

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	NRM2021846438
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

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


State of New Mexico
Oil Conservation Division

Incident ID	NRM2021846438
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature:  _____	Date: <u>7-31-20</u>
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>8/5/2020</u>

NRM2021846438

Location:	PLU CVX JV BS 013	
Spill Date:	7/18/2020	
Area 1		
Approximate Area =	270.00	sq. ft.
Average Saturation (or depth) of spill =	48.00	inches
Average Porosity Factor =	0.20	
VOLUME OF LEAK		
Total Crude Oil =	6.23	bbls
Total Produced Water =	32.72	bbls
Area 2		
Approximate Area =	380.00	sq. ft.
Average Saturation (or depth) of spill =	5.00	inches
Average Porosity Factor =	0.20	
VOLUME OF LEAK		
Total Crude Oil =	0.90	bbls
Total Produced Water =	4.74	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	7.13	bbls
Total Produced Water =	37.46	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =	0.08	bbls
Total Produced Water =	0.40	bbls

Incident ID	NRM2021846438
District RP	
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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NRM2021846438
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E SupervisorSignature:  Date: 01/12/2021email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**

Received by: _____ Date: _____

Incident ID	NRM2021846438
District RP	
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: 01/12/2021

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: _____



WSP USA

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 13, 2021

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

**RE: Closure Request
PLU CVX JV BS 013
Incident Number NRM2021846438
Eddy County, New Mexico**

To Whom it May Concern:

WSP USA, Inc. (WSP, formerly LT Environmental, Inc.), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and excavation activities at the Poker Lake Unit (PLU) CVX JV BS 013 (Site) in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following a release of produced water and crude oil at the Site. Based on the excavation activities and results of the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting no further action (NFA) for Incident Number NRM2021846438.

RELEASE BACKGROUND

On July 18, 2020, external corrosion of a buried flow line resulted in the release of approximately 37.46 bbls (barrels) of produced water and 7.13 bbls of crude oil onto the surrounding pasture area west of the well pad. A vacuum truck was dispatched to the Site to recover the free-standing fluid; approximately 0.4 bbls of produced water and 0.08 bbls of crude oil were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on July 18, 2020 and subsequently submitted a Release Notification and Corrective Action Form C-141 (Form C-141) on July 31, 2020. The release was assigned Incident Number NRM2021846438.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320956103503001, located approximately 1.2 miles south-southwest of the Site. The



groundwater well has a depth to groundwater of 446 feet bgs and a total depth of 480 feet bgs. Ground surface elevation at the groundwater well location is 3,410 feet above mean sea level (amsl), which is approximately 46 feet lower in elevation than the Site.

During November 2020, in an effort to confirm depth to water in the area, a borehole (C-4484) was advanced to a depth of 110 feet bgs via truck-mounted hollow stem auger. The borehole was located approximately 0.12 miles northeast of the Site. The location of borehole BH01 (C-4484) is provided on Figure 1. A WSP geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Attachment 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. On November 23, 2020, after the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned utilizing hydrated bentonite chips.

In addition, during October 2020, a borehole (BH02) was advanced to a depth of 110 feet bgs via truck-mounted hollow stem auger with no water observed during drilling or within 72 hours after drilling. The borehole was located approximately 0.55 miles north of the Site. The location of the borehole BH02 is provided on Figure 1. An LTE geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Attachment 1. The borehole was properly abandoned utilizing hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Attachment 2.

The closest continuously flowing water or significant watercourse to the Site is an intermittent stream, located approximately 1.2 miles west-southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

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



A Reclamation Standard of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet the pasture area that was 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.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On July 28, 2020, LTE personnel evaluated the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected four preliminary soil samples (SS01 through SS04) within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO and TPH-DRO, TPH-oil range organics (ORO) following EPA Method 8015M/D, and chloride following EPA Method 300.0.

Based on the laboratory analytical results for preliminary soil samples SS01 through SS04, excavation of impacted soil was required. Photographic documentation was conducted during the Site visit. A photographic log is included in Attachment 3. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, excavation activities were warranted.

EXCAVATION SOIL SAMPLING ACTIVITIES

Between October 6, 2020 and November 4, 2020, WSP personnel returned to the Site to oversee excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples. Excavation activities were performed using a vacuum truck, a track-mounted backhoe, and related transport equipment. The excavation occurred in the impacted pasture area west of the well pad, along a pipeline right-of-way. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively.

Following removal of impacted soil, WSP 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 placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. A total of 11 composite floor soil samples (FS01



through FS11) were collected from the floor of the excavation from depths ranging from 3 feet to 4 feet bgs. A total of 12 sidewall samples (SW01 through SW12) were collected from the sidewalls of the excavation from depths ranging from the ground surface to 4 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and final excavation soil sample locations are presented on Figure 3.

The excavation measured approximately 1,975 square feet. A total of approximately 295 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico. After completion of confirmation soil sampling, the excavation was secured with fencing.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated that TPH-GRO/TPH-DRO, TPH, and chloride concentrations exceeded the Closure Criteria or Reclamation Standard. Based on laboratory analytical results for the preliminary soil samples, excavation of impacted soil was conducted.

Laboratory analytical results for excavation sidewall sample SW04 indicated that chloride concentrations initially exceeded the Reclamation Standard applied to the top four feet of the subsurface in the pasture. Additional soil was removed from the area around sidewall sample SW04 and subsequent sidewall sample SW12 was collected. At the completion of excavation activities, all floor samples (FS01 through FS11) and final sidewall samples SW01, SW02, SW03, and SW05 through SW12 were compliant with Closure Criteria. In addition, confirmation samples collected in the top four feet of pasture areas were compliant with the Reclamation Standard. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted to address the July 18, 2020, release of produced water and crude oil at the Site. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, soil samples collected in the pasture from the top four feet of the subsurface were compliant with the Reclamation Standard requiring no waste-containing material in the top 4 feet of the subsurface. Based on the excavation soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. The pasture excavation will be re-seeded with an approved BLM seed mixture.

District II
Page 5

Initial response efforts, which included removal of free-standing fluids via hydrovac and excavation of impacted soil have mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. WSP and XTO believe these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests no further action for Incident Number NRM2021846438.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

WSP USA Inc.

A handwritten signature in black ink that reads 'Elizabeth Naka'.

Elizabeth Naka
Assistant Consultant, Environmental Scientist

A handwritten signature in black ink that reads 'Ashley L. Ager'.

