

Matrix: Soil

MS Sample Id: 630227-012 S

Prep Method: SW5030B

Date Prep: 07.12.19

MSD Sample Id: 630227-012 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	0.0827	83	0.0736	74	70-130	12	35	mg/kg	07.14.19 07:54	
Toluene	<0.00200	0.100	0.0828	83	0.0747	75	70-130	10	35	mg/kg	07.14.19 07:54	
Ethylbenzene	<0.00200	0.100	0.0892	89	0.0782	78	70-130	13	35	mg/kg	07.14.19 07:54	
m,p-Xylenes	<0.00401	0.200	0.180	90	0.158	79	70-130	13	35	mg/kg	07.14.19 07:54	
o-Xylene	<0.00200	0.100	0.0873	87	0.0781	78	70-130	11	35	mg/kg	07.14.19 07:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		97		70-130	%	07.14.19 07:54
4-Bromofluorobenzene	114		116		70-130	%	07.14.19 07:54

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 CVX JV RR 006H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095353

Parent Sample Id: 630260-006

Matrix: Soil

MS Sample Id: 630260-006 S

Prep Method: SW5030B

Date Prep: 07.12.19

MSD Sample Id: 630260-006 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	0.0669	67	0.0620	62	70-130	8	35	mg/kg	07.14.19 21:20	X
Toluene	<0.00198	0.0992	0.0829	84	0.0768	77	70-130	8	35	mg/kg	07.14.19 21:20	
Ethylbenzene	<0.00198	0.0992	0.0892	90	0.0829	83	70-130	7	35	mg/kg	07.14.19 21:20	
m,p-Xylenes	<0.00397	0.198	0.173	87	0.161	80	70-130	7	35	mg/kg	07.14.19 21:20	
o-Xylene	<0.00198	0.0992	0.0810	82	0.0763	76	70-130	6	35	mg/kg	07.14.19 21:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		70-130	%	07.14.19 21:20
4-Bromofluorobenzene	108		105		70-130	%	07.14.19 21:20

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

Work Order No: 630260

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
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:	bpeill@xenv.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project:	
Reporting Level: ☐ I ☐ II ☐ III ☐ IV ☐	Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Name:	PLU-CVK-35V-RP-006H (2A-3457)	Turn Around	
Project Number:	012418077	Routine ☒	
P.O. Number:		Rush:	
Sampler's Name:	Benjamin Beill	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	5.8	Thermometer ID		T-NM-007		
Received In tact:	Yes	No	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes	No	Total Containers:	15		
Sample Custody Seals:	Yes	No				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST																Work Order Notes	
PH046	S	7/8/19	1000	6'	1	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)														
PH08			1015	2'																		
PH08A			1025	4'																		
PH09			1015	2'																		
PH09A			1055	4'																		
PH10			1105	2'																		
PH10A			1115	4'																		
PH11			1125	6'																		
PH11A			1130	3'																		
PH11B			1140	10'																		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 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 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>[Signature]</i>	<i>[Signature]</i>	7/9/19 1430			



Chain of Custody

Work Order No:

1030 260

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
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-392-7550)

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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 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	bbelliii@tenny.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐ State of Project:	
Reporting: Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: _____	

ANALYSIS REQUEST										Work Order Notes	
Project Name:		KUCV836 R8 OCH(26F-3537)					Turn Around				
Project Number:		012918077					Routine ☒				
P.O. Number:							Rush:				
Sampler's Name:		Benjamin Beill					Due Date:				
SAMPLE RECEIPT		Temp Blank:		Yes	No	Wet Ice:	Yes	No			
Temperature (°C):				Thermometer ID							
Received Intact:		Yes		No							
Cooler Custody Seals:		Yes	No	N/A	Correction Factor:						
Sample Custody Seals:		Yes	No	N/A	Total Containers:						
Number of Containers										TAT starts the day received by the lab, if received by 4:30pm	
A 8015)											
PA 0=8021)											
(EPA 300.0)											

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments									
PH12	S	7/8/19	1150	6'	1	x	x	x										
PH12A			1200	8'		x	x	x										
PH12B			1210	10'		x	x	x										
PH12C			1220	12'		x	x	x										
PH12D			1225	14'		x	x	x										
PH12 7/8/19																		

Total	200.7 / 6010	200.8 / 6020:	
Circle Method(s) and Metal(s) to be analyzed	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	
	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.



Inter-Office Shipment

Page 1 of 3

IOS Number **43044**

Date/Time: 07/09/19 16:11

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775671028455

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630260-001	S	PH04B	07/08/19 10:00	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-001	S	PH04B	07/08/19 10:00	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-001	S	PH04B	07/08/19 10:00	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-002	S	PH08	07/08/19 10:15	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-002	S	PH08	07/08/19 10:15	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-002	S	PH08	07/08/19 10:15	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-003	S	PH08A	07/08/19 10:25	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-003	S	PH08A	07/08/19 10:25	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-003	S	PH08A	07/08/19 10:25	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-004	S	PH09	07/08/19 10:45	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-004	S	PH09	07/08/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-004	S	PH09	07/08/19 10:45	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-005	S	PH09A	07/08/19 10:55	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-005	S	PH09A	07/08/19 10:55	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-005	S	PH09A	07/08/19 10:55	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-006	S	PH10	07/08/19 11:05	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-006	S	PH10	07/08/19 11:05	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-006	S	PH10	07/08/19 11:05	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-007	S	PH10A	07/08/19 11:15	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-007	S	PH10A	07/08/19 11:15	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-007	S	PH10A	07/08/19 11:15	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-008	S	PH11	07/08/19 11:25	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-008	S	PH11	07/08/19 11:25	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-008	S	PH11	07/08/19 11:25	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-009	S	PH11A	07/08/19 11:30	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	



Inter-Office Shipment

Page 2 of 3

IOS Number **43044**

Date/Time: 07/09/19 16:11

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775671028455

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630260-009	S	PH11A	07/08/19 11:30	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-009	S	PH11A	07/08/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-010	S	PH11B	07/08/19 11:40	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-010	S	PH11B	07/08/19 11:40	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-010	S	PH11B	07/08/19 11:40	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-011	S	PH12	07/08/19 11:50	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-011	S	PH12	07/08/19 11:50	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-011	S	PH12	07/08/19 11:50	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-012	S	PH12A	07/08/19 12:00	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-012	S	PH12A	07/08/19 12:00	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-012	S	PH12A	07/08/19 12:00	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-013	S	PH12B	07/08/19 12:10	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-013	S	PH12B	07/08/19 12:10	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-013	S	PH12B	07/08/19 12:10	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-014	S	PH12C	07/08/19 12:20	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-014	S	PH12C	07/08/19 12:20	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	
630260-014	S	PH12C	07/08/19 12:20	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-015	S	PH12D	07/08/19 12:25	E300_CL	Chloride by EPA 300	07/15/19	01/04/20	JKR	CL	
630260-015	S	PH12D	07/08/19 12:25	SW8021B	BTEX by EPA 8021B	07/15/19	07/22/19	JKR	BR4FBZ BZ BZME EBZ X	
630260-015	S	PH12D	07/08/19 12:25	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/22/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Received By:

Brianna Teel

Date Relinquished: 07/09/2019

Date Received: 07/10/2019 11:56



Inter-Office Shipment

Page 3 of 3

IOS Number 43044

Date/Time: 07/09/19 16:11

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775671028455

E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Cooler Temperature: 0.3



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43044

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/09/2019 04:11 PM

Received By: Brianna Teel

Date Received: 07/10/2019 11:56 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/10/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/09/2019 02:30:00 PM

Work Order #: 630260

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)?	5.8	
#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?	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	Subbed to Xenco Midland
#18 Water VOC samples have zero headspace?	Yes	

*** 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: 07/09/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/10/2019

Analytical Report 630267

for
LT Environmental, Inc.

Project Manager: Dan Moir
PLU-CVX-JV-RR-006H (2RP-3937)

012918077

17-JUL-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
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-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



17-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630267**

PLU-CVX-JV-RR-006H (2RP-3937)

Project Address: Delaware Basin

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) 630267. 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. 630267 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 630267****LT Environmental, Inc., Arvada, CO**

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH13	S	07-09-19 09:20	2 ft	630267-001
PH13A	S	07-09-19 09:30	4 ft	630267-002
PH14	S	07-09-19 09:40	4.5 ft	630267-003
PH14A	S	07-09-19 09:45	6 ft	630267-004
PH15	S	07-09-19 09:50	4.5 ft	630267-005
PH15B	S	07-09-19 10:05	8 ft	630267-006
PH16	S	07-09-19 10:10	4.5 ft	630267-007
PH16C	S	07-09-19 10:30	10 ft	630267-008
PH17	S	07-09-19 10:40	4.5 ft	630267-009
PH17A	S	07-09-19 10:45	6 ft	630267-010



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU-CVX-JV-RR-006H (2RP-3937)

Project ID: 012918077

Work Order Number(s): 630267

Report Date: 17-JUL-19

Date Received: 07/09/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095353 BTEX by EPA 8021B

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; data confirmed by re-analysis.

Samples affected are: 630267-008.

Certificate of Analysis Summary 630267



LT Environmental, Inc., Arvada, CO

Project Name: PLU-CVX-JV-RR-006H (2RP-3937)

Project Id: 012918077

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Tue Jul-09-19 02:30 pm

Report Date: 17-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630267-001	630267-002	630267-003	630267-004	630267-005	630267-006
	<i>Field Id:</i>	PH13	PH13A	PH14	PH14A	PH15	PH15B
	<i>Depth:</i>	2- ft	4- ft	4.5- ft	6- ft	4.5- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-09-19 09:20	Jul-09-19 09:30	Jul-09-19 09:40	Jul-09-19 09:45	Jul-09-19 09:50	Jul-09-19 10:05
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10
	<i>Analyzed:</i>	Jul-15-19 04:13	Jul-15-19 04:36	Jul-15-19 05:00	Jul-15-19 05:23	Jul-15-19 05:46	Jul-15-19 06:09
	<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	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
m,p-Xylenes		<0.00400 0.00400	<0.00398 0.00398	<0.00397 0.00397	<0.00399 0.00399	<0.00403 0.00403	<0.00402 0.00402
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25	Jul-10-19 16:25
	<i>Analyzed:</i>	Jul-10-19 22:14	Jul-10-19 22:21	Jul-10-19 22:29	Jul-10-19 22:36	Jul-10-19 22:43	Jul-10-19 22:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		50.5 5.05	47.3 5.05	138 5.05	154 5.00	794 5.02	83.6 4.96
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00
	<i>Analyzed:</i>	Jul-16-19 11:02	Jul-16-19 12:14	Jul-16-19 12:38	Jul-16-19 13:01	Jul-16-19 13:24	Jul-16-19 13:48
	<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	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0

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 Analysis Summary 630267



LT Environmental, Inc., Arvada, CO

Project Name: PLU-CVX-JV-RR-006H (2RP-3937)

Project Id: 012918077

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Tue Jul-09-19 02:30 pm

Report Date: 17-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630267-007	630267-008	630267-009	630267-010		
	<i>Field Id:</i>	PH16	PH16C	PH17	PH17A		
	<i>Depth:</i>	4.5- ft	10- ft	4.5- ft	6- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jul-09-19 10:10	Jul-09-19 10:30	Jul-09-19 10:40	Jul-09-19 10:45		
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10	Jul-12-19 15:10		
	<i>Analyzed:</i>	Jul-15-19 06:32	Jul-15-19 06:55	Jul-15-19 07:18	Jul-15-19 07:41		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00400 0.00400	<0.00398 0.00398		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199		
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-11-19 11:30	Jul-11-19 11:30	Jul-11-19 11:30	Jul-11-19 11:30		
	<i>Analyzed:</i>	Jul-11-19 13:16	Jul-11-19 13:21	Jul-11-19 13:26	Jul-11-19 13:41		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		47.7 5.02	40.5 4.98	207 5.00	111 4.99		
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00	Jul-16-19 08:00		
	<i>Analyzed:</i>	Jul-16-19 14:11	Jul-16-19 14:35	Jul-16-19 14:59	Jul-16-19 15:22		
	<i>Units/RL:</i>	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		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		

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Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH13**
Lab Sample Id: 630267-001

Matrix: Soil
Date Collected: 07.09.19 09.20

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.5	5.05	mg/kg	07.10.19 22.14		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095591

Date Prep: 07.16.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 11.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 11.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 11.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 11.02	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 11.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.16.19 11.02	
o-Terphenyl	84-15-1	97	%	70-135	07.16.19 11.02	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH13**
Lab Sample Id: 630267-001

Matrix: Soil
Date Collected: 07.09.19 09.20

Date Received: 07.09.19 14.30
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 04.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 04.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.15.19 04.13		
1,4-Difluorobenzene	540-36-3	84	%	70-130	07.15.19 04.13		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH13A** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630267-002 Date Collected: 07.09.19 09.30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.10.19 16.25 Basis: Wet Weight
 Seq Number: 3094975 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.3	5.05	mg/kg	07.10.19 22.21		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.16.19 08.00 Basis: Wet Weight
 Seq Number: 3095591 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 12.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 12.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 12.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 12.14	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 12.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.16.19 12.14	
o-Terphenyl	84-15-1	97	%	70-135	07.16.19 12.14	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH13A**
Lab Sample Id: 630267-002

Matrix: Soil
Date Collected: 07.09.19 09.30

Date Received: 07.09.19 14.30
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 04.36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 04.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	07.15.19 04.36		
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.15.19 04.36		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH14**
Lab Sample Id: 630267-003

Matrix: Soil
Date Collected: 07.09.19 09.40

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	138	5.05	mg/kg	07.10.19 22.29		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095591

Date Prep: 07.16.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.16.19 12.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.16.19 12.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.16.19 12.38	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.16.19 12.38	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.16.19 12.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.16.19 12.38	
o-Terphenyl	84-15-1	90	%	70-135	07.16.19 12.38	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH14**
Lab Sample Id: 630267-003

Matrix: Soil
Date Collected: 07.09.19 09.40

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.15.19 05.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.15.19 05.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 05.00		
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.15.19 05.00		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH14A** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630267-004 Date Collected: 07.09.19 09.45 Sample Depth: 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.10.19 16.25 Basis: Wet Weight
 Seq Number: 3094975 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	154	5.00	mg/kg	07.10.19 22.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.16.19 08.00 Basis: Wet Weight
 Seq Number: 3095591 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 13.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 13.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 13.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 13.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 13.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.16.19 13.01	
o-Terphenyl	84-15-1	91	%	70-135	07.16.19 13.01	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH14A**
Lab Sample Id: 630267-004

Matrix: Soil
Date Collected: 07.09.19 09.45

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.15.19 05.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 05.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	07.15.19 05.23		
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.15.19 05.23		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH15** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630267-005 Date Collected: 07.09.19 09.50 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.10.19 16.25 Basis: Wet Weight
 Seq Number: 3094975 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	794	5.02	mg/kg	07.10.19 22.43		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.16.19 08.00 Basis: Wet Weight
 Seq Number: 3095591 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 13.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 13.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 13.24	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 13.24	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 13.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.16.19 13.24	
o-Terphenyl	84-15-1	84	%	70-135	07.16.19 13.24	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH15**
Lab Sample Id: 630267-005

Matrix: Soil
Date Collected: 07.09.19 09.50

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.15.19 05.46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.15.19 05.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	07.15.19 05.46		
4-Bromofluorobenzene	460-00-4	124	%	70-130	07.15.19 05.46		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH15B**
Lab Sample Id: 630267-006

Matrix: Soil
Date Collected: 07.09.19 10.05

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094975

Date Prep: 07.10.19 16.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	83.6	4.96	mg/kg	07.10.19 22.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095591

Date Prep: 07.16.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 13.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 13.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 13.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 13.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 13.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.16.19 13.48	
o-Terphenyl	84-15-1	94	%	70-135	07.16.19 13.48	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH15B**
Lab Sample Id: 630267-006

Matrix: Soil
Date Collected: 07.09.19 10.05

Date Received: 07.09.19 14.30
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.15.19 06.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.15.19 06.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 06.09		
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.15.19 06.09		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH16** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630267-007 Date Collected: 07.09.19 10.10 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.11.19 11.30 Basis: Wet Weight
 Seq Number: 3095093 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.7	5.02	mg/kg	07.11.19 13.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.16.19 08.00 Basis: Wet Weight
 Seq Number: 3095591 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 14.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 14.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 14.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 14.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 14.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.16.19 14.11	
o-Terphenyl	84-15-1	104	%	70-135	07.16.19 14.11	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH16**
Lab Sample Id: 630267-007

Matrix: Soil
Date Collected: 07.09.19 10.10

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 06.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 06.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	07.15.19 06.32		
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.15.19 06.32		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH16C** Matrix: Soil Date Received: 07.09.19 14.30
 Lab Sample Id: 630267-008 Date Collected: 07.09.19 10.30 Sample Depth: 10 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.11.19 11.30 Basis: Wet Weight
 Seq Number: 3095093 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.5	4.98	mg/kg	07.11.19 13.21		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.16.19 08.00 Basis: Wet Weight
 Seq Number: 3095591 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 14.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 14.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 14.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 14.35	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 14.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.16.19 14.35	
o-Terphenyl	84-15-1	85	%	70-135	07.16.19 14.35	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH16C**
Lab Sample Id: 630267-008

Matrix: Soil
Date Collected: 07.09.19 10.30

Date Received: 07.09.19 14.30
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.15.19 06.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 06.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	136	%	70-130	07.15.19 06.55	**	
1,4-Difluorobenzene	540-36-3	83	%	70-130	07.15.19 06.55		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH17**
Lab Sample Id: 630267-009

Matrix: Soil
Date Collected: 07.09.19 10.40

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095093

Date Prep: 07.11.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	207	5.00	mg/kg	07.11.19 13.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095591

Date Prep: 07.16.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 14.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 14.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 14.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 14.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 14.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-135	07.16.19 14.59	
o-Terphenyl	84-15-1	74	%	70-135	07.16.19 14.59	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH17**
Lab Sample Id: 630267-009

Matrix: Soil
Date Collected: 07.09.19 10.40

Date Received: 07.09.19 14.30
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 07.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 07.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.15.19 07.18		
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.15.19 07.18		



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH17A**
Lab Sample Id: 630267-010

Matrix: Soil
Date Collected: 07.09.19 10.45

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095093

Date Prep: 07.11.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	111	4.99	mg/kg	07.11.19 13.41		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095591

Date Prep: 07.16.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.16.19 15.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.16.19 15.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.16.19 15.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.16.19 15.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.16.19 15.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.16.19 15.22	
o-Terphenyl	84-15-1	89	%	70-135	07.16.19 15.22	



Certificate of Analytical Results 630267

LT Environmental, Inc., Arvada, CO

PLU-CVX-JV-RR-006H (2RP-3937)

Sample Id: **PH17A**
Lab Sample Id: 630267-010

Matrix: Soil
Date Collected: 07.09.19 10.45

Date Received: 07.09.19 14.30
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: AMB

Seq Number: 3095353

Prep Method: SW5030B

% Moisture:

Date Prep: 07.12.19 15.10

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 07.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 07.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	07.15.19 07.41		
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.15.19 07.41		



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-CVX-JV-RR-006H (2RP-3937)

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

MB Sample Id: 7681737-1-BLK

Matrix: Solid

LCS Sample Id: 7681737-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681737-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.74	250	244	98	244	98	90-110	0	20	mg/kg	07.10.19 19:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3095093

MB Sample Id: 7681805-1-BLK

Matrix: Solid

LCS Sample Id: 7681805-1-BKS

Prep Method: E300P

Date Prep: 07.11.19

LCSD Sample Id: 7681805-1-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	253	101	257	103	90-110	2	20	mg/kg	07.11.19 12:09	

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

Parent Sample Id: 630260-002

Matrix: Soil

MS Sample Id: 630260-002 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630260-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.7	252	362	114	363	115	90-110	0	20	mg/kg	07.10.19 19:42	X

Analytical Method: Chloride by EPA 300

Seq Number: 3094975

Parent Sample Id: 630260-013

Matrix: Soil

MS Sample Id: 630260-013 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630260-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.6	250	337	106	337	106	90-110	0	20	mg/kg	07.10.19 21:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3095093

Parent Sample Id: 630267-009

Matrix: Soil

MS Sample Id: 630267-009 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630267-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	207	250	466	104	466	104	90-110	0	20	mg/kg	07.11.19 13:31	

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-CVX-JV-RR-006H (2RP-3937)

Analytical Method: Chloride by EPA 300

Seq Number: 3095093

Parent Sample Id: 630510-005

Matrix: Soil

MS Sample Id: 630510-005 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630510-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.4	252	371	111	368	109	90-110	1	20	mg/kg	07.11.19 12:23	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095591

MB Sample Id: 7682149-1-BLK

Matrix: Solid

LCS Sample Id: 7682149-1-BKS

Prep Method: TX1005P

Date Prep: 07.16.19

LCSD Sample Id: 7682149-1-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	900	90	1000	100	70-135	11	20	mg/kg	07.16.19 10:14	
Diesel Range Organics (DRO)	<8.13	1000	926	93	1070	107	70-135	14	20	mg/kg	07.16.19 10:14	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		78		85		70-135	%	07.16.19 10:14
o-Terphenyl	96		78		97		70-135	%	07.16.19 10:14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095591

Parent Sample Id: 630267-001

Matrix: Soil

MS Sample Id: 630267-001 S

Prep Method: TX1005P

Date Prep: 07.16.19

MSD Sample Id: 630267-001 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)	8.20	999	905	90	948	94	70-135	5	20	mg/kg	07.16.19 11:26	
Diesel Range Organics (DRO)	10.4	999	969	96	1030	102	70-135	6	20	mg/kg	07.16.19 11:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	77		85		70-135	%	07.16.19 11:26
o-Terphenyl	81		82		70-135	%	07.16.19 11:26

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-CVX-JV-RR-006H (2RP-3937)

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095353

MB Sample Id: 7681938-1-BLK

Matrix: Solid

LCS Sample Id: 7681938-1-BKS

Prep Method: SW5030B

Date Prep: 07.12.19

LCSD Sample Id: 7681938-1-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	0.0709	71	0.0816	82	70-130	14	35	mg/kg	07.14.19 20:33	
Toluene	<0.00200	0.100	0.0884	88	0.102	102	70-130	14	35	mg/kg	07.14.19 20:33	
Ethylbenzene	<0.00200	0.100	0.0932	93	0.110	110	70-130	17	35	mg/kg	07.14.19 20:33	
m,p-Xylenes	<0.00101	0.200	0.181	91	0.212	106	70-130	16	35	mg/kg	07.14.19 20:33	
o-Xylene	<0.00200	0.100	0.0861	86	0.101	101	70-130	16	35	mg/kg	07.14.19 20:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		87		88		70-130	%	07.14.19 20:33
4-Bromofluorobenzene	107		95		101		70-130	%	07.14.19 20:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095353

Parent Sample Id: 630260-006

Matrix: Soil

MS Sample Id: 630260-006 S

Prep Method: SW5030B

Date Prep: 07.12.19

MSD Sample Id: 630260-006 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	0.0669	67	0.0620	62	70-130	8	35	mg/kg	07.14.19 21:20	X
Toluene	<0.00198	0.0992	0.0829	84	0.0768	77	70-130	8	35	mg/kg	07.14.19 21:20	
Ethylbenzene	<0.00198	0.0992	0.0892	90	0.0829	83	70-130	7	35	mg/kg	07.14.19 21:20	
m,p-Xylenes	<0.00397	0.198	0.173	87	0.161	80	70-130	7	35	mg/kg	07.14.19 21:20	
o-Xylene	<0.00198	0.0992	0.0810	82	0.0763	76	70-130	6	35	mg/kg	07.14.19 21:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		70-130	%	07.14.19 21:20
4-Bromofluorobenzene	108		105		70-130	%	07.14.19 21:20

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



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. 1030267

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
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:	lbelill@ltenv.com
Project Name:	PLU-CVX-5V-RR-006H (2AP-3937)	Turn Around	Routine ☒ Rush: ☐
Project Number:	612914077	Sampler's Name:	Benjamin Belli
P.O. Number:		Due Date:	

ANALYSIS REQUEST

Work Order Notes

Program: ☒ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐

State of Project: ☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐

Reporting Level: ☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other: ☐

Temperature (°C):	5.8	Temp Blank:	Yes ☒ No ☐	Well Ice:	Yes ☒ No ☐
Received Intact:	Yes ☒ No ☐	Thermometer ID:	T-NM-007		
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Correction Factor:	-0.2		
Sample Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	10		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers										
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)								
PH13	5	7/9/14	0420	2'	X	X	X								
PH13A			0430	4'	X	X	X								
PH14			0440	4.5'	X	X	X								
PH14A			0445	6'	X	X	X								
PH15			0450	4.5'	X	X	X								
PH15B			1005	8'	X	X	X								
PH16			1010	4.5'	X	X	X								
PH16C			1030	10'	X	X	X								
PH17			1040	4.5'	X	X	X								
PH17A			1045	6'	X	X	X								

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed: 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
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to 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>[Signature]</i>	<i>[Signature]</i>	7/9/14 @ 1430			



Inter-Office Shipment

Page 1 of 2

IOS Number **43043**

Date/Time: 07/09/19 16:00

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775671028455

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630267-001	S	PH13	07/09/19 09:20	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-001	S	PH13	07/09/19 09:20	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-001	S	PH13	07/09/19 09:20	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-002	S	PH13A	07/09/19 09:30	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-002	S	PH13A	07/09/19 09:30	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-002	S	PH13A	07/09/19 09:30	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-003	S	PH14	07/09/19 09:40	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-003	S	PH14	07/09/19 09:40	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-003	S	PH14	07/09/19 09:40	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-004	S	PH14A	07/09/19 09:45	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-004	S	PH14A	07/09/19 09:45	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-004	S	PH14A	07/09/19 09:45	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-005	S	PH15	07/09/19 09:50	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-005	S	PH15	07/09/19 09:50	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-005	S	PH15	07/09/19 09:50	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-006	S	PH15B	07/09/19 10:05	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-006	S	PH15B	07/09/19 10:05	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-006	S	PH15B	07/09/19 10:05	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-007	S	PH16	07/09/19 10:10	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-007	S	PH16	07/09/19 10:10	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-007	S	PH16	07/09/19 10:10	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-008	S	PH16C	07/09/19 10:30	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-008	S	PH16C	07/09/19 10:30	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-008	S	PH16C	07/09/19 10:30	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	
630267-009	S	PH17	07/09/19 10:40	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **43043**

Date/Time: 07/09/19 16:00

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775671028455

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630267-009	S	PH17	07/09/19 10:40	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-009	S	PH17	07/09/19 10:40	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-010	S	PH17A	07/09/19 10:45	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630267-010	S	PH17A	07/09/19 10:45	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630267-010	S	PH17A	07/09/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 07/09/2019

Received By:

Brianna Teel

Date Received: 07/10/2019 11:56

Cooler Temperature: 0.3



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43043

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/09/2019 04:00 PM

Received By: Brianna Teel

Date Received: 07/10/2019 11:56 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/10/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/09/2019 02:30:00 PM

Work Order #: 630267

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)?	5.8
#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?	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)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

* 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: 07/09/2019

Checklist reviewed by:

Kelsey Brooks

Date: 07/11/2019



APPENDIX B

Lithologic / Soil Sampling Logs

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants					Sample Name: PH02		Date: 2/14/2024	
					Site Name: PL CVX JV RR #006H			
					Incident Number: nAB1628728258			
					Job Number: 03C1558232			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: MR		Method: Backhoe	
Coordinates: 32.122640, -103.893635					Hole Diameter: ~2'		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCs/Rock Symbol	Lithologic Descriptions
					0	0	CCHE	0-2' CALICHE, tan, medium grained, poorly sorted, sub-rounded grains, no stain, no odor.
D	4093.6	1.8	N	PH02	0.5			
D	6,160	3.1	N			1		
D	2,004.8	0.6	N			2		2-3' CALICHE with silt, poorly sorted, medium to dark brown, medium to fine grained, no stain, no odor.
D	790	0.0	N			3		3-4' CALICHE, white/ tan, medium grained, poorly sorted, sub-rounded grains, no stain, no odor.
D	<168	0.1	N	PH02A	4	4		4' CALICHE with sand, red/orange, medium to fine grained, no stain, no odor.
						TD		Total Depth @ 4' bgs.

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants								Sample Name: PH03		Date: 2/14/2024	
								Site Name: PL CVX JV RR #006H			
								Incident Number: nAB1628728258			
								Job Number: 03C1558232			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Backhoe	
Coordinates: 32.122598, -103.893710								Hole Diameter: ~4'		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	5,241.6	1.5	N	PH03	0	0	CCHE	0-2' CALICHE with silt, dark brown, medium grained, poorly sorted sub-rounded grains, no stain, no odor.			
D	941	2.1	N		0.5	1					
D	274.4	2.3	N			2		2-4' CALICHE, white, poorly sorted, medium grained, no stain, no odor.			
D	<168	0.7	N			3					
D	<168	0.3	N	PH03A	4	4					
						TD		Total Depth @ 4' bgs.			

 ENSOLUM Environmental, Engineering and Hydrogeologic Consultants							Sample Name: PH04		Date: 2/14/2024	
							Site Name: PL CVX JV RR #006H			
							Incident Number: nAB1628728258			
							Job Number: 03C1558232			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: MR		Method: Backhoe	
Coordinates: 32.122542, -103.893620							Hole Diameter: ~2'		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% correction factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
					0	0	CCHE	0-4' CALICHE, tan to medium brown, medium grained, poorly sorted, sub-rounded grains, no stain, no odor.		
D	7,229.6	1.8	N	PH04	0.5					
D	1,025	3.1	N			1				
D	1,870.4	0.6	N			2				
D	1,204	0.0	N			3				
D	588	0.1	N	PH04A	4	4		4' SAA but white color.		
						TD		Total Depth @ 4' bgs.		



APPENDIX C

Laboratory Analytical Reports and Chain-of-Custody Documentation



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/26/2024 2:49:32 PM

JOB DESCRIPTION

PLU CVX JV RR 006H
03C1558232

JOB NUMBER

890-6189-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/26/2024 2:49:32 PM

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

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Laboratory Job ID: 890-6189-1
SDG: 03C1558232

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: PLU CVX JV RR 006H

Job ID: 890-6189-1

Job ID: 890-6189-1**Eurofins Carlsbad**

Job Narrative
890-6189-1

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

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

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

Receipt

The samples were received on 2/15/2024 11:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -2.2°C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS 01 (890-6189-1), FS 02 (890-6189-2), FS 03 (890-6189-3), FS 04 (890-6189-4), FS 05 (890-6189-5), FS 06 (890-6189-6), FS 07 (890-6189-7), FS 08 (890-6189-8), FS 09 (890-6189-9), SW 01 (890-6189-10), SW 02 (890-6189-11), SW 03 (890-6189-12) and SW 04 (890-6189-13).