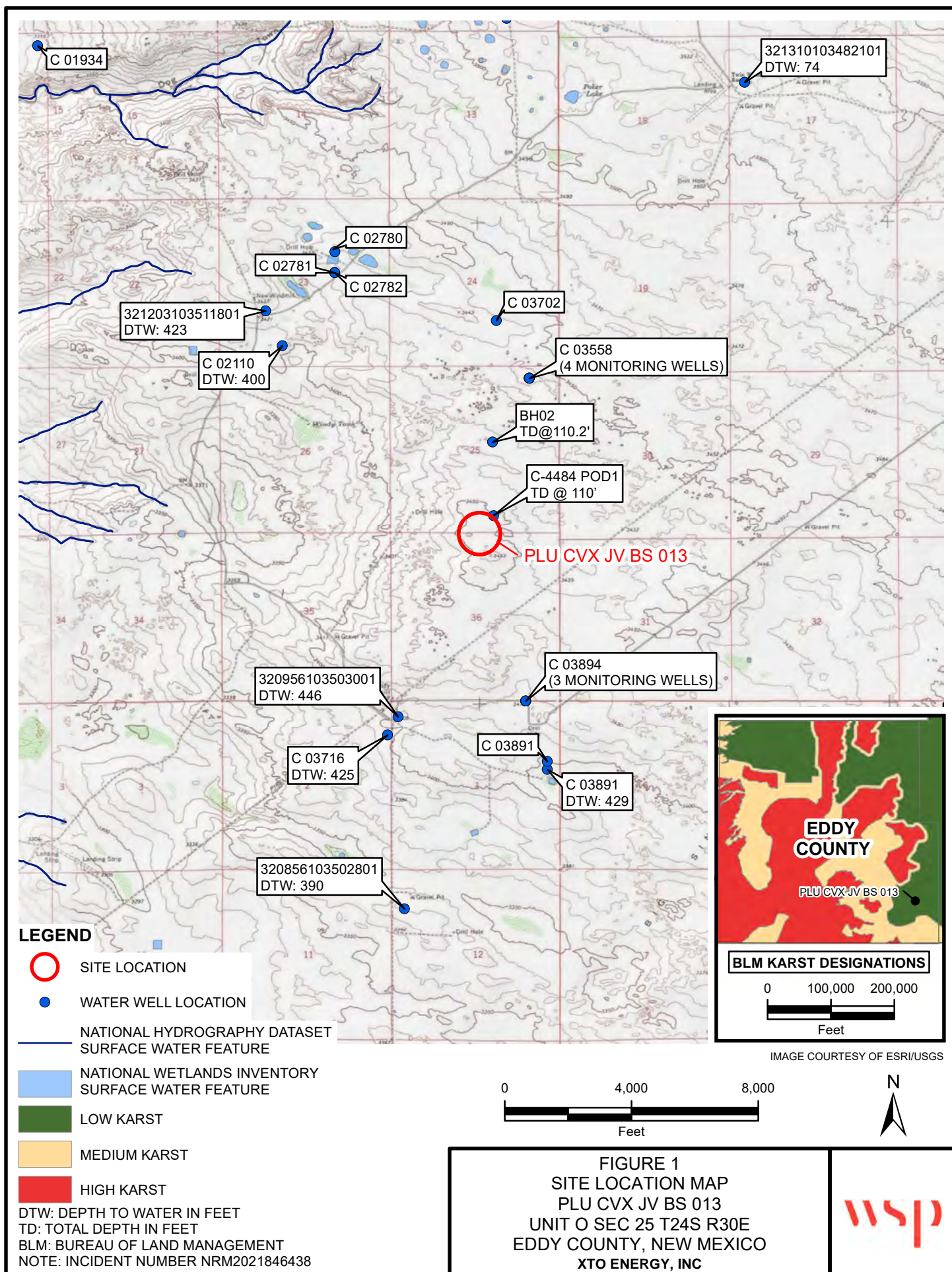
Ashley L. Ager, P.G.
Managing Director, Geologist

cc: Kyle Littrell, XTO
Bureau of Land Management

Attachments:

Figure 1 Site Location Map
Figure 2 Preliminary Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Lithologic/Soil Sampling Log
Attachment 2 Referenced Well Records
Attachment 3 Photographic Log
Attachment 4 Laboratory Analytical Reports

FIGURES



**LEGEND**

- X** RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- GAS LINE
- WATER LINE
- RELEASE EXTENT

NOTE: INCIDENT NUMBER NRM2021846438
 SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

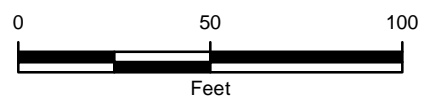


IMAGE COURTESY OF ESRI



FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
 PLU CVX JV BS 013
 UNIT O SEC 25 T24S R30E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012920112_PLU CVX JV BS 013\012920112_FIG02_PRELIMINARY_2020.mxd

**LEGEND**

RELEASE LOCATION

SIDEWALL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIASIDEWALL SAMPLE WITH CONCENTRATIONS
PREVIOUSLY EXCEEDING APPLICABLE CLOSURE
CRITERIA AND HAS BEEN EXCAVATEDFLOOR SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

— GAS LINE

— WATER LINE



EXCAVATION EXTENT

TEXT: INDICATES SOIL REPRESENTED BY SAMPLE
THAT WAS REMOVED

NOTE: INCIDENT NUMBER NRM2021846438

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

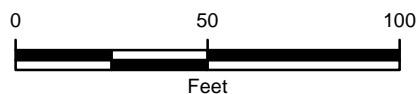


FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
 PLU CVX JV BS 013
 UNIT O SEC 25 T24S R30E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



TABLES

Table 1

Soil Analytical Results
PLU CVX JV BS 013
Incident Number NRM2021846438
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	0.5	07/28/2020	0.405	87.4	1,890	19,800	1,570	21,700	23,300	4,830*
SS02	0.5	07/28/2020	<0.199	4.30	257	29,800	3,850	30,100	33,900	6,330*
SS03	0.5	07/28/2020	<0.0204	<0.0204	<249	17,900	2,470	17,900	20,400	10,300*
SS04	0.5	07/28/2020	<0.0208	3.57	686	48,900	6,700	49,600	56,300	10,300*
Excavation Floor Samples										
FS01	3	10/19/2020	<0.00200	<0.00200	<50.2	77	<50.2	77	77	155*
FS02	3	10/19/2020	<0.00202	<0.00202	<50.0	99	<50.0	99	99	520*
FS03	4	10/19/2020	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	6,680
FS04	4	10/20/2020	<0.00198	<0.00198	<50.0	128	<50.0	128	128	7,460
FS05	4	10/20/2020	<0.00200	<0.00200	<49.8	113	<49.8	113	113	226
FS06	4	10/20/2020	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	149
FS07	4	10/20/2020	<0.00200	<0.00200	<50.0	824	82.1	824	906	3,730
FS08	4	10/20/2020	<0.00200	<0.00200	<50.3	523	59.3	523	582	4,060
FS09	4	10/20/2020	0.00296	0.743	64.1	900	81.7	964	1,050	1,170
FS10	4	10/20/2020	<0.00200	0.00961	<50.1	325	<50.1	325	325	414
FS11	4	10/20/2020	<0.00201	0.00963	<50.2	73.4	<50.2	73.4	73.4	159
Excavation Sidewall Samples										
SW01	0 - 3	10/19/2020	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	10.5*
SW02	0 - 4	10/19/2020	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	79.8*
SW03	0 - 4	10/20/2020	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	151*