GC VOA

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-73793 and analytical batch 880-73825 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73793 and analytical batch 880-73825 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS 09 (890-6189-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-73912 and analytical batch 880-73907 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCS 880-73793/1-A). Evidence of matrix interferences is not obvious.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-73444 and analytical batch 880-73600 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS 02 (890-6189-2), FS 03 (890-6189-3), FS 04 (890-6189-4), FS 05 (890-6189-5), FS 06 (890-6189-6), FS 07 (890-6189-7), FS 08 (890-6189-8), FS 09 (890-6189-9), SW 01 (890-6189-10), SW 02 (890-6189-11), SW 03 (890-6189-12), SW 04 (890-6189-13), (890-6189-A-1-E MS) and (890-6189-A-1-F MSD). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-73444 and analytical batch 880-73600 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Case Narrative

Client: Ensolum
Project: PLU CVX JV RR 006H

Job ID: 890-6189-1

Job ID: 890-6189-1 (Continued)Eurofins Carlsbad

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

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 01

Lab Sample ID: 890-6189-1

Date Collected: 02/14/24 11:00

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/23/24 08:11	02/23/24 17:11	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/23/24 08:11	02/23/24 17:11	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/23/24 08:11	02/23/24 17:11	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		02/23/24 08:11	02/23/24 17:11	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/23/24 08:11	02/23/24 17:11	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		02/23/24 08:11	02/23/24 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	02/23/24 08:11	02/23/24 17:11	1
1,4-Difluorobenzene (Surr)	110		70 - 130	02/23/24 08:11	02/23/24 17:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/23/24 17:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			02/20/24 10:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U F1 F2	50.2	mg/Kg		02/19/24 09:23	02/20/24 10:47	1
Diesel Range Organics (Over C10-C28)	<50.2	U F1 F2	50.2	mg/Kg		02/19/24 09:23	02/20/24 10:47	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		02/19/24 09:23	02/20/24 10:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130	02/19/24 09:23	02/20/24 10:47	1
o-Terphenyl	72		70 - 130	02/19/24 09:23	02/20/24 10:47	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	144		4.99	mg/Kg			02/20/24 13:24	1

Client Sample ID: FS 02

Lab Sample ID: 890-6189-2

Date Collected: 02/14/24 11:05

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 21:02	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 21:02	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 21:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/23/24 21:02	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 21:02	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/23/24 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	02/21/24 13:54	02/23/24 21:02	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 02

Lab Sample ID: 890-6189-2

Date Collected: 02/14/24 11:05

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	81		70 - 130	02/21/24 13:54	02/23/24 21:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/23/24 21:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/20/24 11:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/19/24 09:23	02/20/24 11:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/19/24 09:23	02/20/24 11:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/19/24 09:23	02/20/24 11:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	12	S1-	70 - 130			02/19/24 09:23	02/20/24 11:57	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 11:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	91.1		4.97	mg/Kg			02/20/24 13:45	1

Client Sample ID: FS 03

Lab Sample ID: 890-6189-3

Date Collected: 02/14/24 11:10

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/21/24 13:54	02/23/24 21:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			02/21/24 13:54	02/23/24 21:23	1
1,4-Difluorobenzene (Surr)	91		70 - 130			02/21/24 13:54	02/23/24 21:23	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/23/24 21:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg			02/20/24 12:20	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 03

Lab Sample ID: 890-6189-3

Date Collected: 02/14/24 11:10

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 12:20	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 12:20	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 12:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	12	S1-	70 - 130			02/19/24 09:23	02/20/24 12:20	1
o-Terphenyl	0.4	S1-	70 - 130			02/19/24 09:23	02/20/24 12:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28.4		5.02	mg/Kg			02/20/24 13:52	1

Client Sample ID: FS 04

Lab Sample ID: 890-6189-4

Date Collected: 02/14/24 11:15

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/21/24 13:54	02/23/24 21:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130			02/21/24 13:54	02/23/24 21:43	1
1,4-Difluorobenzene (Surr)	91		70 - 130			02/21/24 13:54	02/23/24 21:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/23/24 21:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/20/24 12:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 12:44	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 12:44	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 12:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	13	S1-	70 - 130			02/19/24 09:23	02/20/24 12:44	1
o-Terphenyl	4	S1-	70 - 130			02/19/24 09:23	02/20/24 12:44	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 04

Lab Sample ID: 890-6189-4

Date Collected: 02/14/24 11:15

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.8		5.01	mg/Kg			02/20/24 13:59	1

Client Sample ID: FS 05

Lab Sample ID: 890-6189-5

Date Collected: 02/14/24 11:20

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/21/24 13:54	02/23/24 22:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130			02/21/24 13:54	02/23/24 22:04	1
1,4-Difluorobenzene (Surr)	86		70 - 130			02/21/24 13:54	02/23/24 22:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/23/24 22:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/20/24 13:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 13:08	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 13:08	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/19/24 09:23	02/20/24 13:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	20	S1-	70 - 130			02/19/24 09:23	02/20/24 13:08	1
o-Terphenyl	10	S1-	70 - 130			02/19/24 09:23	02/20/24 13:08	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95.6		5.00	mg/Kg			02/20/24 14:33	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 06

Lab Sample ID: 890-6189-6

Date Collected: 02/14/24 13:10

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/21/24 13:54	02/23/24 22:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			02/21/24 13:54	02/23/24 22:25	1
1,4-Difluorobenzene (Surr)	91		70 - 130			02/21/24 13:54	02/23/24 22:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/23/24 22:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			02/20/24 13:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		02/19/24 09:23	02/20/24 13:33	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		02/19/24 09:23	02/20/24 13:33	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		02/19/24 09:23	02/20/24 13:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	4	S1-	70 - 130			02/19/24 09:23	02/20/24 13:33	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 13:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.8		5.03	mg/Kg			02/20/24 14:53	1

Client Sample ID: FS 07

Lab Sample ID: 890-6189-7

Date Collected: 02/14/24 13:15

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/23/24 22:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			02/21/24 13:54	02/23/24 22:46	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 07

Lab Sample ID: 890-6189-7

Date Collected: 02/14/24 13:15

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94		70 - 130	02/21/24 13:54	02/23/24 22:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/23/24 22:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/20/24 13:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 13:57	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 13:57	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 13:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	5	S1-	70 - 130			02/19/24 09:23	02/20/24 13:57	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 13:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37.8		5.02	mg/Kg			02/19/24 20:35	1

Client Sample ID: FS 08

Lab Sample ID: 890-6189-8

Date Collected: 02/14/24 13:20

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		02/21/24 13:54	02/23/24 23:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			02/21/24 13:54	02/23/24 23:06	1
1,4-Difluorobenzene (Surr)	84		70 - 130			02/21/24 13:54	02/23/24 23:06	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/23/24 23:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			02/20/24 14:21	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 08

Lab Sample ID: 890-6189-8

Date Collected: 02/14/24 13:20

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 14:21	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 14:21	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 14:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	3	S1-	70 - 130			02/19/24 09:23	02/20/24 14:21	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 14:21	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		4.96	mg/Kg			02/19/24 20:55	1

Client Sample ID: FS 09

Lab Sample ID: 890-6189-9

Date Collected: 02/14/24 13:25

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00319		0.00200	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
o-Xylene	0.00530		0.00200	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
Xylenes, Total	0.00530		0.00399	mg/Kg		02/21/24 13:54	02/23/24 23:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	55	S1-	70 - 130			02/21/24 13:54	02/23/24 23:27	1
1,4-Difluorobenzene (Surr)	95		70 - 130			02/21/24 13:54	02/23/24 23:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00849		0.00399	mg/Kg			02/23/24 23:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5	mg/Kg			02/20/24 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5	mg/Kg		02/19/24 09:23	02/20/24 14:46	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5	mg/Kg		02/19/24 09:23	02/20/24 14:46	1
Oil Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		02/19/24 09:23	02/20/24 14:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	1	S1-	70 - 130			02/19/24 09:23	02/20/24 14:46	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 14:46	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 09

Lab Sample ID: 890-6189-9

Date Collected: 02/14/24 13:25

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 1.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.8		4.99	mg/Kg			02/19/24 21:02	1

Client Sample ID: SW 01

Lab Sample ID: 890-6189-10

Date Collected: 02/14/24 11:30

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 0 - 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/21/24 13:54	02/23/24 23:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			02/21/24 13:54	02/23/24 23:48	1
1,4-Difluorobenzene (Surr)	89		70 - 130			02/21/24 13:54	02/23/24 23:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/23/24 23:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg			02/20/24 15:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:10	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:10	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	0.4	S1-	70 - 130			02/19/24 09:23	02/20/24 15:10	1
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 15:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	144		4.98	mg/Kg			02/19/24 21:09	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: SW 02

Lab Sample ID: 890-6189-11

Date Collected: 02/14/24 11:35

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 0 - 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/24/24 01:13	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/24/24 01:13	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/24/24 01:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/21/24 13:54	02/24/24 01:13	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/24/24 01:13	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/21/24 13:54	02/24/24 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	02/21/24 13:54	02/24/24 01:13	1
1,4-Difluorobenzene (Surr)	94		70 - 130	02/21/24 13:54	02/24/24 01:13	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			02/24/24 01:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg			02/20/24 15:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:59	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:59	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		02/19/24 09:23	02/20/24 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	0.5	S1-	70 - 130	02/19/24 09:23	02/20/24 15:59	1
o-Terphenyl	0.6	S1-	70 - 130	02/19/24 09:23	02/20/24 15:59	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	128		5.03	mg/Kg			02/19/24 21:16	1

Client Sample ID: SW 03

Lab Sample ID: 890-6189-12

Date Collected: 02/14/24 13:30

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 0 - 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/24/24 01:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/24/24 01:34	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/24/24 01:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/21/24 13:54	02/24/24 01:34	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/21/24 13:54	02/24/24 01:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/21/24 13:54	02/24/24 01:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130	02/21/24 13:54	02/24/24 01:34	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: SW 03

Lab Sample ID: 890-6189-12

Date Collected: 02/14/24 13:30

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 0 - 1.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	02/21/24 13:54	02/24/24 01:34	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/24/24 01:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			02/20/24 16:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 16:24	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 16:24	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 16:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	2	S1-	70 - 130			02/19/24 09:23	02/20/24 16:24	1
o-Terphenyl	0.5	S1-	70 - 130			02/19/24 09:23	02/20/24 16:24	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58.8		4.98	mg/Kg			02/19/24 21:23	1

Client Sample ID: SW 04

Lab Sample ID: 890-6189-13

Date Collected: 02/14/24 13:35

Matrix: Solid

Date Received: 02/15/24 11:35

Sample Depth: 0 - 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/21/24 13:54	02/24/24 01:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			02/21/24 13:54	02/24/24 01:54	1
1,4-Difluorobenzene (Surr)	83		70 - 130			02/21/24 13:54	02/24/24 01:54	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/24/24 01:54	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			02/20/24 16:49	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: SW 04
Date Collected: 02/14/24 13:35
Date Received: 02/15/24 11:35
Sample Depth: 0 - 1.5'

Lab Sample ID: 890-6189-13
Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		02/19/24 09:23	02/20/24 16:49	1	
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		02/19/24 09:23	02/20/24 16:49	1	
OII Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		02/19/24 09:23	02/20/24 16:49	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	2	S1-	70 - 130			02/19/24 09:23	02/20/24 16:49	1	
o-Terphenyl	0.3	S1-	70 - 130			02/19/24 09:23	02/20/24 16:49	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	119		5.03	mg/Kg			02/19/24 21:30	1	

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
880-39759-A-1-B MS	Matrix Spike	92	107				
880-39759-A-1-C MSD	Matrix Spike Duplicate	97	113				
890-6189-1	FS 01	102	110				
890-6189-1 MS	FS 01	99	121				
890-6189-1 MSD	FS 01	92	104				
890-6189-2	FS 02	84	81				
890-6189-3	FS 03	87	91				
890-6189-4	FS 04	85	91				
890-6189-5	FS 05	84	86				
890-6189-6	FS 06	87	91				
890-6189-7	FS 07	90	94				
890-6189-8	FS 08	87	84				
890-6189-9	FS 09	55 S1-	95				
890-6189-10	SW 01	90	89				
890-6189-11	SW 02	89	94				
890-6189-12	SW 03	79	98				
890-6189-13	SW 04	90	83				
LCS 880-73793/1-A	Lab Control Sample	97	131 S1+				
LCS 880-73912/1-A	Lab Control Sample	89	108				
LCSD 880-73793/2-A	Lab Control Sample Dup	105	118				
LCSD 880-73912/2-A	Lab Control Sample Dup	89	103				
MB 880-73793/5-A	Method Blank	66 S1-	104				
MB 880-73912/5-A	Method Blank	75	102				
Surrogate Legend							
BFB = 4-Bromofluorobenzene (Surr)							
DFBZ = 1,4-Difluorobenzene (Surr)							

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1CO1	OTPH1				
		(70-130)	(70-130)				
890-6189-1	FS 01	74	72				
890-6189-1 MS	FS 01	27 S1-	21 S1-				
890-6189-1 MSD	FS 01	5 S1-	0.3 S1-				
890-6189-2	FS 02	12 S1-	0.3 S1-				
890-6189-3	FS 03	12 S1-	0.4 S1-				
890-6189-4	FS 04	13 S1-	4 S1-				
890-6189-5	FS 05	20 S1-	10 S1-				
890-6189-6	FS 06	4 S1-	0.3 S1-				
890-6189-7	FS 07	5 S1-	0.3 S1-				
890-6189-8	FS 08	3 S1-	0.3 S1-				
890-6189-9	FS 09	1 S1-	0.3 S1-				
890-6189-10	SW 01	0.4 S1-	0.3 S1-				
890-6189-11	SW 02	0.5 S1-	0.6 S1-				
890-6189-12	SW 03	2 S1-	0.5 S1-				
890-6189-13	SW 04	2 S1-	0.3 S1-				
LCS 880-73444/2-A	Lab Control Sample	99	98				

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)		
LCSD 880-73444/3-A	Lab Control Sample Dup	113	113		
MB 880-73444/1-A	Method Blank	120	134 S1+		
Surrogate Legend					
1CO = 1-Chlorooctane					
OTPH = o-Terphenyl					

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73793/5-A

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73793

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 20:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 20:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 20:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/21/24 13:54	02/23/24 20:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 13:54	02/23/24 20:19	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/21/24 13:54	02/23/24 20:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	66	S1-	70 - 130	02/21/24 13:54	02/23/24 20:19	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/21/24 13:54	02/23/24 20:19	1

Lab Sample ID: LCS 880-73793/1-A

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 73793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1084		mg/Kg		108	70 - 130
Toluene	0.100	0.08966		mg/Kg		90	70 - 130
Ethylbenzene	0.100	0.09446		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1948		mg/Kg		97	70 - 130
o-Xylene	0.100	0.09567		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	131	S1+	70 - 130

Lab Sample ID: LCSD 880-73793/2-A

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 73793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1115		mg/Kg		112	70 - 130	3	35
Toluene	0.100	0.09357		mg/Kg		94	70 - 130	4	35
Ethylbenzene	0.100	0.09240		mg/Kg		92	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.1917		mg/Kg		96	70 - 130	2	35
o-Xylene	0.100	0.1045		mg/Kg		105	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: 890-6189-1 MS

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: FS 01

Prep Type: Total/NA

Prep Batch: 73793

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1 F2	0.101	0.1085		mg/Kg		108	70 - 130
Toluene	<0.00199	U F1 F2	0.101	0.09774		mg/Kg		97	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

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

Lab Sample ID: 890-6189-1 MS

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: FS 01

Prep Type: Total/NA

Prep Batch: 73793

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1 F2	0.101	0.09948		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.202	0.1999		mg/Kg		99	70 - 130
o-Xylene	<0.00199	U F1 F2	0.101	0.09774		mg/Kg		97	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