Table 1

Soil Analytical Results
 PLU CVX JV BS 013
 Incident Number NRM2021846438
 Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
SW04	0 - 4	10/20/2020	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	808*
SW05	0 - 4	10/20/2020	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	50.1*
SW06	0 - 4	10/20/2020	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	87.5*
SW07	0 - 4	10/20/2020	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	23.6*
SW08	0 - 4	10/20/2020	<0.00200	0.00840	<50.2	<50.2	<50.2	<50.2	<50.2	15.9*
SW09	0 - 4	10/20/2020	<0.00201	0.0174	<50.2	<50.2	<50.2	<50.2	<50.2	16.3*
SW10	0 - 3	10/20/2020	<0.00201	0.0142	<50.2	<50.2	<50.2	<50.2	<50.2	24.1*
SW11	0 - 3	10/20/2020	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	35.6*
SW12	0 - 4	11/04/2020	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	44.7*

ft - feet/foot

mg/kg - milligrams per kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

ORO - motor oil range organics

NMOCD - New Mexico Oil Conservation Division

NMAC - New Mexico Administrative Code

< - indicates result is less than the stated laboratory method practical quantitation limit

NE - Not Established



BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard

Text

 indicates soil impacts have been excavated

* - indicates sample was collected in area to be reclaimed after remediation activities

ATTACHMENT 1: LITHOLOGIC/SOIL SAMPLING LOG

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220								BH or PH Name: BH01		Date: 11/19/2020-11/21/2020	
Site Name: PLU DTD #36 SWD								RP or Incident Number: NVV2003155809			
LTE Job Number: TE012920015											
LITHOLOGIC / SOIL SAMPLING LOG								Logged By BB		Method: H.S.A	
Lat/Long: 32.183072,-103.831961				Field Screening:				Hole Diameter: 6.25'		Total Depth: 110'	
Comments:											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
D						0	SP-SC	SAND, dry, reddish-brown, fine grained, poorly graded, no stain, no odor			
M						4	CCHE	CALICHE, moist, off-white-pink, well consolidated, sharp transition, no stain, no odor			
						10					
						20					
						30					
						34	SM-S				
M						40					
						50					
						60					
						70					
						80					
						90					
						100					
						110					
								Total depth 110 feet bgs			

ATTACHMENT 2: REFERENCED WELL RECORD



LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220

A proud member
of WSP

Compliance · Engineering · Remediation

BH or MW Name:

BH02

Date:

10/7/20

Site Name: PLU 89

RP or Incident Number: NRM2023138718

LTE Job Number: 012920120

Logged By: HIM

Method: HSA

Lat/Long: 32.189487,
-103.832394

Field Screening:
Chloride, PID


Hole Diameter:
8 1/4"

Total Depth: 110', 4
Depth to Water:


Backfill or Well Construction Materials / Comments:


in pasture, approximately 1.5-2' lower than BH01, due West of BH01

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
0			~		0	0	SP-SC	0-3' Sand, Fine grain, poorly graded, Rd/Br, few clay, No stain, No odor, moist,	
M			~		1	1			
					2	2			
M			~		3	3			
					4	4	GW-GC	3'-5' Gravel, 2 mil-30 mil, well graded, few clay, No stain, No odor	
M			~		5	5			
					6	6	CCHE	5'-13' Caliche, Tan/Br, Mod. consolidated, some gravel (5 mil, -20 mil), No stain, No odor, moist	
					7	7			
					8	8			
					9	9			
					10	10			
					11	11			
					12	12			
					13	13			
M			~		14	14	SW-SM	13' Sand, Fine, grain, well graded, Tan/Rd, some silt, No stain, No odor, moist.	
					15	15		-gravel (2 mil-5 mil)	
					16	16			
					17	17			
					18	18			
					19	19			
					20	20			
					21	21			
					22	22			
					23	23			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or MW Name: BH02		Date: 10/17/20					
		Site Name: PLU89							
RP or Incident Number: NRM2023138718									
LTE Job Number: 612920120									
LITHOLOGIC / SOIL SAMPLING LOG			Logged By: H/M		Method: HSA				
Lat/Long:		Field Screening: Chloride, PID		Hole Diameter: 8 1/4"	Total Depth: 110' A Depth to Water:				
Backfill or Well Construction Materials / Comments:									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
D			N		24'		SW-SM	14'-44' Sand, Fine grain, well graded, Tan/Bc, some silt, NO stain, NO odor, DRY - gravel few (2-5mm)	
					25				
					26				
M			N		27			24' - increase in grain size to medium	
					28			color shift to Almond Brown	
					29				
					30			- large caliche stone surfaced	
					31			very consolidated, gravel imbedded, tan/off white	
					32		SW-SM		
M			N		33				
					34			34' - increase in grain size to large	
					35			color shift to Dark Brown	
					36			- Sand beginning to clump together	
					37			when emerging from BH, (silt band)	
					38			- No more gravel	
					39				
					40				
M			N		41				
					42				
					43				
M			N		44			44' - 110' Sand, Fine grain, well graded, Bc/Tan, some clay, non-cohesive, very low plus, NO stain, NO odor, moist	
					45		SW-SC		
					46				
					47				


-D
74'

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or MW Name: <u>BH02</u> Date: <u>10/2/20</u>							
Site Name: <u>PLU 89</u> RP or Incident Number: <u>NRM2023138718</u> LTE Job Number: <u>012920120</u>		Logged By: <u>WM</u> Method: <u>HSA</u>							
Lat/Long: _____ Field Screening: _____ Chloride, PID _____		Hole Diameter: <u>8 1/4"</u> Total Depth: <u>110' 4"</u> Depth to Water: _____							
Backfill or Well Construction Materials / Comments: _____									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
M			N		48	48	SW-SC	44'-70' Sand, Fine grain, Well graded, Brittle, some clay, noncohesive, very low plas, no stain, no odor, moist. - Sand clumping on exit - Small (0.5mil) caliche pieces found likely pulverized by Auger (Trace)	
					50				
					51				
					52				
M			N		53				
					54				
					55				
					56				
					57				
M			N		58				
					59				
					60				
					61		SW-SC		
					62				
M			N		63				
					64			64' - increase frequency of caliche pieces to few	
					65				
					66				
					67				
					68				
					69				
M			N		70		SW-SC	70' grain size increase to large	
					71				
					72				

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or MW Name: BH02		Date: 10/7/20	
		Site Name: PLU89		RP or Incident Number: NRM2023138718	
LITHOLOGIC / SOIL SAMPLING LOG		LTE Job Number: 012920120		Logged By: NM	
Lat/Long:		Field Screening: Chloride, PID		Hole Diameter: 8 1/4"	
Backfill or Well Construction Materials / Comments:				Method: HSA	
				Total Depth: 110'4"	
				Depth to Water:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
M			N		73	73	SW-SC	44'- Sand, large grain, well graded, Brittan, some clay, non-cohesive, very low plas, no stain, no odor, moist.	
					74				
					75				
					76				
					77			- clumping on exit	
					78			- Caliche fragments present (few)	
					79				
M			N		80		SW-SC		
					81				
					82				
					83				
M			N		84				
					85				
					86				
					87				
					88				
					89				
M			N		90*			Restart Bit 10/8/20 @	
					91		SW-SC		
					92				
					93				
					94				
M			N		95				
					96				

* 10/7/20 stopped @ 1615

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 A proud member of WSP Compliance · Engineering · Remediation		BH or MW Name: BH02		Date: 10/8/20					
		Site Name: PLU89							
		RP or Incident Number: NRM202313878							
		LTE Job Number: 012920120							
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: JM		Method: HSA					
Lat/Long:	Field Screening:	Hole Diameter: 8 1/4"	Total Depth: 110'4"						
	Chloride, PID	Depth to Water:							
Backfill or Well Construction Materials / Comments:									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks	Backfill / Well Completion
M			~		97	97	SW-SC	44'-110' SAND, large grain, well graded, Br/Tan, some clay, non-cohesive, very low PLAS, no stain, no odor, moist • clumping on exit • Caliche Fragments present	
					98	98			
M			~		99	99			
					100	100			
					101	101			
					102	102			
					103	103			
					104	104			
					105	105			
					106	106			
M			~		107	107	SW-SC		
					108	108			
					109	109			
					110	110			
					TO @ 110'4" installing 30' screen 8" Riser 2" diameter 10 slot screen				



USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Site Information ▾

Geographic Area:

United States ▾

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

USGS 320956103503001 24S.30E.36.33333

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▾

GO

Well Site

DESCRIPTION:

Latitude 32°09'56", Longitude 103°50'30" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 480 feet
Land surface altitude: 3,408 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-08-19	1987-10-15	4
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

[Questions about sites/data?](#)
[Feedback on this web site](#)

[Automated retrievals](#)

[Help](#)

[Data Tips](#)

[Explanation of terms](#)

[Subscribe for system changes](#)

[News](#)

[Accessibility](#)

[Plug-Ins](#)

[FOIA](#)

[Privacy](#)

[Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)



Title: NWIS Site Information for USA: Site Inventory

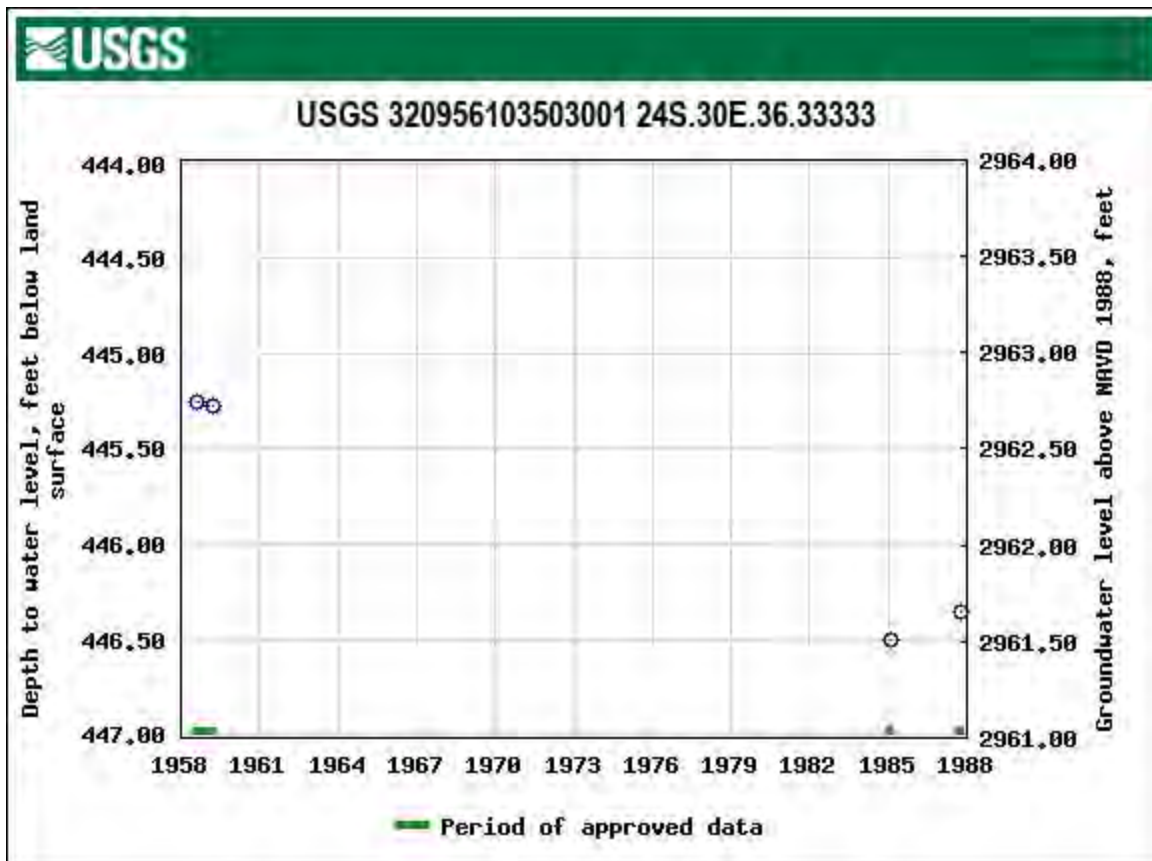
URL: [https://waterdata.usgs.gov/nwis/inventory?](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=320956103503001)

[agency_code=USGS&site_no=320956103503001](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=320956103503001)

Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2020-07-29 16:41:18 EDT

0.35 0.33 caww01





USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:Groundwater

Geographic Area:United States

GO

Click to hideNews Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 321203103511801

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 321203103511801 24S.30E.23.3124143

Eddy County, New Mexico
Latitude 32°12'03", Longitude 103°51'18" NAD27
Land-surface elevation 3,423 feet above NAVD88
The depth of the well is 474 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data

Tab-separated data

Graph of data

Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measurement
1959-03-26			D	72019	423.10				U	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	72019	Depth to water level, feet below land surface
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

- [Questions about sites/data?](#)
[Feedback on this web site](#)
[Automated retrievals](#)
[Help](#)
[Data Tips](#)
[Explanation of terms](#)

[Subscribe for system changes](#)
[News](#)

[Accessibility](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)


Page Last Modified: 2021-01-08 18:49:51 EST

0.67 0.3 nadww01



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)				(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y		
C	03716 POD1	4	2	2	02	25S	30E	609069	3559211		