Lab Sample ID: 890-6189-1 MSD

Matrix: Solid

Analysis Batch: 73825

Client Sample ID: FS 01

Prep Type: Total/NA

Prep Batch: 73793

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.100	0.06587	F1 F2	mg/Kg		66	70 - 130	49	35
Toluene	<0.00199	U F1 F2	0.100	0.04549	F1 F2	mg/Kg		45	70 - 130	73	35
Ethylbenzene	<0.00199	U F1 F2	0.100	0.03317	F1 F2	mg/Kg		33	70 - 130	100	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.200	0.06235	F1 F2	mg/Kg		31	70 - 130	105	35
o-Xylene	<0.00199	U F1 F2	0.100	0.03340	F1 F2	mg/Kg		33	70 - 130	98	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: MB 880-73912/5-A

Matrix: Solid

Analysis Batch: 73907

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73912

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/23/24 08:11	02/23/24 14:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/23/24 08:11	02/23/24 14:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/23/24 08:11	02/23/24 14:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/23/24 08:11	02/23/24 14:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/23/24 08:11	02/23/24 14:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/23/24 08:11	02/23/24 14:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130	02/23/24 08:11	02/23/24 14:01	1
1,4-Difluorobenzene (Surr)	102		70 - 130	02/23/24 08:11	02/23/24 14:01	1

Lab Sample ID: LCS 880-73912/1-A

Matrix: Solid

Analysis Batch: 73907

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 73912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1177		mg/Kg		118	70 - 130
Toluene	0.100	0.09419		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09140		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1816		mg/Kg		91	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

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

Lab Sample ID: LCS 880-73912/1-A
Matrix: Solid
Analysis Batch: 73907

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73912

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	0.100	0.09206		mg/Kg		92	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	89		70 - 130				
1,4-Difluorobenzene (Surr)	108		70 - 130				

Lab Sample ID: LCSD 880-73912/2-A
Matrix: Solid
Analysis Batch: 73907

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73912

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1059		mg/Kg		106	70 - 130	11	35
Toluene	0.100	0.09157		mg/Kg		92	70 - 130	3	35
Ethylbenzene	0.100	0.09162		mg/Kg		92	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.1808		mg/Kg		90	70 - 130	0	35
o-Xylene	0.100	0.09140		mg/Kg		91	70 - 130	1	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	89		70 - 130						
1,4-Difluorobenzene (Surr)	103		70 - 130						

Lab Sample ID: 880-39759-A-1-B MS
Matrix: Solid
Analysis Batch: 73907

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73912

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.101	0.1011		mg/Kg		100	70 - 130
Toluene	<0.00199	U	0.101	0.07676		mg/Kg		76	70 - 130
Ethylbenzene	<0.00199	U F1	0.101	0.06923	F1	mg/Kg		69	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1365	F1	mg/Kg		68	70 - 130
o-Xylene	<0.00199	U	0.101	0.07072		mg/Kg		70	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	92		70 - 130						
1,4-Difluorobenzene (Surr)	107		70 - 130						

Lab Sample ID: 880-39759-A-1-C MSD
Matrix: Solid
Analysis Batch: 73907

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73912

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00199	U	0.100	0.1178		mg/Kg		118	70 - 130	15	35
Toluene	<0.00199	U	0.100	0.08516		mg/Kg		85	70 - 130	10	35
Ethylbenzene	<0.00199	U F1	0.100	0.07452		mg/Kg		75	70 - 130	7	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1449		mg/Kg		72	70 - 130	6	35
o-Xylene	<0.00199	U	0.100	0.07455		mg/Kg		75	70 - 130	5	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

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

Lab Sample ID: 880-39759-A-1-C MSD				Client Sample ID: Matrix Spike Duplicate			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 73907				Prep Batch: 73912			
	MSD	MSD					
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene (Surr)	97		70 - 130				
1,4-Difluorobenzene (Surr)	113		70 - 130				

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

Lab Sample ID: MB 880-73444/1-A					Client Sample ID: Method Blank			
Matrix: Solid					Prep Type: Total/NA			
Analysis Batch: 73600					Prep Batch: 73444			
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
	MB	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130			02/19/24 09:23	02/20/24 08:02	1
o-Terphenyl	134	S1+	70 - 130			02/19/24 09:23	02/20/24 08:02	1

Lab Sample ID: LCS 880-73444/2-A						Client Sample ID: Lab Control Sample				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 73600						Prep Batch: 73444				
Analyte			Spike	LCS	LCS	Unit	D	%Rec	%Rec	
			Added	Result	Qualifier					Limits
Gasoline Range Organics (GRO)-C6-C10			1000	905.5		mg/Kg		91	70 - 130	
Diesel Range Organics (Over C10-C28)			1000	1022		mg/Kg		102	70 - 130	
			LCS	LCS						
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	99		70 - 130							
o-Terphenyl	98		70 - 130							

Lab Sample ID: LCSD 880-73444/3-A						Client Sample ID: Lab Control Sample Dup					
Matrix: Solid						Prep Type: Total/NA					
Analysis Batch: 73600						Prep Batch: 73444					
			Spike	LCSD	LCSD				%Rec	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10			1000	967.2		mg/Kg		97	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130	11	20
		LCSD	LCSD								
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	113		70 - 130								
o-Terphenyl	113		70 - 130								

QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

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

Lab Sample ID: 890-6189-1 MS
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: FS 01
Prep Type: Total/NA
Prep Batch: 73444

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.2	U F1 F2	1010	271.5	F1	mg/Kg		23	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.2	U F1 F2	1010	182.2	F1	mg/Kg		15	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	27	S1-	70 - 130								
o-Terphenyl	21	S1-	70 - 130								

Lab Sample ID: 890-6189-1 MSD
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: FS 01
Prep Type: Total/NA
Prep Batch: 73444

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limits
Gasoline Range Organics (GRO)-C6-C10	<50.2	U F1 F2	1010	118.1	F1 F2	mg/Kg		8	70 - 130	79	20
Diesel Range Organics (Over C10-C28)	<50.2	U F1 F2	1010	<50.5	U F1 F2	mg/Kg		0.3	70 - 130	138	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	5	S1-	70 - 130								
o-Terphenyl	0.3	S1-	70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-73326/1-A
Matrix: Solid
Analysis Batch: 73581

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	<5.00	U	5.00	mg/Kg			02/19/24 19:33	1

Lab Sample ID: LCS 880-73326/2-A
Matrix: Solid
Analysis Batch: 73581

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Chloride	250	256.3		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-73326/3-A
Matrix: Solid
Analysis Batch: 73581

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

			Spike	LCSD	LCSD				%Rec	RPD	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limits
Chloride			250	256.8		mg/Kg		103	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-6189-13 MS

Matrix: Solid

Analysis Batch: 73581

Client Sample ID: SW 04

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	119		252	369.3		mg/Kg		99	90 - 110

Lab Sample ID: 890-6189-13 MSD

Matrix: Solid

Analysis Batch: 73581

Client Sample ID: SW 04

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	119		252	358.0		mg/Kg		95	90 - 110	3	20

Lab Sample ID: MB 880-73329/1-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/20/24 13:04	1

Lab Sample ID: LCS 880-73329/2-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	259.4		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-73329/3-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	258.9		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-6189-1 MS

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: FS 01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	144		250	404.2		mg/Kg		104	90 - 110

Lab Sample ID: 890-6189-1 MSD

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: FS 01

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	144		250	412.5		mg/Kg		108	90 - 110	2	20

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

GC VOA

Prep Batch: 73793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-2	FS 02	Total/NA	Solid	5035	
890-6189-3	FS 03	Total/NA	Solid	5035	
890-6189-4	FS 04	Total/NA	Solid	5035	
890-6189-5	FS 05	Total/NA	Solid	5035	
890-6189-6	FS 06	Total/NA	Solid	5035	
890-6189-7	FS 07	Total/NA	Solid	5035	
890-6189-8	FS 08	Total/NA	Solid	5035	
890-6189-9	FS 09	Total/NA	Solid	5035	
890-6189-10	SW 01	Total/NA	Solid	5035	
890-6189-11	SW 02	Total/NA	Solid	5035	
890-6189-12	SW 03	Total/NA	Solid	5035	
890-6189-13	SW 04	Total/NA	Solid	5035	
MB 880-73793/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73793/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73793/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6189-1 MS	FS 01	Total/NA	Solid	5035	
890-6189-1 MSD	FS 01	Total/NA	Solid	5035	

Analysis Batch: 73825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-2	FS 02	Total/NA	Solid	8021B	73793
890-6189-3	FS 03	Total/NA	Solid	8021B	73793
890-6189-4	FS 04	Total/NA	Solid	8021B	73793
890-6189-5	FS 05	Total/NA	Solid	8021B	73793
890-6189-6	FS 06	Total/NA	Solid	8021B	73793
890-6189-7	FS 07	Total/NA	Solid	8021B	73793
890-6189-8	FS 08	Total/NA	Solid	8021B	73793
890-6189-9	FS 09	Total/NA	Solid	8021B	73793
890-6189-10	SW 01	Total/NA	Solid	8021B	73793
890-6189-11	SW 02	Total/NA	Solid	8021B	73793
890-6189-12	SW 03	Total/NA	Solid	8021B	73793
890-6189-13	SW 04	Total/NA	Solid	8021B	73793
MB 880-73793/5-A	Method Blank	Total/NA	Solid	8021B	73793
LCS 880-73793/1-A	Lab Control Sample	Total/NA	Solid	8021B	73793
LCSD 880-73793/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73793
890-6189-1 MS	FS 01	Total/NA	Solid	8021B	73793
890-6189-1 MSD	FS 01	Total/NA	Solid	8021B	73793

Analysis Batch: 73907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	8021B	73912
MB 880-73912/5-A	Method Blank	Total/NA	Solid	8021B	73912
LCS 880-73912/1-A	Lab Control Sample	Total/NA	Solid	8021B	73912
LCSD 880-73912/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73912
880-39759-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	73912
880-39759-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	73912

Prep Batch: 73912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	5035	
MB 880-73912/5-A	Method Blank	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

GC VOA (Continued)

Prep Batch: 73912 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-73912/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73912/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-39759-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-39759-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 74051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	Total BTEX	
890-6189-2	FS 02	Total/NA	Solid	Total BTEX	
890-6189-3	FS 03	Total/NA	Solid	Total BTEX	
890-6189-4	FS 04	Total/NA	Solid	Total BTEX	
890-6189-5	FS 05	Total/NA	Solid	Total BTEX	
890-6189-6	FS 06	Total/NA	Solid	Total BTEX	
890-6189-7	FS 07	Total/NA	Solid	Total BTEX	
890-6189-8	FS 08	Total/NA	Solid	Total BTEX	
890-6189-9	FS 09	Total/NA	Solid	Total BTEX	
890-6189-10	SW 01	Total/NA	Solid	Total BTEX	
890-6189-11	SW 02	Total/NA	Solid	Total BTEX	
890-6189-12	SW 03	Total/NA	Solid	Total BTEX	
890-6189-13	SW 04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 73444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	8015NM Prep	
890-6189-2	FS 02	Total/NA	Solid	8015NM Prep	
890-6189-3	FS 03	Total/NA	Solid	8015NM Prep	
890-6189-4	FS 04	Total/NA	Solid	8015NM Prep	
890-6189-5	FS 05	Total/NA	Solid	8015NM Prep	
890-6189-6	FS 06	Total/NA	Solid	8015NM Prep	
890-6189-7	FS 07	Total/NA	Solid	8015NM Prep	
890-6189-8	FS 08	Total/NA	Solid	8015NM Prep	
890-6189-9	FS 09	Total/NA	Solid	8015NM Prep	
890-6189-10	SW 01	Total/NA	Solid	8015NM Prep	
890-6189-11	SW 02	Total/NA	Solid	8015NM Prep	
890-6189-12	SW 03	Total/NA	Solid	8015NM Prep	
890-6189-13	SW 04	Total/NA	Solid	8015NM Prep	
MB 880-73444/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73444/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6189-1 MS	FS 01	Total/NA	Solid	8015NM Prep	
890-6189-1 MSD	FS 01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	8015B NM	73444
890-6189-2	FS 02	Total/NA	Solid	8015B NM	73444
890-6189-3	FS 03	Total/NA	Solid	8015B NM	73444
890-6189-4	FS 04	Total/NA	Solid	8015B NM	73444
890-6189-5	FS 05	Total/NA	Solid	8015B NM	73444

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

GC Semi VOA (Continued)

Analysis Batch: 73600 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-6	FS 06	Total/NA	Solid	8015B NM	73444
890-6189-7	FS 07	Total/NA	Solid	8015B NM	73444
890-6189-8	FS 08	Total/NA	Solid	8015B NM	73444
890-6189-9	FS 09	Total/NA	Solid	8015B NM	73444
890-6189-10	SW 01	Total/NA	Solid	8015B NM	73444
890-6189-11	SW 02	Total/NA	Solid	8015B NM	73444
890-6189-12	SW 03	Total/NA	Solid	8015B NM	73444
890-6189-13	SW 04	Total/NA	Solid	8015B NM	73444
MB 880-73444/1-A	Method Blank	Total/NA	Solid	8015B NM	73444
LCS 880-73444/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73444
LCSD 880-73444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73444
890-6189-1 MS	FS 01	Total/NA	Solid	8015B NM	73444
890-6189-1 MSD	FS 01	Total/NA	Solid	8015B NM	73444

Analysis Batch: 73765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Total/NA	Solid	8015 NM	
890-6189-2	FS 02	Total/NA	Solid	8015 NM	
890-6189-3	FS 03	Total/NA	Solid	8015 NM	
890-6189-4	FS 04	Total/NA	Solid	8015 NM	
890-6189-5	FS 05	Total/NA	Solid	8015 NM	
890-6189-6	FS 06	Total/NA	Solid	8015 NM	
890-6189-7	FS 07	Total/NA	Solid	8015 NM	
890-6189-8	FS 08	Total/NA	Solid	8015 NM	
890-6189-9	FS 09	Total/NA	Solid	8015 NM	
890-6189-10	SW 01	Total/NA	Solid	8015 NM	
890-6189-11	SW 02	Total/NA	Solid	8015 NM	
890-6189-12	SW 03	Total/NA	Solid	8015 NM	
890-6189-13	SW 04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 73326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-7	FS 07	Soluble	Solid	DI Leach	
890-6189-8	FS 08	Soluble	Solid	DI Leach	
890-6189-9	FS 09	Soluble	Solid	DI Leach	
890-6189-10	SW 01	Soluble	Solid	DI Leach	
890-6189-11	SW 02	Soluble	Solid	DI Leach	
890-6189-12	SW 03	Soluble	Solid	DI Leach	
890-6189-13	SW 04	Soluble	Solid	DI Leach	
MB 880-73326/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73326/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73326/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6189-13 MS	SW 04	Soluble	Solid	DI Leach	
890-6189-13 MSD	SW 04	Soluble	Solid	DI Leach	

Leach Batch: 73329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Soluble	Solid	DI Leach	
890-6189-2	FS 02	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

HPLC/IC (Continued)

Leach Batch: 73329 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-3	FS 03	Soluble	Solid	DI Leach	
890-6189-4	FS 04	Soluble	Solid	DI Leach	
890-6189-5	FS 05	Soluble	Solid	DI Leach	
890-6189-6	FS 06	Soluble	Solid	DI Leach	
MB 880-73329/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73329/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73329/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6189-1 MS	FS 01	Soluble	Solid	DI Leach	
890-6189-1 MSD	FS 01	Soluble	Solid	DI Leach	

Analysis Batch: 73581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-7	FS 07	Soluble	Solid	300.0	73326
890-6189-8	FS 08	Soluble	Solid	300.0	73326
890-6189-9	FS 09	Soluble	Solid	300.0	73326
890-6189-10	SW 01	Soluble	Solid	300.0	73326
890-6189-11	SW 02	Soluble	Solid	300.0	73326
890-6189-12	SW 03	Soluble	Solid	300.0	73326
890-6189-13	SW 04	Soluble	Solid	300.0	73326
MB 880-73326/1-A	Method Blank	Soluble	Solid	300.0	73326
LCS 880-73326/2-A	Lab Control Sample	Soluble	Solid	300.0	73326
LCSD 880-73326/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73326
890-6189-13 MS	SW 04	Soluble	Solid	300.0	73326
890-6189-13 MSD	SW 04	Soluble	Solid	300.0	73326

Analysis Batch: 73631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6189-1	FS 01	Soluble	Solid	300.0	73329
890-6189-2	FS 02	Soluble	Solid	300.0	73329
890-6189-3	FS 03	Soluble	Solid	300.0	73329
890-6189-4	FS 04	Soluble	Solid	300.0	73329
890-6189-5	FS 05	Soluble	Solid	300.0	73329
890-6189-6	FS 06	Soluble	Solid	300.0	73329
MB 880-73329/1-A	Method Blank	Soluble	Solid	300.0	73329
LCS 880-73329/2-A	Lab Control Sample	Soluble	Solid	300.0	73329
LCSD 880-73329/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73329
890-6189-1 MS	FS 01	Soluble	Solid	300.0	73329
890-6189-1 MSD	FS 01	Soluble	Solid	300.0	73329

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 01
Date Collected: 02/14/24 11:00
Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	73912	02/23/24 08:11	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73907	02/23/24 17:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 10:47	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 10:47	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 13:24	CH	EET MID

Client Sample ID: FS 02
Date Collected: 02/14/24 11:05
Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 21:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 21:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 11:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 11:57	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 13:45	CH	EET MID

Client Sample ID: FS 03
Date Collected: 02/14/24 11:10
Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 21:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 21:23	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 12:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 12:20	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 13:52	CH	EET MID

Client Sample ID: FS 04
Date Collected: 02/14/24 11:15
Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 21:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 21:43	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 04

Date Collected: 02/14/24 11:15

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			73765	02/20/24 12:44	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 12:44	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 13:59	CH	EET MID

Client Sample ID: FS 05

Date Collected: 02/14/24 11:20

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 22:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 22:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 13:08	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 13:08	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 14:33	CH	EET MID

Client Sample ID: FS 06

Date Collected: 02/14/24 13:10

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 22:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 22:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 13:33	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 13:33	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 14:53	CH	EET MID

Client Sample ID: FS 07

Date Collected: 02/14/24 13:15

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 22:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 22:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 13:57	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 13:57	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: FS 07

Date Collected: 02/14/24 13:15

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 20:35	CH	EET MID

Client Sample ID: FS 08

Date Collected: 02/14/24 13:20

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 23:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 23:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 14:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 14:21	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 20:55	CH	EET MID

Client Sample ID: FS 09

Date Collected: 02/14/24 13:25

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 23:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 23:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 14:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 14:46	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:02	CH	EET MID

Client Sample ID: SW 01

Date Collected: 02/14/24 11:30

Date Received: 02/15/24 11:35

Lab Sample ID: 890-6189-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/23/24 23:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/23/24 23:48	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 15:10	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:09	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Client Sample ID: SW 02

Lab Sample ID: 890-6189-11

Date Collected: 02/14/24 11:35

Matrix: Solid

Date Received: 02/15/24 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/24/24 01:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/24/24 01:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 15:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 15:59	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:16	CH	EET MID

Client Sample ID: SW 03

Lab Sample ID: 890-6189-12

Date Collected: 02/14/24 13:30

Matrix: Solid

Date Received: 02/15/24 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/24/24 01:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/24/24 01:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 16:24	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 16:24	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:23	CH	EET MID

Client Sample ID: SW 04

Lab Sample ID: 890-6189-13

Date Collected: 02/14/24 13:35

Matrix: Solid

Date Received: 02/15/24 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73793	02/21/24 13:54	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73825	02/24/24 01:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74051	02/24/24 01:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			73765	02/20/24 16:49	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 16:49	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:30	CH	EET MID

Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6189-1
SDG: 03C1558232

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6189-1	FS 01	Solid	02/14/24 11:00	02/15/24 11:35	1.5'
890-6189-2	FS 02	Solid	02/14/24 11:05	02/15/24 11:35	1.5'
890-6189-3	FS 03	Solid	02/14/24 11:10	02/15/24 11:35	1.5'
890-6189-4	FS 04	Solid	02/14/24 11:15	02/15/24 11:35	1.5'
890-6189-5	FS 05	Solid	02/14/24 11:20	02/15/24 11:35	1.5'
890-6189-6	FS 06	Solid	02/14/24 13:10	02/15/24 11:35	1.5'
890-6189-7	FS 07	Solid	02/14/24 13:15	02/15/24 11:35	1.5'
890-6189-8	FS 08	Solid	02/14/24 13:20	02/15/24 11:35	1.5'
890-6189-9	FS 09	Solid	02/14/24 13:25	02/15/24 11:35	1.5'
890-6189-10	SW 01	Solid	02/14/24 11:30	02/15/24 11:35	0 - 1.5'
890-6189-11	SW 02	Solid	02/14/24 11:35	02/15/24 11:35	0 - 1.5'
890-6189-12	SW 03	Solid	02/14/24 13:30	02/15/24 11:35	0 - 1.5'
890-6189-13	SW 04	Solid	02/14/24 13:35	02/15/24 11:35	0 - 1.5'

Chain of Custody

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

Environment Testing
Xenco

Work Order No:

www.xenco.com Page 1 of 2

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Enselem, LLC	Company Name:	3104 E Greene St
Address:	3122 Nat'l Parks Hwy	Address:	Carlsbad, NM 88220
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	XTO Energy
Phone:	337-257-8307	Email:	tmorrissey@enselem.com

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

ANALYSIS REQUEST										Preservative Codes			
Project Name:	PLU CVX JV RR 006H	Turn Around	☒ Routine	☐ Rush	Pres. Code						None: NO	DI Water: H ₂ O	
Project Number:	0361558232	Due Date:	TAT starts the day received by the lab, if received by 4:30pm								Cool: Cool	MeOH: Me	
Project Location:	32.122643, -103.893491										HCL: HC	HNO ₃ : HN	
Sampler's Name:	Meredith Roberts										H ₂ SO ₄ : H ₂	NaOH: Na	
P.O. #:											H ₃ PO ₄ : HP		
SAMPLE RECEIPT						890-6189 Chain of Custody							
Samples Received Intact:	Yes	No	Wet Ice:	Yes	No							NaHSO ₄ : NABIS	
Cooler Custody Seals:	Yes	No	Thermometer ID:	-0.2								Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:	Yes	No	Correction Factor:	-2.4								Zn Acetate+NaOH: Zn	
Total Containers:			Temperature Reading:	-2.2								NaOH+Ascorbic Acid: SAPC	
			Corrected Temperature:										

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Sample Comments
FS01	S	2/14/24	1100	1.5'	C	1	Incident #:
FS02			1103				nAB1628728258
FS03			1110				
FS04			1115				
FS05			1120				
FS06			1310				Cost Center:
FS07			1315				1140121001
FS08			1320				
FS09			1325				
SW01			1130				

Total	200.77/6010	200.8/6020:	8RCRA	13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn	
Circle Method(s) and Metal(s) to be analyzed	TCPLP/SPLP 6010 : 8RCRA		Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U	Hg:	1631/245.1/7470/7471														

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1. [Signature]	[Signature]	2/15/24 11:35			
3. [Signature]					
5. [Signature]					

Revised Date 08/25/2020 Rev. 200.2



eurofins

Environment Testing

Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7559, Garland, NM (575) 960-3199

Work Order No:

www.xenco.com Page

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[illegible]

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6189-1

SDG Number: 03C1558232

Login Number: 6189

List Number: 1

Creator: Bruns, Shannon

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6189-1

SDG Number: 03C1558232

Login Number: 6189

List Number: 2

Creator: Wheeler, Jazmine

List Source: Eurofins Midland

List Creation: 02/16/24 11:15 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/26/2024 2:49:42 PM

JOB DESCRIPTION

PLU CVX JV RR 006H
03C1558232

JOB NUMBER

890-6190-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/26/2024 2:49:42 PM

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

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Laboratory Job ID: 890-6190-1
SDG: 03C1558232

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: PLU CVX JV RR 006H

Job ID: 890-6190-1

Job ID: 890-6190-1

Eurofins Carlsbad

Job Narrative
890-6190-1

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

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

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

Receipt

The samples were received on 2/15/2024 12:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -2.2°C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-6190-1), PH01A (890-6190-2), PH02 (890-6190-3), PH02A (890-6190-4), PH03 (890-6190-5), PH03A (890-6190-6), PH04 (890-6190-7) and PH04A (890-6190-8).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-73892 and analytical batch 880-73976 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH02A (890-6190-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-73439 and 880-73444 and analytical batch 880-73600 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-6189-A-1-E MS), (890-6189-A-1-F MSD) and (880-39505-A-2-B MS). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-73444 and analytical batch 880-73600 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: The method blank for preparation batch 880-73439 and analytical batch 880-73600 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-73439 and analytical batch 880-73600 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

HPLC/IC

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

Eurofins Carlsbad

Case Narrative

Client: Ensolum
Project: PLU CVX JV RR 006H

Job ID: 890-6190-1

Job ID: 890-6190-1 (Continued)

Eurofins Carlsbad

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Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH01

Lab Sample ID: 890-6190-1

Date Collected: 02/14/24 10:00

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/22/24 16:35	02/25/24 02:04	1
Toluene	<0.00199	U F1	0.00199	mg/Kg		02/22/24 16:35	02/25/24 02:04	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/22/24 16:35	02/25/24 02:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/22/24 16:35	02/25/24 02:04	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/22/24 16:35	02/25/24 02:04	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/22/24 16:35	02/25/24 02:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	02/22/24 16:35	02/25/24 02:04	1
1,4-Difluorobenzene (Surr)	96		70 - 130	02/22/24 16:35	02/25/24 02:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/25/24 02:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/20/24 17:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 17:13	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 17:13	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	02/19/24 09:23	02/20/24 17:13	1
o-Terphenyl	100		70 - 130	02/19/24 09:23	02/20/24 17:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95.6		4.97	mg/Kg			02/19/24 21:50	1

Client Sample ID: PH01A

Lab Sample ID: 890-6190-2

Date Collected: 02/14/24 14:35

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 02:24	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 02:24	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 02:24	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/22/24 16:35	02/25/24 02:24	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 02:24	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/22/24 16:35	02/25/24 02:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	02/22/24 16:35	02/25/24 02:24	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH01A

Lab Sample ID: 890-6190-2

Date Collected: 02/14/24 14:35

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	02/22/24 16:35	02/25/24 02:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/25/24 02:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			02/20/24 17:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		02/19/24 09:23	02/20/24 17:38	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		02/19/24 09:23	02/20/24 17:38	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		02/19/24 09:23	02/20/24 17:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			02/19/24 09:23	02/20/24 17:38	1
o-Terphenyl	85		70 - 130			02/19/24 09:23	02/20/24 17:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	43.0		5.05	mg/Kg			02/19/24 21:57	1

Client Sample ID: PH02

Lab Sample ID: 890-6190-3

Date Collected: 02/14/24 10:05

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 02:45	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 02:45	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 02:45	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/22/24 16:35	02/25/24 02:45	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 02:45	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/22/24 16:35	02/25/24 02:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130	02/22/24 16:35	02/25/24 02:45	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/22/24 16:35	02/25/24 02:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/25/24 02:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	71.3		49.9	mg/Kg			02/20/24 18:02	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH02

Lab Sample ID: 890-6190-3

Date Collected: 02/14/24 10:05

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/19/24 09:23	02/20/24 18:02	1
Diesel Range Organics (Over C10-C28)	71.3		49.9	mg/Kg		02/19/24 09:23	02/20/24 18:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/19/24 09:23	02/20/24 18:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130			02/19/24 09:23	02/20/24 18:02	1
o-Terphenyl	74		70 - 130			02/19/24 09:23	02/20/24 18:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	931		4.98	mg/Kg			02/19/24 22:18	1

Client Sample ID: PH02A

Lab Sample ID: 890-6190-4

Date Collected: 02/14/24 14:10

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
Ethylbenzene	0.00256		0.00199	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
m-Xylene & p-Xylene	0.00776		0.00398	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
o-Xylene	0.00293		0.00199	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
Xylenes, Total	0.0107		0.00398	mg/Kg		02/22/24 16:35	02/25/24 03:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	388	S1+	70 - 130			02/22/24 16:35	02/25/24 03:05	1
1,4-Difluorobenzene (Surr)	129		70 - 130			02/22/24 16:35	02/25/24 03:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0133		0.00398	mg/Kg			02/25/24 03:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/20/24 18:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 18:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 18:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 18:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			02/19/24 09:23	02/20/24 18:27	1
o-Terphenyl	92		70 - 130			02/19/24 09:23	02/20/24 18:27	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH02A

Lab Sample ID: 890-6190-4

Date Collected: 02/14/24 14:10

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.4		5.04	mg/Kg			02/20/24 09:33	1

Client Sample ID: PH03

Lab Sample ID: 890-6190-5

Date Collected: 02/14/24 10:10

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/22/24 16:35	02/25/24 03:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			02/22/24 16:35	02/25/24 03:26	1
1,4-Difluorobenzene (Surr)	104		70 - 130			02/22/24 16:35	02/25/24 03:26	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/25/24 03:26	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			02/20/24 18:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 18:51	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 18:51	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		02/19/24 09:23	02/20/24 18:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			02/19/24 09:23	02/20/24 18:51	1
o-Terphenyl	87		70 - 130			02/19/24 09:23	02/20/24 18:51	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1170		5.02	mg/Kg			02/19/24 22:31	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH03A

Lab Sample ID: 890-6190-6

Date Collected: 02/14/24 13:50

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/22/24 16:35	02/25/24 03:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			02/22/24 16:35	02/25/24 03:46	1
1,4-Difluorobenzene (Surr)	102		70 - 130			02/22/24 16:35	02/25/24 03:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/25/24 03:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/20/24 19:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 19:15	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 19:15	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/19/24 09:23	02/20/24 19:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130			02/19/24 09:23	02/20/24 19:15	1
o-Terphenyl	95		70 - 130			02/19/24 09:23	02/20/24 19:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70.4		5.05	mg/Kg			02/19/24 22:38	1

Client Sample ID: PH04

Lab Sample ID: 890-6190-7

Date Collected: 02/14/24 10:15

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/22/24 16:35	02/25/24 04:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			02/22/24 16:35	02/25/24 04:07	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH04

Lab Sample ID: 890-6190-7

Date Collected: 02/14/24 10:15

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	103		70 - 130	02/22/24 16:35	02/25/24 04:07	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/25/24 04:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			02/20/24 19:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 19:40	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 19:40	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		02/19/24 09:23	02/20/24 19:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130			02/19/24 09:23	02/20/24 19:40	1
o-Terphenyl	107		70 - 130			02/19/24 09:23	02/20/24 19:40	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000		25.2	mg/Kg			02/19/24 22:45	5

Client Sample ID: PH04A

Lab Sample ID: 890-6190-8

Date Collected: 02/14/24 14:30

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 04:27	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 04:27	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 04:27	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		02/22/24 16:35	02/25/24 04:27	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/22/24 16:35	02/25/24 04:27	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		02/22/24 16:35	02/25/24 04:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/22/24 16:35	02/25/24 04:27	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02/22/24 16:35	02/25/24 04:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			02/25/24 04:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			02/21/24 03:46	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH04A

Lab Sample ID: 890-6190-8

Date Collected: 02/14/24 14:30

Matrix: Solid

Date Received: 02/15/24 12:13

Sample Depth: 4

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		02/19/24 09:07	02/21/24 03:46	1	
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		02/19/24 09:07	02/21/24 03:46	1	
OII Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		02/19/24 09:07	02/21/24 03:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	96		70 - 130			02/19/24 09:07	02/21/24 03:46	1	
o-Terphenyl	105		70 - 130			02/19/24 09:07	02/21/24 03:46	1	