X

Driller License:	1229	Driller Company:	CARTER'S WELL DRILLING								
Driller Name:	RICHARD CARTER										
Drill Start Date:	02/05/2014	Drill Finish Date:	03/03/2014					Plug Date:			
Log File Date:	03/12/2014	PCW Rev Date:						Source:	Shallow		
Pump Type:		Pipe Discharge Size:						Estimated Yield:	50 GPM		
Casing Size:		Depth Well:	600 feet					Depth Water:	425 feet		

X

Water Bearing Stratifications:	Top	Bottom	Description
	442	600	Sandstone/Gravel/Conglomerate

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/8/21 4:43 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)	
		(quarters are smallest to largest)				X	Y
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng
C	02110	4	3	23	24S	30E	608036 3562950*

Driller License:		Driller Company:	
Driller Name: UNKNOWN			
Drill Start Date:		Drill Finish Date:	12/31/1967
Log File Date:		PCW Rcv Date:	Plug Date:
Pump Type:		Pipe Discharge Size:	Estimated Yield: 15 GPM
Casing Size:	7.00	Depth Well:	600 feet
		Depth Water:	400 feet

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG		
XTO Energy	PLU CVX JV BS 013 Eddy County, New Mexico	012920112 NRM2021846438



Photo No.	Date	
1	July 28, 2020	
View of staining in pasture along pipeline right of way facing East.		

Photo No.	Date	
2	July 28, 2020	
View of staining in pasture along pipeline right of way facing North.		



PHOTOGRAPHIC LOG		
XTO Energy	PLU CVX JV BS 013 Eddy County, New Mexico	012920112 NRM2021846438



Photo No.	Date	
3	July 27, 2020	
View of exposed point of release in pasture facing North.		

Photo No.	Date	
4	October 10, 2020	
View of excavation and exposed pipeline facing North.		

**PHOTOGRAPHIC LOG****XTO Energy****PLU CVX JV BS 013
Eddy County, New Mexico****012920112
NRM2021846438**


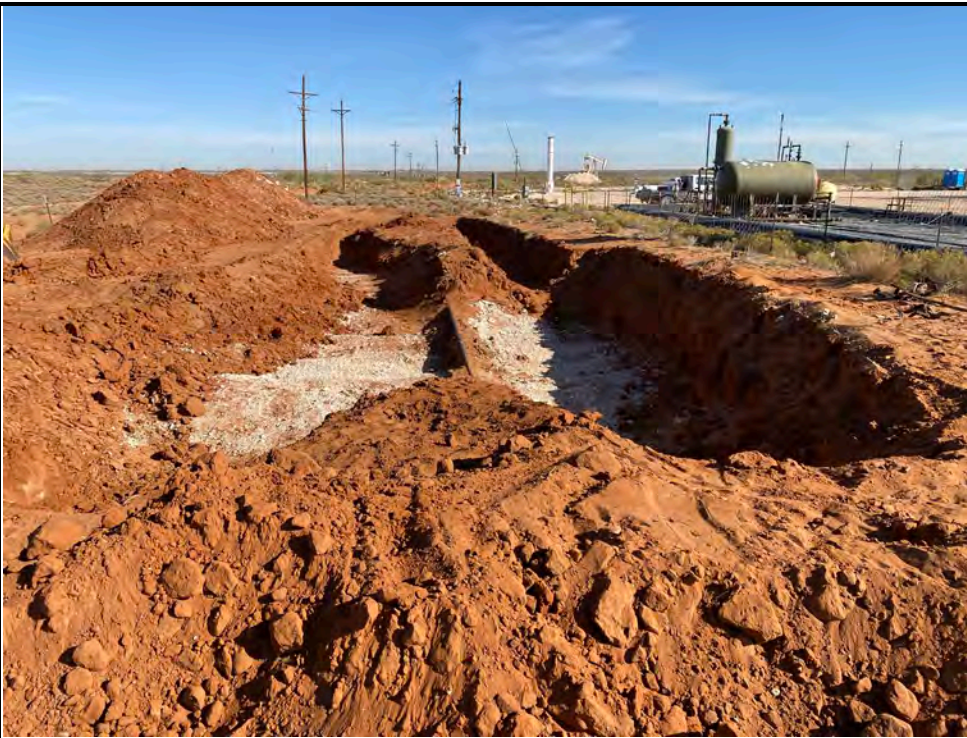
Photo No.	Date	
5	November 4, 2020	
View of further excavation to remediate failing SW04 sample		 A photograph showing a large, deep excavation pit in a dry, arid landscape. The soil is reddish-brown and rocky. In the background, there are industrial structures, including a large green storage tank and various pipes and valves. A white pickup truck is parked near the excavation.

Photo No.	Date	
6	November 4, 2020	
View of excavation extent facing North during remediation activities.		 A photograph showing a wide view of the excavation site from a distance. The excavation is a large, irregular pit filled with reddish-brown soil and rocks. In the background, there are several tall utility poles and a large green storage tank. The sky is clear and blue.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

Certificate of Analysis Summary 668370

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV BS 013

Project Id: 012920112
 Contact: Kalei Jennings
 Project Location:

Date Received in Lab: Tue 07.28.2020 11:35
 Report Date: 07.30.2020 10:08
 Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	668370-001	668370-002	668370-003	668370-004		
	Field Id:	SS01	SS02	SS03	SS04		
	Depth:	0.5- ft	0.5- ft	0.5- ft	0.5- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	07.28.2020 09:52	07.28.2020 09:56	07.28.2020 10:00	07.28.2020 10:05		
BTEX by EPA 8021B	Extracted:	07.28.2020 13:11	07.28.2020 13:11	07.28.2020 13:11	07.28.2020 13:11		
	Analyzed:	07.28.2020 17:55	07.29.2020 10:20	07.28.2020 19:13	07.28.2020 19:35		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		0.405 0.401	<0.199 0.199	<0.0204 0.0204	<0.0208 0.0208		
Toluene		11.1 0.401	<0.199 0.199	<0.0204 0.0204	0.0993 0.0208		
Ethylbenzene		9.93 0.401	0.383 0.199	<0.0204 0.0204	0.512 0.0208		
m,p-Xylenes		48.2 0.802	2.65 0.398	<0.0408 0.0408	2.21 0.0417		
o-Xylene		17.8 0.401	1.27 0.199	<0.0204 0.0204	0.744 0.0208		
Total Xylenes		66.0 0.401	3.92 0.199	<0.0204 0.0204	2.95 0.0208		
Total BTEX		87.4 0.401	4.30 0.199	<0.0204 0.0204	3.57 0.0208		
Chloride by EPA 300	Extracted:	07.28.2020 15:00	07.28.2020 15:00	07.28.2020 15:00	07.28.2020 15:00		
	Analyzed:	07.28.2020 17:43	07.28.2020 18:04	07.28.2020 18:11	07.28.2020 18:18		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		4830 49.7	6330 50.3	10300 50.5	10300 101		
TPH by SW8015 Mod	Extracted:	07.28.2020 17:15	07.28.2020 17:15	07.28.2020 17:15	07.28.2020 17:15		
	Analyzed:	07.29.2020 02:13	07.29.2020 16:38	07.29.2020 02:54	07.29.2020 03:14		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		1890 250	257 151	<249 249	686 502		
Diesel Range Organics (DRO)		19800 250	29800 503	17900 249	48900 502		
Motor Oil Range Hydrocarbons (MRO)		1570 250	3850 503	2470 249	6700 502		
Total GRO-DRO		21700 250	30100 151	17900 249	49600 502		
Total TPH		23300 250	33900 151	20400 249	56300 502		

BRL - Below Reporting Limit

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





Analytical Report 668370

for

LT Environmental, Inc.