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	96.9		4.99	mg/Kg			02/19/24 22:52	1	

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-6190-1	PH01	85	96
890-6190-1 MS	PH01	118	97
890-6190-1 MSD	PH01	120	102
890-6190-2	PH01A	109	108
890-6190-3	PH02	110	104
890-6190-4	PH02A	388 S1+	129
890-6190-5	PH03	119	104
890-6190-6	PH03A	118	102
890-6190-7	PH04	111	103
890-6190-8	PH04A	120	105
LCS 880-73892/1-A	Lab Control Sample	101	100
LCSD 880-73892/2-A	Lab Control Sample Dup	122	102
MB 880-73750/5-A	Method Blank	129	116
MB 880-73892/5-A	Method Blank	129	111
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-39505-A-2-B MS	Matrix Spike	67 S1-	66 S1-
880-39505-A-2-C MSD	Matrix Spike Duplicate	79	75
890-6189-A-1-E MS	Matrix Spike	27 S1-	21 S1-
890-6189-A-1-F MSD	Matrix Spike Duplicate	5 S1-	0.3 S1-
890-6190-1	PH01	95	100
890-6190-2	PH01A	83	85
890-6190-3	PH02	74	74
890-6190-4	PH02A	90	92
890-6190-5	PH03	84	87
890-6190-6	PH03A	90	95
890-6190-7	PH04	104	107
890-6190-8	PH04A	96	105
LCS 880-73439/2-A	Lab Control Sample	97	99
LCS 880-73444/2-A	Lab Control Sample	99	98
LCSD 880-73439/3-A	Lab Control Sample Dup	86	86
LCSD 880-73444/3-A	Lab Control Sample Dup	113	113
MB 880-73439/1-A	Method Blank	133 S1+	152 S1+
MB 880-73444/1-A	Method Blank	120	134 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73750/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 73976						Prep Batch: 73750		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/21/24 09:42	02/24/24 13:56	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			02/21/24 09:42	02/24/24 13:56	1
1,4-Difluorobenzene (Surr)	116		70 - 130			02/21/24 09:42	02/24/24 13:56	1

Lab Sample ID: MB 880-73892/5-A						Client Sample ID: Method Blank		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 73976						Prep Batch: 73892		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/22/24 16:35	02/25/24 01:35	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	129		70 - 130			02/22/24 16:35	02/25/24 01:35	1
1,4-Difluorobenzene (Surr)	111		70 - 130			02/22/24 16:35	02/25/24 01:35	1

Lab Sample ID: LCS 880-73892/1-A						Client Sample ID: Lab Control Sample		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 73976						Prep Batch: 73892		
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Benzene	0.100	0.1099		mg/Kg		110	70 - 130	
Toluene	0.100	0.09785		mg/Kg		98	70 - 130	
Ethylbenzene	0.100	0.1085		mg/Kg		109	70 - 130	
m-Xylene & p-Xylene	0.200	0.1660		mg/Kg		83	70 - 130	
o-Xylene	0.100	0.08555		mg/Kg		86	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
4-Bromofluorobenzene (Surr)	101		70 - 130					
1,4-Difluorobenzene (Surr)	100		70 - 130					

Lab Sample ID: LCSD 880-73892/2-A						Client Sample ID: Lab Control Sample Dup		
Matrix: Solid						Prep Type: Total/NA		
Analysis Batch: 73976						Prep Batch: 73892		
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit
Benzene	0.100	0.1084		mg/Kg		108	70 - 130	1 35

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

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

Lab Sample ID: LCSD 880-73892/2-A

Matrix: Solid

Analysis Batch: 73976

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 73892

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Toluene	0.100	0.09422		mg/Kg		94	70 - 130	4		35
Ethylbenzene	0.100	0.1256		mg/Kg		126	70 - 130	15		35
m-Xylene & p-Xylene	0.200	0.2083		mg/Kg		104	70 - 130	23		35
o-Xylene	0.100	0.09605		mg/Kg		96	70 - 130	12		35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-6190-1 MS

Matrix: Solid

Analysis Batch: 73976

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 73892

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Benzene	<0.00199	U	0.101	0.07742		mg/Kg		77	70 - 130	
Toluene	<0.00199	U F1	0.101	0.06575	F1	mg/Kg		65	70 - 130	
Ethylbenzene	<0.00199	U	0.101	0.07754		mg/Kg		77	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1442		mg/Kg		72	70 - 130	
o-Xylene	<0.00199	U	0.101	0.07445		mg/Kg		74	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-6190-1 MSD

Matrix: Solid

Analysis Batch: 73976

Client Sample ID: PH01

Prep Type: Total/NA

Prep Batch: 73892

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00199	U	0.100	0.1007		mg/Kg		101	70 - 130	26		35
Toluene	<0.00199	U F1	0.100	0.08712		mg/Kg		87	70 - 130	28		35
Ethylbenzene	<0.00199	U	0.100	0.1028		mg/Kg		103	70 - 130	28		35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1961		mg/Kg		98	70 - 130	31		35
o-Xylene	<0.00199	U	0.100	0.08990		mg/Kg		90	70 - 130	19		35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	120		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-73439/1-A

Matrix: Solid

Analysis Batch: 73600

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73439

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 09:06	02/20/24 20:27	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

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

Lab Sample ID: MB 880-73439/1-A
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73439

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 09:06	02/20/24 20:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 09:06	02/20/24 20:27	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	133	S1+	70 - 130			02/19/24 09:06	02/20/24 20:27	1
o-Terphenyl	152	S1+	70 - 130			02/19/24 09:06	02/20/24 20:27	1

Lab Sample ID: LCS 880-73439/2-A
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	819.0		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	1000	897.7		mg/Kg		90	70 - 130
Surrogate		LCS	LCS				
		%Recovery	Qualifier				
1-Chlorooctane		97					70 - 130
o-Terphenyl		99					70 - 130

Lab Sample ID: LCSD 880-73439/3-A
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73439

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	802.7		mg/Kg		80	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	866.2		mg/Kg		87	70 - 130	4	20
Surrogate		LCSD	LCSD						
		%Recovery	Qualifier						
1-Chlorooctane		86					70 - 130		
o-Terphenyl		86					70 - 130		

Lab Sample ID: 880-39505-A-2-B MS
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73439

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<49.5	U F1	1010	624.1	F1	mg/Kg		58	70 - 130
Diesel Range Organics (Over C10-C28)	<49.5	U F1	1010	507.1	F1	mg/Kg		48	70 - 130
Surrogate	MS	MS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	67	S1-	70 - 130						
o-Terphenyl	66	S1-	70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

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

Lab Sample ID: 880-39505-A-2-C MSD

Matrix: Solid

Analysis Batch: 73600

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 73439

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	<49.5	U F1	1010	700.5	F1	mg/Kg		65	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	<49.5	U F1	1010	583.6	F1	mg/Kg		55	70 - 130	14	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	79		70 - 130								
o-Terphenyl	75		70 - 130								

Lab Sample ID: MB 880-73444/1-A

Matrix: Solid

Analysis Batch: 73600

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73444

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 09:23	02/20/24 08:02	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	120		70 - 130			02/19/24 09:23	02/20/24 08:02	1
o-Terphenyl	134	S1+	70 - 130			02/19/24 09:23	02/20/24 08:02	1

Lab Sample ID: LCS 880-73444/2-A

Matrix: Solid

Analysis Batch: 73600

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 73444

[illegible]

Lab Sample ID: LCSD 880-73444/3-A

Matrix: Solid

Analysis Batch: 73600

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 73444

Analyte	Spike Added	LCS	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec	RPD	RPD
								Limits		Limit
Gasoline Range Organics (GRO)-C6-C10	1000	967.2			mg/Kg		97	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	1144			mg/Kg		114	70 - 130	11	20

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

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

Lab Sample ID: LCSD 880-73444/3-A
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73444

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-6189-A-1-E MS
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73444

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<50.2	U F1 F2	1010	271.5	F1	mg/Kg		23	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.2	U F1 F2	1010	182.2	F1	mg/Kg		15	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	27	S1-	70 - 130							
o-Terphenyl	21	S1-	70 - 130							

Lab Sample ID: 890-6189-A-1-F MSD
Matrix: Solid
Analysis Batch: 73600

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73444

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	<50.2	U F1 F2	1010	118.1	F1 F2	mg/Kg		8	70 - 130	79	20	
Diesel Range Organics (Over C10-C28)	<50.2	U F1 F2	1010	<50.5	U F1 F2	mg/Kg		0.3	70 - 130	138	20	
	MSD	MSD										
Surrogate	%Recovery	Qualifier	Limits									
1-Chlorooctane	5	S1-	70 - 130									
o-Terphenyl	0.3	S1-	70 - 130									

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-73326/1-A
Matrix: Solid
Analysis Batch: 73581

Client Sample ID: Method Blank
Prep Type: Soluble

	MB	MB								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00	mg/Kg			02/19/24 19:33	1		

Lab Sample ID: LCS 880-73326/2-A
Matrix: Solid
Analysis Batch: 73581

Client Sample ID: Lab Control Sample
Prep Type: Soluble

	Spike	LCS	LCS					%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	250	256.3		mg/Kg		103	90 - 110		

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-73326/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 73581											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.8		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-6189-A-13-B MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 73581											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	119		252	369.3		mg/Kg		99	90 - 110		

Lab Sample ID: 890-6189-A-13-C MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 73581											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	119		252	358.0		mg/Kg		95	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

GC VOA

Prep Batch: 73750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73750/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 73892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	5035	
890-6190-2	PH01A	Total/NA	Solid	5035	
890-6190-3	PH02	Total/NA	Solid	5035	
890-6190-4	PH02A	Total/NA	Solid	5035	
890-6190-5	PH03	Total/NA	Solid	5035	
890-6190-6	PH03A	Total/NA	Solid	5035	
890-6190-7	PH04	Total/NA	Solid	5035	
890-6190-8	PH04A	Total/NA	Solid	5035	
MB 880-73892/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73892/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73892/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6190-1 MS	PH01	Total/NA	Solid	5035	
890-6190-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 73976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	8021B	73892
890-6190-2	PH01A	Total/NA	Solid	8021B	73892
890-6190-3	PH02	Total/NA	Solid	8021B	73892
890-6190-4	PH02A	Total/NA	Solid	8021B	73892
890-6190-5	PH03	Total/NA	Solid	8021B	73892
890-6190-6	PH03A	Total/NA	Solid	8021B	73892
890-6190-7	PH04	Total/NA	Solid	8021B	73892
890-6190-8	PH04A	Total/NA	Solid	8021B	73892
MB 880-73750/5-A	Method Blank	Total/NA	Solid	8021B	73750
MB 880-73892/5-A	Method Blank	Total/NA	Solid	8021B	73892
LCS 880-73892/1-A	Lab Control Sample	Total/NA	Solid	8021B	73892
LCSD 880-73892/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73892
890-6190-1 MS	PH01	Total/NA	Solid	8021B	73892
890-6190-1 MSD	PH01	Total/NA	Solid	8021B	73892

Analysis Batch: 74066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	Total BTEX	
890-6190-2	PH01A	Total/NA	Solid	Total BTEX	
890-6190-3	PH02	Total/NA	Solid	Total BTEX	
890-6190-4	PH02A	Total/NA	Solid	Total BTEX	
890-6190-5	PH03	Total/NA	Solid	Total BTEX	
890-6190-6	PH03A	Total/NA	Solid	Total BTEX	
890-6190-7	PH04	Total/NA	Solid	Total BTEX	
890-6190-8	PH04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 73439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-8	PH04A	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

GC Semi VOA (Continued)

Prep Batch: 73439 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73439/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73439/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73439/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-39505-A-2-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-39505-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 73444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	8015NM Prep	
890-6190-2	PH01A	Total/NA	Solid	8015NM Prep	
890-6190-3	PH02	Total/NA	Solid	8015NM Prep	
890-6190-4	PH02A	Total/NA	Solid	8015NM Prep	
890-6190-5	PH03	Total/NA	Solid	8015NM Prep	
890-6190-6	PH03A	Total/NA	Solid	8015NM Prep	
890-6190-7	PH04	Total/NA	Solid	8015NM Prep	
MB 880-73444/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73444/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6189-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-6189-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	8015B NM	73444
890-6190-2	PH01A	Total/NA	Solid	8015B NM	73444
890-6190-3	PH02	Total/NA	Solid	8015B NM	73444
890-6190-4	PH02A	Total/NA	Solid	8015B NM	73444
890-6190-5	PH03	Total/NA	Solid	8015B NM	73444
890-6190-6	PH03A	Total/NA	Solid	8015B NM	73444
890-6190-7	PH04	Total/NA	Solid	8015B NM	73444
890-6190-8	PH04A	Total/NA	Solid	8015B NM	73439
MB 880-73439/1-A	Method Blank	Total/NA	Solid	8015B NM	73439
MB 880-73444/1-A	Method Blank	Total/NA	Solid	8015B NM	73444
LCS 880-73439/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73439
LCS 880-73444/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73444
LCSD 880-73439/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73439
LCSD 880-73444/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73444
880-39505-A-2-B MS	Matrix Spike	Total/NA	Solid	8015B NM	73439
880-39505-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	73439
890-6189-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	73444
890-6189-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	73444

Analysis Batch: 73766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Total/NA	Solid	8015 NM	
890-6190-2	PH01A	Total/NA	Solid	8015 NM	
890-6190-3	PH02	Total/NA	Solid	8015 NM	
890-6190-4	PH02A	Total/NA	Solid	8015 NM	
890-6190-5	PH03	Total/NA	Solid	8015 NM	
890-6190-6	PH03A	Total/NA	Solid	8015 NM	
890-6190-7	PH04	Total/NA	Solid	8015 NM	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

GC Semi VOA (Continued)

Analysis Batch: 73766 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-8	PH04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 73326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Soluble	Solid	DI Leach	
890-6190-2	PH01A	Soluble	Solid	DI Leach	
890-6190-3	PH02	Soluble	Solid	DI Leach	
890-6190-4	PH02A	Soluble	Solid	DI Leach	
890-6190-5	PH03	Soluble	Solid	DI Leach	
890-6190-6	PH03A	Soluble	Solid	DI Leach	
890-6190-7	PH04	Soluble	Solid	DI Leach	
890-6190-8	PH04A	Soluble	Solid	DI Leach	
MB 880-73326/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73326/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73326/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6189-A-13-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6189-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 73581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6190-1	PH01	Soluble	Solid	300.0	73326
890-6190-2	PH01A	Soluble	Solid	300.0	73326
890-6190-3	PH02	Soluble	Solid	300.0	73326
890-6190-4	PH02A	Soluble	Solid	300.0	73326
890-6190-5	PH03	Soluble	Solid	300.0	73326
890-6190-6	PH03A	Soluble	Solid	300.0	73326
890-6190-7	PH04	Soluble	Solid	300.0	73326
890-6190-8	PH04A	Soluble	Solid	300.0	73326
MB 880-73326/1-A	Method Blank	Soluble	Solid	300.0	73326
LCS 880-73326/2-A	Lab Control Sample	Soluble	Solid	300.0	73326
LCSD 880-73326/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73326
890-6189-A-13-B MS	Matrix Spike	Soluble	Solid	300.0	73326
890-6189-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	73326

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH01

Date Collected: 02/14/24 10:00

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 02:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 02:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 17:13	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 17:13	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:50	CH	EET MID

Client Sample ID: PH01A

Date Collected: 02/14/24 14:35

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 02:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 02:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 17:38	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 17:38	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 21:57	CH	EET MID