Project Manager: Kalei Jennings

PLU CVX JV BS 013

012920112

07.30.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



07.30.2020

Project Manager: **Kalei Jennings**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **668370**

PLU CVX JV BS 013

Project Address:

Kalei Jennings:

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 Eurofins Xenco, LLC Report Number(s) 668370. 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 Eurofins Xenco, LLC. 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. 668370 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 668370****LT Environmental, Inc., Arvada, CO**

PLU CVX JV BS 013

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	07.28.2020 09:52	0.5 ft	668370-001
SS02	S	07.28.2020 09:56	0.5 ft	668370-002
SS03	S	07.28.2020 10:00	0.5 ft	668370-003
SS04	S	07.28.2020 10:05	0.5 ft	668370-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU CVX JV BS 013

Project ID: 012920112
Work Order Number(s): 668370

Report Date: 07.30.2020
Date Received: 07.28.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS01** Matrix: Soil Date Received: 07.28.2020 11:35
 Lab Sample Id: 668370-001 Date Collected: 07.28.2020 09:52 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.28.2020 15:00 Basis: Wet Weight
 Seq Number: 3132882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4830	49.7	mg/kg	07.28.2020 17:43		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.28.2020 17:15 Basis: Wet Weight
 Seq Number: 3132887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1890	250	mg/kg	07.29.2020 02:13		5
Diesel Range Organics (DRO)	C10C28DRO	19800	250	mg/kg	07.29.2020 02:13		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1570	250	mg/kg	07.29.2020 02:13		5
Total GRO-DRO	PHC628	21700	250	mg/kg	07.29.2020 02:13		5
Total TPH	PHC635	23300	250	mg/kg	07.29.2020 02:13		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.29.2020 02:13	
o-Terphenyl	84-15-1	107	%	70-135	07.29.2020 02:13	



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS01**
Lab Sample Id: 668370-001

Matrix: Soil
Date Collected: 07.28.2020 09:52

Date Received: 07.28.2020 11:35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.28.2020 13:11

Basis: Wet Weight

Seq Number: 3132886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.405	0.401	mg/kg	07.28.2020 17:55		200
Toluene	108-88-3	11.1	0.401	mg/kg	07.28.2020 17:55		200
Ethylbenzene	100-41-4	9.93	0.401	mg/kg	07.28.2020 17:55		200
m,p-Xylenes	179601-23-1	48.2	0.802	mg/kg	07.28.2020 17:55		200
o-Xylene	95-47-6	17.8	0.401	mg/kg	07.28.2020 17:55		200
Total Xylenes	1330-20-7	66.0	0.401	mg/kg	07.28.2020 17:55		200
Total BTEX		87.4	0.401	mg/kg	07.28.2020 17:55		200
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.28.2020 17:55		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.28.2020 17:55		



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS02** Matrix: Soil Date Received: 07.28.2020 11:35
 Lab Sample Id: 668370-002 Date Collected: 07.28.2020 09:56 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.28.2020 15:00 Basis: Wet Weight
 Seq Number: 3132882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6330	50.3	mg/kg	07.28.2020 18:04		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.28.2020 17:15 Basis: Wet Weight
 Seq Number: 3132887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	257	151	mg/kg	07.29.2020 16:38		10
Diesel Range Organics (DRO)	C10C28DRO	29800	503	mg/kg	07.29.2020 16:38		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	3850	503	mg/kg	07.29.2020 16:38		10
Total GRO-DRO	PHC628	30100	151	mg/kg	07.29.2020 16:38		10
Total TPH	PHC635	33900	151	mg/kg	07.29.2020 16:38		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	07.29.2020 16:38	
o-Terphenyl	84-15-1	104	%	70-135	07.29.2020 16:38	



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS02**
Lab Sample Id: 668370-002

Matrix: Soil
Date Collected: 07.28.2020 09:56

Date Received: 07.28.2020 11:35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.28.2020 13:11

Basis: Wet Weight

Seq Number: 3132886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.199	0.199	mg/kg	07.29.2020 10:20	U	100
Toluene	108-88-3	<0.199	0.199	mg/kg	07.29.2020 10:20	U	100
Ethylbenzene	100-41-4	0.383	0.199	mg/kg	07.29.2020 10:20		100
m,p-Xylenes	179601-23-1	2.65	0.398	mg/kg	07.29.2020 10:20		100
o-Xylene	95-47-6	1.27	0.199	mg/kg	07.29.2020 10:20		100
Total Xylenes	1330-20-7	3.92	0.199	mg/kg	07.29.2020 10:20		100
Total BTEX		4.30	0.199	mg/kg	07.29.2020 10:20		100
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.29.2020 10:20		
4-Bromofluorobenzene	460-00-4	96	%	70-130	07.29.2020 10:20		



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS03** Matrix: Soil Date Received: 07.28.2020 11:35
 Lab Sample Id: 668370-003 Date Collected: 07.28.2020 10:00 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.28.2020 15:00 Basis: Wet Weight
 Seq Number: 3132882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	50.5	mg/kg	07.28.2020 18:11		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.28.2020 17:15 Basis: Wet Weight
 Seq Number: 3132887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<249	249	mg/kg	07.29.2020 02:54	U	5
Diesel Range Organics (DRO)	C10C28DRO	17900	249	mg/kg	07.29.2020 02:54		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	2470	249	mg/kg	07.29.2020 02:54		5
Total GRO-DRO	PHC628	17900	249	mg/kg	07.29.2020 02:54		5
Total TPH	PHC635	20400	249	mg/kg	07.29.2020 02:54		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.29.2020 02:54	
o-Terphenyl	84-15-1	96	%	70-135	07.29.2020 02:54	



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS03**
Lab Sample Id: 668370-003

Matrix: Soil
Date Collected: 07.28.2020 10:00

Date Received: 07.28.2020 11:35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.28.2020 13:11

Basis: Wet Weight

Seq Number: 3132886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	07.28.2020 19:13	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1
Total BTEX		<0.0204	0.0204	mg/kg	07.28.2020 19:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.28.2020 19:13	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.28.2020 19:13	



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS04** Matrix: Soil Date Received: 07.28.2020 11:35
 Lab Sample Id: 668370-004 Date Collected: 07.28.2020 10:05 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.28.2020 15:00 Basis: Wet Weight
 Seq Number: 3132882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	101	mg/kg	07.28.2020 18:18		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.28.2020 17:15 Basis: Wet Weight
 Seq Number: 3132887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	686	502	mg/kg	07.29.2020 03:14		10
Diesel Range Organics (DRO)	C10C28DRO	48900	502	mg/kg	07.29.2020 03:14		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	6700	502	mg/kg	07.29.2020 03:14		10
Total GRO-DRO	PHC628	49600	502	mg/kg	07.29.2020 03:14		10
Total TPH	PHC635	56300	502	mg/kg	07.29.2020 03:14		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	07.29.2020 03:14	
o-Terphenyl	84-15-1	112	%	70-135	07.29.2020 03:14	



Certificate of Analytical Results 668370

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SS04**
Lab Sample Id: 668370-004

Matrix: Soil
Date Collected: 07.28.2020 10:05

Date Received: 07.28.2020 11:35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.28.2020 13:11

Basis: Wet Weight

Seq Number: 3132886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0208	0.0208	mg/kg	07.28.2020 19:35	U	1
Toluene	108-88-3	0.0993	0.0208	mg/kg	07.28.2020 19:35		1
Ethylbenzene	100-41-4	0.512	0.0208	mg/kg	07.28.2020 19:35		1
m,p-Xylenes	179601-23-1	2.21	0.0417	mg/kg	07.28.2020 19:35		1
o-Xylene	95-47-6	0.744	0.0208	mg/kg	07.28.2020 19:35		1
Total Xylenes	1330-20-7	2.95	0.0208	mg/kg	07.28.2020 19:35		1
Total BTEX		3.57	0.0208	mg/kg	07.28.2020 19:35		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.28.2020 19:35		
4-Bromofluorobenzene	460-00-4	129	%	70-130	07.28.2020 19:35		

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. **ND** Not Detected.

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 BS 013

Analytical Method: Chloride by EPA 300

Seq Number: 3132882

MB Sample Id: 7708217-1-BLK

Matrix: Solid

LCS Sample Id: 7708217-1-BKS

Prep Method: E300P

Date Prep: 07.28.2020

LCSD Sample Id: 7708217-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	269	108	265	106	90-110	1	20	mg/kg	07.28.2020 17:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3132882

Parent Sample Id: 668370-001

Matrix: Soil

MS Sample Id: 668370-001 S

Prep Method: E300P

Date Prep: 07.28.2020

MSD Sample Id: 668370-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4830	201	5020	95	5020	95	90-110	0	20	mg/kg	07.28.2020 17:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3132882

Parent Sample Id: 668435-001

Matrix: Soil

MS Sample Id: 668435-001 S

Prep Method: E300P

Date Prep: 07.28.2020

MSD Sample Id: 668435-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	150	201	362	105	362	105	90-110	0	20	mg/kg	07.28.2020 19:27	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3132887

MB Sample Id: 7708279-1-BLK

Matrix: Solid

LCS Sample Id: 7708279-1-BKS

Prep Method: SW8015P

Date Prep: 07.28.2020

LCSD Sample Id: 7708279-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	966	97	971	97	70-135	1	35	mg/kg	07.28.2020 19:26	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1030	103	70-135	1	35	mg/kg	07.28.2020 19:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		117		117		70-135	%	07.28.2020 19:26
o-Terphenyl	96		103		104		70-135	%	07.28.2020 19:26

Analytical Method: TPH by SW8015 Mod

Seq Number: 3132887

Matrix: Solid

MB Sample Id: 7708279-1-BLK

Prep Method: SW8015P

Date Prep: 07.28.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.28.2020 19:06	

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

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

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
PLU CVX JV BS 013

Analytical Method: TPH by SW8015 Mod

Seq Number: 3132887

Parent Sample Id: 668435-010

Matrix: Soil

MS Sample Id: 668435-010 S

Prep Method: SW8015P

Date Prep: 07.28.2020

MSD Sample Id: 668435-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.3	1010	923	91	939	93	70-135	2	35	mg/kg	07.28.2020 20:27	
Diesel Range Organics (DRO)	<50.3	1010	990	98	993	98	70-135	0	35	mg/kg	07.28.2020 20:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		112		70-135	%	07.28.2020 20:27
o-Terphenyl	87		88		70-135	%	07.28.2020 20:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3132886

MB Sample Id: 7708219-1-BLK

Matrix: Solid

LCS Sample Id: 7708219-1-BKS

Prep Method: SW5035A

Date Prep: 07.28.2020

LCSD Sample Id: 7708219-1-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	0.112	112	0.116	116	70-130	4	35	mg/kg	07.28.2020 13:59	
Toluene	<0.00200	0.100	0.107	107	0.110	110	70-130	3	35	mg/kg	07.28.2020 13:59	
Ethylbenzene	<0.00200	0.100	0.100	100	0.104	104	71-129	4	35	mg/kg	07.28.2020 13:59	
m,p-Xylenes	<0.00400	0.200	0.205	103	0.212	106	70-135	3	35	mg/kg	07.28.2020 13:59	
o-Xylene	<0.00200	0.100	0.0996	100	0.103	103	71-133	3	35	mg/kg	07.28.2020 13:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		99		70-130	%	07.28.2020 13:59
4-Bromofluorobenzene	98		102		101		70-130	%	07.28.2020 13:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3132886

Parent Sample Id: 668117-010

Matrix: Soil

MS Sample Id: 668117-010 S

Prep Method: SW5035A

Date Prep: 07.28.2020

MSD Sample Id: 668117-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.128	128	0.127	127	70-130	1	35	mg/kg	07.28.2020 14:44	
Toluene	<0.00201	0.100	0.122	122	0.121	121	70-130	1	35	mg/kg	07.28.2020 14:44	
Ethylbenzene	<0.00201	0.100	0.115	115	0.114	114	71-129	1	35	mg/kg	07.28.2020 14:44	
m,p-Xylenes	<0.00402	0.201	0.234	116	0.232	116	70-135	1	35	mg/kg	07.28.2020 14:44	
o-Xylene	<0.00201	0.100	0.114	114	0.113	113	71-133	1	35	mg/kg	07.28.2020 14:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		70-130	%	07.28.2020 14:44
4-Bromofluorobenzene	104		104		70-130	%	07.28.2020 14:44

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 508-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

Work Order No: 1608370

Chain of Custody

Project Manager:	<u>Kelie Tennings</u>	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 704-5178	Email:	timorrissey@ltenv.com tcasey@ltenv.com kiennings@ltenv.com

Program: <input checked="" type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project: NM	
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: <input type="checkbox"/>	

Project Name:	<u>PLCUX JV BS 013</u>	Turn Around	<input checked="" type="checkbox"/>
Project Number:	<u>018780112</u>	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	<input type="checkbox"/>
Sampler's Name:	Travis Casey	Due Date:	

SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	<u>2.0/1.8</u>	Thermometer ID
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>TNM007</u>
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor: <u>-0.2</u>
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Containers: <u>4</u>