Client Sample ID: PH02

Date Collected: 02/14/24 10:05

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 02:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 02:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 18:02	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 18:02	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 22:18	CH	EET MID

Client Sample ID: PH02A

Date Collected: 02/14/24 14:10

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 03:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 03:05	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH02A

Date Collected: 02/14/24 14:10

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			73766	02/20/24 18:27	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 18:27	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/20/24 09:33	CH	EET MID

Client Sample ID: PH03

Date Collected: 02/14/24 10:10

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 03:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 03:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 18:51	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 18:51	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 22:31	CH	EET MID

Client Sample ID: PH03A

Date Collected: 02/14/24 13:50

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 03:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 03:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 19:15	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 19:15	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 22:38	CH	EET MID

Client Sample ID: PH04

Date Collected: 02/14/24 10:15

Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 04:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 04:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/20/24 19:40	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	73444	02/19/24 09:23	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/20/24 19:40	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Client Sample ID: PH04
Date Collected: 02/14/24 10:15
Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		5			73581	02/19/24 22:45	CH	EET MID

Client Sample ID: PH04A
Date Collected: 02/14/24 14:30
Date Received: 02/15/24 12:13

Lab Sample ID: 890-6190-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	73892	02/22/24 16:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73976	02/25/24 04:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74066	02/25/24 04:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			73766	02/21/24 03:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	73439	02/19/24 09:07	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73600	02/21/24 03:46	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	73326	02/16/24 09:16	SA	EET MID
Soluble	Analysis	300.0		1			73581	02/19/24 22:52	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6190-1
SDG: 03C1558232

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6190-1	PH01	Solid	02/14/24 10:00	02/15/24 12:13	0.5
890-6190-2	PH01A	Solid	02/14/24 14:35	02/15/24 12:13	1
890-6190-3	PH02	Solid	02/14/24 10:05	02/15/24 12:13	0.5
890-6190-4	PH02A	Solid	02/14/24 14:10	02/15/24 12:13	4
890-6190-5	PH03	Solid	02/14/24 10:10	02/15/24 12:13	0.5
890-6190-6	PH03A	Solid	02/14/24 13:50	02/15/24 12:13	4
890-6190-7	PH04	Solid	02/14/24 10:15	02/15/24 12:13	0.5
890-6190-8	PH04A	Solid	02/14/24 14:30	02/15/24 12:13	4

- 1
- 2
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- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Chain of Custody



Environment Testing
Xenco

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

Work Order No:

www.xencocom Page 1 of 1

Project Manager: Tacoma Morrissey		Bill to: (if different) Garrett Green	
Company Name: Enselum, LLC		Company Name: XTO Energy	
Address: 3122 Nat'l Parks Hwy		Address: 3104 E Greene St	
City, State ZIP: Carlsbad, NM 88220		City, State ZIP: Carlsbad, NM 88220	
Phone: 337-257-8307		Email: timmssej@enselum.com	

Project Name: PLU CVX JV RR 006H	Turn Around: ☒ Routine ☐ Rush	Pres. Code
Project Number: 03CIS58232		
Project Location: 32-122643, -103.873711	Due Date: TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name: Meredith Roberts		
PO #:		

SAMPLE RECEIPT		Temp-Blank: Yes No		Wet Ice: Yes No	
Samples Received Intact: Yes No		Thermometer ID: Timgg7			
Cooler Custody Seals: Yes No		Correction Factor: -0.2			
Sample Custody Seals: Yes No		Temperature Reading: -2.4			
Total Containers:		Corrected Temperature: -2.2			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	ANALYSIS REQUEST	Preservative Codes	Sample Comments
PH01	S	2/14/24	1000	0.5'	C	1			None: NO	Incident #: nAB1628728258
PH01A			1435	1'					Cool: Cool	Cost Center: 1146121001
PH02			1005	0.5'					MeOH: Me	
PH02A			1410	4'					HCL: HC	
PH03			1010	0.5'					HNO: HN	
PH03A			1350	4'					H ₂ SO ₄ : H ₂	
PH04			1015	0.5'					H ₂ PO ₄ : HP	
PH04A			1430	4'					NaHSO ₄ : NABIS	
									Na ₂ S ₂ O ₃ : NaSO ₃	
									Zn Acetate+NaOH: Zn	
									NaOH+Ascorbic Acid: SAPC	

Total 200.7/6010 200.8/6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 (Circle Method(s) and Metal(s) to be analyzed) TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Meredith Roberts</i>	<i>Garrett Green</i>	2/15/24 11:35			

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6190-1

SDG Number: 03C1558232

Login Number: 6190

List Source: Eurofins Carlsbad

List Number: 1

Creator: Lopez, Abraham

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6190-1

SDG Number: 03C1558232

Login Number: 6190

List Number: 2

Creator: Wheeler, Jazmine

List Source: Eurofins Midland

List Creation: 02/16/24 11:17 AM

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



Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/26/2024 3:23:33 PM

JOB DESCRIPTION

PLU CVX JV RR 006H
03C1558232

JOB NUMBER

890-6201-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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2/26/2024 3:23:33 PM

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

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Laboratory Job ID: 890-6201-1
SDG: 03C1558232

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project: PLU CVX JV RR 006H

Job ID: 890-6201-1

Job ID: 890-6201-1

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Job Narrative 890-6201-1

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

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

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

Receipt

The samples were received on 2/15/2024 4:36 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS 10 (890-6201-1), FS 11 (890-6201-2), FS 12 (890-6201-3), FS 13 (890-6201-4), FS 14 (890-6201-5), SW 05 (890-6201-6) and SW 06 (890-6201-7).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS 11 (890-6201-2), SW 05 (890-6201-6) and SW 06 (890-6201-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-73795 and analytical batch 880-73826 was outside the upper control limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS 11 (890-6201-2), FS 12 (890-6201-3), SW 05 (890-6201-6) and SW 06 (890-6201-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

Method 300_ORGFM_28D - Soluble: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-73329 and analytical batch 880-73631 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 10

Lab Sample ID: 890-6201-1

Date Collected: 02/15/24 09:30

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 02:24	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 02:24	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 02:24	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/21/24 14:04	02/24/24 02:24	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 02:24	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/21/24 14:04	02/24/24 02:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	02/21/24 14:04	02/24/24 02:24	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02/21/24 14:04	02/24/24 02:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/24/24 02:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg			02/20/24 13:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		02/19/24 15:17	02/20/24 13:33	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		02/19/24 15:17	02/20/24 13:33	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		02/19/24 15:17	02/20/24 13:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	02/19/24 15:17	02/20/24 13:33	1
o-Terphenyl	80		70 - 130	02/19/24 15:17	02/20/24 13:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	319		5.03	mg/Kg			02/20/24 15:50	1

Client Sample ID: FS 11

Lab Sample ID: 890-6201-2

Date Collected: 02/15/24 11:20

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 02:44	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 02:44	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 02:44	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/21/24 14:04	02/24/24 02:44	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 02:44	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/21/24 14:04	02/24/24 02:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	156	S1+	70 - 130	02/21/24 14:04	02/24/24 02:44	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 11

Lab Sample ID: 890-6201-2

Date Collected: 02/15/24 11:20

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 4'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	73		70 - 130	02/21/24 14:04	02/24/24 02:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/24/24 02:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3	mg/Kg			02/20/24 13:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3	mg/Kg		02/19/24 15:17	02/20/24 13:57	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		02/19/24 15:17	02/20/24 13:57	1
Oil Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		02/19/24 15:17	02/20/24 13:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	65	S1-	70 - 130			02/19/24 15:17	02/20/24 13:57	1
o-Terphenyl	52	S1-	70 - 130			02/19/24 15:17	02/20/24 13:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.9		4.96	mg/Kg			02/20/24 15:57	1

Client Sample ID: FS 12

Lab Sample ID: 890-6201-3

Date Collected: 02/15/24 11:25

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
Toluene	<0.00202	U	0.00202	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		02/21/24 14:04	02/24/24 03:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			02/21/24 14:04	02/24/24 03:05	1
1,4-Difluorobenzene (Surr)	114		70 - 130			02/21/24 14:04	02/24/24 03:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			02/24/24 03:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			02/20/24 14:21	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 12

Lab Sample ID: 890-6201-3

Date Collected: 02/15/24 11:25

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		02/19/24 15:17	02/20/24 14:21	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		02/19/24 15:17	02/20/24 14:21	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		02/19/24 15:17	02/20/24 14:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	62	S1-	70 - 130			02/19/24 15:17	02/20/24 14:21	1
o-Terphenyl	50	S1-	70 - 130			02/19/24 15:17	02/20/24 14:21	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48.6		4.95	mg/Kg			02/20/24 16:17	1

Client Sample ID: FS 13

Lab Sample ID: 890-6201-4

Date Collected: 02/15/24 13:25

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/21/24 14:04	02/24/24 03:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			02/21/24 14:04	02/24/24 03:25	1
1,4-Difluorobenzene (Surr)	109		70 - 130			02/21/24 14:04	02/24/24 03:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/24/24 03:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			02/20/24 14:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		02/19/24 15:17	02/20/24 14:46	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		02/19/24 15:17	02/20/24 14:46	1
Oil Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		02/19/24 15:17	02/20/24 14:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	118		70 - 130			02/19/24 15:17	02/20/24 14:46	1
o-Terphenyl	104		70 - 130			02/19/24 15:17	02/20/24 14:46	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 13

Lab Sample ID: 890-6201-4

Date Collected: 02/15/24 13:25

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	349		5.04	mg/Kg			02/20/24 16:24	1

Client Sample ID: FS 14

Lab Sample ID: 890-6201-5

Date Collected: 02/15/24 11:50

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/21/24 14:04	02/24/24 03:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			02/21/24 14:04	02/24/24 03:46	1
1,4-Difluorobenzene (Surr)	107		70 - 130			02/21/24 14:04	02/24/24 03:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/24/24 03:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/20/24 15:10	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		02/19/24 15:17	02/20/24 15:10	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/19/24 15:17	02/20/24 15:10	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/19/24 15:17	02/20/24 15:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130			02/19/24 15:17	02/20/24 15:10	1
o-Terphenyl	83		70 - 130			02/19/24 15:17	02/20/24 15:10	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	257		4.96	mg/Kg			02/20/24 16:31	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: SW 05

Lab Sample ID: 890-6201-6

Date Collected: 02/15/24 11:45

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 0 - 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
Toluene	<0.00198	U	0.00198	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		02/21/24 14:04	02/24/24 04:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	149	S1+	70 - 130			02/21/24 14:04	02/24/24 04:06	1
1,4-Difluorobenzene (Surr)	132	S1+	70 - 130			02/21/24 14:04	02/24/24 04:06	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/24/24 04:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/20/24 15:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 15:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 15:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 15:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	60	S1-	70 - 130			02/19/24 15:17	02/20/24 15:59	1
o-Terphenyl	48	S1-	70 - 130			02/19/24 15:17	02/20/24 15:59	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		4.97	mg/Kg			02/20/24 16:38	1

Client Sample ID: SW 06

Lab Sample ID: 890-6201-7

Date Collected: 02/15/24 13:20

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 0 - 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
Toluene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		02/21/24 14:04	02/24/24 04:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	141	S1+	70 - 130			02/21/24 14:04	02/24/24 04:27	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: SW 06

Lab Sample ID: 890-6201-7

Date Collected: 02/15/24 13:20

Matrix: Solid

Date Received: 02/15/24 16:36

Sample Depth: 0 - 4'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,4-Difluorobenzene (Surr)	133	S1+	70 - 130			02/21/24 14:04	02/24/24 04:27	1	
Method: TAL SOP Total BTEX - Total BTEX Calculation									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/24/24 04:27	1	
Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Total TPH	<49.7	U	49.7	mg/Kg			02/20/24 16:24	1	
Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7	mg/Kg		02/19/24 15:17	02/20/24 16:24	1	
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		02/19/24 15:17	02/20/24 16:24	1	
Oil Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		02/19/24 15:17	02/20/24 16:24	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1-Chlorooctane	50	S1-	70 - 130			02/19/24 15:17	02/20/24 16:24	1	
o-Terphenyl	37	S1-	70 - 130			02/19/24 15:17	02/20/24 16:24	1	
Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	28.7		4.95	mg/Kg			02/20/24 16:45	1	

Surrogate Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-6201-1	FS 10	93	105
890-6201-1 MS	FS 10	129	104
890-6201-1 MSD	FS 10	113	97
890-6201-2	FS 11	156 S1+	73
890-6201-3	FS 12	93	114
890-6201-4	FS 13	115	109
890-6201-5	FS 14	121	107
890-6201-6	SW 05	149 S1+	132 S1+
890-6201-7	SW 06	141 S1+	133 S1+
LCS 880-73795/1-A	Lab Control Sample	104	99
LCSD 880-73795/2-A	Lab Control Sample Dup	108	103
MB 880-73777/5-A	Method Blank	124	123
MB 880-73795/5-A	Method Blank	135 S1+	126
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-6198-A-1-D MS	Matrix Spike	119	98
890-6198-A-1-E MSD	Matrix Spike Duplicate	117	91
890-6201-1	FS 10	101	80
890-6201-2	FS 11	65 S1-	52 S1-
890-6201-3	FS 12	62 S1-	50 S1-
890-6201-4	FS 13	118	104
890-6201-5	FS 14	95	83
890-6201-6	SW 05	60 S1-	48 S1-
890-6201-7	SW 06	50 S1-	37 S1-
LCS 880-73547/2-A	Lab Control Sample	122	129
LCSD 880-73547/3-A	Lab Control Sample Dup	110	108
MB 880-73547/1-A	Method Blank	130	117
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-73777/5-A

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73777

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 12:24	02/23/24 14:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 12:24	02/23/24 14:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 12:24	02/23/24 14:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/21/24 12:24	02/23/24 14:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 12:24	02/23/24 14:14	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/21/24 12:24	02/23/24 14:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	124		70 - 130	02/21/24 12:24	02/23/24 14:14	1
1,4-Difluorobenzene (Surr)	123		70 - 130	02/21/24 12:24	02/23/24 14:14	1

Lab Sample ID: MB 880-73795/5-A

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73795

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 01:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 01:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 01:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		02/21/24 14:04	02/24/24 01:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/21/24 14:04	02/24/24 01:55	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		02/21/24 14:04	02/24/24 01:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	135	S1+	70 - 130	02/21/24 14:04	02/24/24 01:55	1
1,4-Difluorobenzene (Surr)	126		70 - 130	02/21/24 14:04	02/24/24 01:55	1

Lab Sample ID: LCS 880-73795/1-A

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 73795

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1249		mg/Kg		125	70 - 130
Toluene	0.100	0.1028		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.1129		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	0.200	0.2038		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1059		mg/Kg		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-73795/2-A

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 73795

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1249		mg/Kg		125	70 - 130	0	35

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

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

Lab Sample ID: LCSD 880-73795/2-A

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 73795

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.1061		mg/Kg		106	70 - 130		3	35
Ethylbenzene	0.100	0.1195		mg/Kg		119	70 - 130		6	35
m-Xylene & p-Xylene	0.200	0.2261		mg/Kg		113	70 - 130		10	35
o-Xylene	0.100	0.1091		mg/Kg		109	70 - 130		3	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: 890-6201-1 MS

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: FS 10

Prep Type: Total/NA

Prep Batch: 73795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00199	U	0.101	0.09997		mg/Kg		99	70 - 130	
Toluene	<0.00199	U	0.101	0.08753		mg/Kg		87	70 - 130	
Ethylbenzene	<0.00199	U	0.101	0.1009		mg/Kg		100	70 - 130	
m-Xylene & p-Xylene	<0.00398	U	0.202	0.2151		mg/Kg		107	70 - 130	
o-Xylene	<0.00199	U	0.101	0.1058		mg/Kg		104	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	129		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 890-6201-1 MSD

Matrix: Solid

Analysis Batch: 73826

Client Sample ID: FS 10

Prep Type: Total/NA

Prep Batch: 73795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00199	U	0.100	0.1010		mg/Kg		101	70 - 130		1	35
Toluene	<0.00199	U	0.100	0.08910		mg/Kg		89	70 - 130		2	35
Ethylbenzene	<0.00199	U	0.100	0.09544		mg/Kg		95	70 - 130		6	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.2031		mg/Kg		102	70 - 130		6	35
o-Xylene	<0.00199	U	0.100	0.09952		mg/Kg		99	70 - 130		6	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

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

Lab Sample ID: MB 880-73547/1-A

Matrix: Solid

Analysis Batch: 73598

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 73547

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 08:02	1

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

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

Lab Sample ID: MB 880-73547/1-A
Matrix: Solid
Analysis Batch: 73598

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73547

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 08:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		02/19/24 15:17	02/20/24 08:02	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1-Chlorooctane	130		70 - 130			02/19/24 15:17	02/20/24 08:02	1
o-Terphenyl	117		70 - 130			02/19/24 15:17	02/20/24 08:02	1

Lab Sample ID: LCS 880-73547/2-A
Matrix: Solid
Analysis Batch: 73598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1030		mg/Kg		103	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1035		mg/Kg		104	70 - 130
Surrogate	LCS LCS		Limits				
	%Recovery	Qualifier					
1-Chlorooctane	122		70 - 130				
o-Terphenyl	129		70 - 130				

Lab Sample ID: LCSD 880-73547/3-A
Matrix: Solid
Analysis Batch: 73598

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 73547

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	955.9		mg/Kg		96	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	1000	950.5		mg/Kg		95	70 - 130	9	20
Surrogate	LCSD LCSD		Limits						
	%Recovery	Qualifier							
1-Chlorooctane	110		70 - 130						
o-Terphenyl	108		70 - 130						

Lab Sample ID: 890-6198-A-1-D MS
Matrix: Solid
Analysis Batch: 73598

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73547

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	1010	1085		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	60.4		1010	1058		mg/Kg		99	70 - 130
Surrogate	MS MS		Limits						
	%Recovery	Qualifier							
1-Chlorooctane	119		70 - 130						
o-Terphenyl	98		70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

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

Lab Sample ID: 890-6198-A-1-E MSD

Matrix: Solid

Analysis Batch: 73598

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 73547

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	1010	1102		mg/Kg		107	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	60.4		1010	997.3		mg/Kg		93	70 - 130	6	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	117		70 - 130								
o-Terphenyl	91		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-73329/1-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			02/20/24 13:04	1

Lab Sample ID: LCS 880-73329/2-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	259.4		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-73329/3-A

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	258.9		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-6199-A-4-C MS

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	65.4	F1	249	307.4		mg/Kg		97	90 - 110

Lab Sample ID: 890-6199-A-4-D MSD

Matrix: Solid

Analysis Batch: 73631

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.4	F1	249	357.8	F1	mg/Kg		117	90 - 110	15	20

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QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

GC VOA

Prep Batch: 73777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73777/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 73795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	5035	
890-6201-2	FS 11	Total/NA	Solid	5035	
890-6201-3	FS 12	Total/NA	Solid	5035	
890-6201-4	FS 13	Total/NA	Solid	5035	
890-6201-5	FS 14	Total/NA	Solid	5035	
890-6201-6	SW 05	Total/NA	Solid	5035	
890-6201-7	SW 06	Total/NA	Solid	5035	
MB 880-73795/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-73795/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-73795/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6201-1 MS	FS 10	Total/NA	Solid	5035	
890-6201-1 MSD	FS 10	Total/NA	Solid	5035	

Analysis Batch: 73826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	8021B	73795
890-6201-2	FS 11	Total/NA	Solid	8021B	73795
890-6201-3	FS 12	Total/NA	Solid	8021B	73795
890-6201-4	FS 13	Total/NA	Solid	8021B	73795
890-6201-5	FS 14	Total/NA	Solid	8021B	73795
890-6201-6	SW 05	Total/NA	Solid	8021B	73795
890-6201-7	SW 06	Total/NA	Solid	8021B	73795
MB 880-73777/5-A	Method Blank	Total/NA	Solid	8021B	73777
MB 880-73795/5-A	Method Blank	Total/NA	Solid	8021B	73795
LCS 880-73795/1-A	Lab Control Sample	Total/NA	Solid	8021B	73795
LCSD 880-73795/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	73795
890-6201-1 MS	FS 10	Total/NA	Solid	8021B	73795
890-6201-1 MSD	FS 10	Total/NA	Solid	8021B	73795

Analysis Batch: 74090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	Total BTEX	
890-6201-2	FS 11	Total/NA	Solid	Total BTEX	
890-6201-3	FS 12	Total/NA	Solid	Total BTEX	
890-6201-4	FS 13	Total/NA	Solid	Total BTEX	
890-6201-5	FS 14	Total/NA	Solid	Total BTEX	
890-6201-6	SW 05	Total/NA	Solid	Total BTEX	
890-6201-7	SW 06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 73547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	8015NM Prep	
890-6201-2	FS 11	Total/NA	Solid	8015NM Prep	
890-6201-3	FS 12	Total/NA	Solid	8015NM Prep	
890-6201-4	FS 13	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

GC Semi VOA (Continued)

Prep Batch: 73547 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-5	FS 14	Total/NA	Solid	8015NM Prep	
890-6201-6	SW 05	Total/NA	Solid	8015NM Prep	
890-6201-7	SW 06	Total/NA	Solid	8015NM Prep	
MB 880-73547/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-73547/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-73547/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6198-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-6198-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 73598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	8015B NM	73547
890-6201-2	FS 11	Total/NA	Solid	8015B NM	73547
890-6201-3	FS 12	Total/NA	Solid	8015B NM	73547
890-6201-4	FS 13	Total/NA	Solid	8015B NM	73547
890-6201-5	FS 14	Total/NA	Solid	8015B NM	73547
890-6201-6	SW 05	Total/NA	Solid	8015B NM	73547
890-6201-7	SW 06	Total/NA	Solid	8015B NM	73547
MB 880-73547/1-A	Method Blank	Total/NA	Solid	8015B NM	73547
LCS 880-73547/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	73547
LCSD 880-73547/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	73547
890-6198-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	73547
890-6198-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	73547

Analysis Batch: 73761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Total/NA	Solid	8015 NM	
890-6201-2	FS 11	Total/NA	Solid	8015 NM	
890-6201-3	FS 12	Total/NA	Solid	8015 NM	
890-6201-4	FS 13	Total/NA	Solid	8015 NM	
890-6201-5	FS 14	Total/NA	Solid	8015 NM	
890-6201-6	SW 05	Total/NA	Solid	8015 NM	
890-6201-7	SW 06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 73329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Soluble	Solid	DI Leach	
890-6201-2	FS 11	Soluble	Solid	DI Leach	
890-6201-3	FS 12	Soluble	Solid	DI Leach	
890-6201-4	FS 13	Soluble	Solid	DI Leach	
890-6201-5	FS 14	Soluble	Solid	DI Leach	
890-6201-6	SW 05	Soluble	Solid	DI Leach	
890-6201-7	SW 06	Soluble	Solid	DI Leach	
MB 880-73329/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73329/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-73329/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6199-A-4-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-6199-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

HPLC/IC

Analysis Batch: 73631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6201-1	FS 10	Soluble	Solid	300.0	73329
890-6201-2	FS 11	Soluble	Solid	300.0	73329
890-6201-3	FS 12	Soluble	Solid	300.0	73329
890-6201-4	FS 13	Soluble	Solid	300.0	73329
890-6201-5	FS 14	Soluble	Solid	300.0	73329
890-6201-6	SW 05	Soluble	Solid	300.0	73329
890-6201-7	SW 06	Soluble	Solid	300.0	73329
MB 880-73329/1-A	Method Blank	Soluble	Solid	300.0	73329
LCS 880-73329/2-A	Lab Control Sample	Soluble	Solid	300.0	73329
LCSD 880-73329/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73329
890-6199-A-4-C MS	Matrix Spike	Soluble	Solid	300.0	73329
890-6199-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	73329

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 10

Date Collected: 02/15/24 09:30

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 02:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 02:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 13:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 13:33	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 15:50	CH	EET MID

Client Sample ID: FS 11

Date Collected: 02/15/24 11:20

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 02:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 02:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 13:57	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 13:57	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 15:57	CH	EET MID

Client Sample ID: FS 12

Date Collected: 02/15/24 11:25

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 03:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 03:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 14:21	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 14:21	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 16:17	CH	EET MID

Client Sample ID: FS 13

Date Collected: 02/15/24 13:25

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 03:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 03:25	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: FS 13

Date Collected: 02/15/24 13:25

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			73761	02/20/24 14:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 14:46	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 16:24	CH	EET MID

Client Sample ID: FS 14

Date Collected: 02/15/24 11:50

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 03:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 03:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 15:10	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 16:31	CH	EET MID

Client Sample ID: SW 05

Date Collected: 02/15/24 11:45

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 04:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 04:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 15:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 15:59	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 16:38	CH	EET MID

Client Sample ID: SW 06

Date Collected: 02/15/24 13:20

Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	73795	02/21/24 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	73826	02/24/24 04:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			74090	02/24/24 04:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			73761	02/20/24 16:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	73547	02/19/24 15:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	73598	02/20/24 16:24	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Client Sample ID: SW 06
Date Collected: 02/15/24 13:20
Date Received: 02/15/24 16:36

Lab Sample ID: 890-6201-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	73329	02/16/24 09:30	SA	EET MID
Soluble	Analysis	300.0		1			73631	02/20/24 16:45	CH	EET MID

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU CVX JV RR 006H

Job ID: 890-6201-1
SDG: 03C1558232

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6201-1	FS 10	Solid	02/15/24 09:30	02/15/24 16:36	2'
890-6201-2	FS 11	Solid	02/15/24 11:20	02/15/24 16:36	4'
890-6201-3	FS 12	Solid	02/15/24 11:25	02/15/24 16:36	3'
890-6201-4	FS 13	Solid	02/15/24 13:25	02/15/24 16:36	4'
890-6201-5	FS 14	Solid	02/15/24 11:50	02/15/24 16:36	3'
890-6201-6	SW 05	Solid	02/15/24 11:45	02/15/24 16:36	0 - 3'
890-6201-7	SW 06	Solid	02/15/24 13:20	02/15/24 16:36	0 - 4'

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Chain of Custody

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



Environment Testing

Xenco

Work Order No.:

www.xenco.com Page 1 of 1

Project Manager:	Tatoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Enselum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337-257-8307	Email:	tmorrissey@enselum.com

Project Name:	Alu LVA JV RE OC6H	Turn Around	☒ Routine ☐ Rush
Project Number:	0301558232	Due Date:	Tues
Project Location:	32.122643, 703.893411	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Meredith Roberts	Wet Ice:	Yes No
P.O. #:		Thermometer ID:	0.2
		Correction Factor:	1.4
		Temperature Reading:	1.2
		Corrected Temperature:	

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

ANALYSIS REQUEST				Preservative Codes	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp
FS10	S	2/15/24	0930	2'	C
FS11	S	1120	1120	4'	C
FS12	S	1125	1125	3'	C
FS13	S	1325	1325	4'	C
FS14	S	1150	1150	3'	C
SW05	S	1145	1145	0-3'	C
SW06	S	1320	1320	0-4'	C

Parameters	Pres. Code
None: NO	DI Water: H ₂ O
Cool: Cool	MeOH: Me
HCL: HC	HNO ₃ : HN
H ₂ SO ₄ : H ₂	NaOH: Na
H ₃ PO ₄ : HP	
NaHSO ₄ : NABIS	
Na ₂ S ₂ O ₃ : NaSO ₃	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

Sample Comments
Incident #:
nAR1628728258
Cost Center:
1140121001

Total	200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471		

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
meares	Sumner	Sumner	Sumner	2/15 1630
3				4
5				6

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6201-1

SDG Number: 03C1558232

Login Number: 6201

List Source: Eurofins Carlsbad

List Number: 1

Creator: Bruns, Shannon

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6201-1

SDG Number: 03C1558232

Login Number: 6201
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/19/24 08:27 AM

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



APPENDIX D

Photographic Logs



Photographic Log

XTO Energy, Inc
PL CVX JV RR #006H
nAB1628728258



Photograph 1 Date: 2/14/2024
Description: Before Excavation
View: East



Photograph 2 Date: 2/14/2024
Description: Before Excavation
View: Northeast



Photograph 3 Date: 2/14/2024
Description: Delineation
View: East



Photograph 4 Date: 2/14/2024
Description: Excavation
View: East



Photographic Log

XTO Energy, Inc
PL CVX JV RR #006H
nAB1628728258



Photograph 5
Description: Excavation
View: West

Date: 2/15/2024



Photograph 6
Description: Excavation
View: South

Date: 2/15/2024



Photograph 7
Description: Excavation
View: Southeast

Date: 2/15/2024



Photograph 8
Description: Excavation
View: Northeast

Date: 2/15/2024

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

QUESTIONS

Action 431886

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431886
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAB1628728258
Incident Name	NAB1628728258 POKER LAKE CVX JV RR #006H @ 30-015-40580
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-015-40580] POKER LAKE CVX JV RR #006H

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	POKER LAKE CVX JV RR #006H
Date Release Discovered	10/10/2016
Surface Owner	Federal

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

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Cause: Equipment Failure Other (Specify) Crude Oil Released: 13 BBL Recovered: 10 BBL Lost: 3 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Other (Specify) Produced Water Released: 25 BBL Recovered: 15 BBL Lost: 10 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
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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Action 431886

QUESTIONS (continued)

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QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/13/2025
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QUESTIONS, Page 3

Action 431886

QUESTIONS (continued)

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QUESTIONS

Site Characterization	
<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	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 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 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
<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
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	5410
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	689
GRO+DRO (EPA SW-846 Method 8015M)	583
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	01/14/2019
On what date will (or did) the final sampling or liner inspection occur	02/15/2024
On what date will (or was) the remediation complete(d)	02/15/2024
What is the estimated surface area (in square feet) that will be reclaimed	2752
What is the estimated volume (in cubic yards) that will be reclaimed	410
What is the estimated surface area (in square feet) that will be remediated	2752
What is the estimated volume (in cubic yards) that will be remediated	410
<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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Action 431886

QUESTIONS (continued)

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QUESTIONS

Remediation Plan (continued)	
<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>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	HALFWAY DISPOSAL AND LANDFILL [FEEM0112334510]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<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: 02/14/2025
<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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Action 431886

QUESTIONS (continued)

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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 431886

QUESTIONS (continued)

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	315059
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	02/15/2024
What was the (estimated) number of samples that were to be gathered	30
What was the sampling surface area in square feet	5000

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	2752
What was the total volume (cubic yards) remediated	410
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	2752
What was the total volume (in cubic yards) reclaimed	410
Summarize any additional remediation activities not included by answers (above)	The final 2024 excavation extent measured approximately 2,752 square feet. A total of approximately 410 cubic yards of impacted soil was removed during the February 2024 excavation activities. Laboratory analytical results for the excavation floor soil samples and sidewall soil samples, collected at depths ranging from ground surface to 4 feet bgs indicated that all COC concentrations were compliant with the Closure Criteria and reclamation requirement applied in the top 4 feet. Site assessment and excavation activities were completed at the Site to address the waste-containing soil observed at the Site in the top 4 feet in response to the 2023 Addendum denial.

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 02/14/2025
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QUESTIONS (continued)

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QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 431886

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation closure approved.	2/27/2025
amaxwell	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	2/27/2025
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the 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; and a revegetation plan.	2/27/2025