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)											Sample Comments
5501	S	9/28/20	0952	0.5'	1	X	X	X											Discrete
5502			0956		1	X	X	X											
5503			1000		1	X	X	X											
5504			1005		1	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	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
<u>[Signature]</u>	<u>[Signature]</u>	7/28/20 11:35			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07.28.2020 11.35.00 AM

Work Order #: 668370

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)?	1.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

* 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: 07.28.2020

Checklist reviewed by:



Jessica Kramer

Date: 07.28.2020

Certificate of Analysis Summary 675659

LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV BS 013

Project Id: 012920112

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Wed 10.21.2020 08:50

Report Date: 10.22.2020 16:16

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	675659-001	675659-002	675659-003	675659-004	675659-005	
	Field Id:	SW01	SW02	FS01	FS02	FS03	
	Depth:	0-3 ft	0-4 ft	3- ft	3- ft	4- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	10.19.2020 15:30	10.19.2020 15:35	10.19.2020 15:40	10.19.2020 15:45	10.19.2020 15:50	
BTEX by EPA 8021B	Extracted:	10.21.2020 10:48	10.21.2020 10:48	10.21.2020 10:48	10.21.2020 10:48	10.21.2020 10:48	
	Analyzed:	10.21.2020 13:15	10.21.2020 13:38	10.21.2020 14:00	10.21.2020 14:23	10.21.2020 14:45	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
m,p-Xylenes		<0.00401 0.00401	<0.00400 0.00400	<0.00400 0.00400	<0.00403 0.00403	<0.00403 0.00403	
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	
Chloride by EPA 300	Extracted:	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	
	Analyzed:	10.21.2020 15:43	10.21.2020 16:01	10.21.2020 16:07	10.21.2020 16:13	10.21.2020 16:19	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		10.5 10.0	79.8 9.92	155 9.98	520 9.98	6680 49.5	
Chloride		10.5 10.0	79.8 9.92	155 9.98	520 9.98	6680 49.5	
TPH by SW8015 Mod	Extracted:	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	
	Analyzed:	10.21.2020 12:17	10.21.2020 13:18	10.21.2020 13:38	10.21.2020 13:59	10.21.2020 14:19	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		<49.9 49.9	<49.8 49.8	<50.2 50.2	<50.0 50.0	<50.0 50.0	
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.2 50.2	<50.0 50.0	<50.0 50.0	
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	77.4 50.2	99.4 50.0	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.2 50.2	<50.0 50.0	<50.0 50.0	
Total GRO-DRO		<49.9 49.9	<49.8 49.8	77.4 50.2	99.4 50.0	<50.0 50.0	
Total TPH		<49.9 49.9	<49.8 49.8	77.4 50.2	99.4 50.0	<50.0 50.0	

BRL - Below Reporting Limit

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





Analytical Report 675659

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU CVX JV BS 013

012920112

10.22.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.22.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **675659**

PLU CVX JV BS 013

Project Address: Eddy County

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 Eurofins Xenco, LLC Report Number(s) 675659. 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 Eurofins Xenco, LLC. 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. 675659 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 675659****LT Environmental, Inc., Arvada, CO**

PLU CVX JV BS 013

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	10.19.2020 15:30	0 - 3 ft	675659-001
SW02	S	10.19.2020 15:35	0 - 4 ft	675659-002
FS01	S	10.19.2020 15:40	3 ft	675659-003
FS02	S	10.19.2020 15:45	3 ft	675659-004
FS03	S	10.19.2020 15:50	4 ft	675659-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU CVX JV BS 013

Project ID: 012920112
Work Order Number(s): 675659

Report Date: 10.22.2020
Date Received: 10.21.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW01**
Lab Sample Id: 675659-001

Matrix: Soil
Date Collected: 10.19.2020 15:30

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.5	10.0	mg/kg	10.21.2020 15:43		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.21.2020 12:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.21.2020 12:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.21.2020 12:17	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.21.2020 12:17	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.21.2020 12:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.21.2020 12:17	
o-Terphenyl	84-15-1	100	%	70-135	10.21.2020 12:17	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW01**
Lab Sample Id: 675659-001

Matrix: Soil
Date Collected: 10.19.2020 15:30

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 10:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.21.2020 13:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 13:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	10.21.2020 13:15	
4-Bromofluorobenzene	460-00-4	89	%	70-130	10.21.2020 13:15	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW02** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675659-002 Date Collected: 10.19.2020 15:35 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	79.8	9.92	mg/kg	10.21.2020 16:01		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.21.2020 13:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.21.2020 13:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.21.2020 13:18	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.21.2020 13:18	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.21.2020 13:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	10.21.2020 13:18	
o-Terphenyl	84-15-1	96	%	70-135	10.21.2020 13:18	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW02**
Lab Sample Id: 675659-002

Matrix: Soil
Date Collected: 10.19.2020 15:35

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 10:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.21.2020 13:38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 13:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.21.2020 13:38	
4-Bromofluorobenzene	460-00-4	92	%	70-130	10.21.2020 13:38	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS01** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675659-003 Date Collected: 10.19.2020 15:40 Sample Depth: 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	155	9.98	mg/kg	10.21.2020 16:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 13:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	77.4	50.2	mg/kg	10.21.2020 13:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 13:38	U	1
Total GRO-DRO	PHC628	77.4	50.2	mg/kg	10.21.2020 13:38		1
Total TPH	PHC635	77.4	50.2	mg/kg	10.21.2020 13:38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.21.2020 13:38	
o-Terphenyl	84-15-1	95	%	70-135	10.21.2020 13:38	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS01**
Lab Sample Id: 675659-003

Matrix: Soil
Date Collected: 10.19.2020 15:40

Date Received: 10.21.2020 08:50
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 10:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.21.2020 14:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 14:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	70-130	10.21.2020 14:00	
1,4-Difluorobenzene	540-36-3	94	%	70-130	10.21.2020 14:00	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS02** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675659-004 Date Collected: 10.19.2020 15:45 Sample Depth: 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	520	9.98	mg/kg	10.21.2020 16:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 13:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	99.4	50.0	mg/kg	10.21.2020 13:59		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.2020 13:59	U	1
Total GRO-DRO	PHC628	99.4	50.0	mg/kg	10.21.2020 13:59		1
Total TPH	PHC635	99.4	50.0	mg/kg	10.21.2020 13:59		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.21.2020 13:59	
o-Terphenyl	84-15-1	97	%	70-135	10.21.2020 13:59	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS02**
Lab Sample Id: 675659-004

Matrix: Soil
Date Collected: 10.19.2020 15:45

Date Received: 10.21.2020 08:50
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 10:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.21.2020 14:23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.21.2020 14:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	10.21.2020 14:23		
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.21.2020 14:23		



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS03**
Lab Sample Id: 675659-005

Matrix: Soil
Date Collected: 10.19.2020 15:50

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6680	49.5	mg/kg	10.21.2020 16:19		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 14:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.2020 14:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.2020 14:19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.2020 14:19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.2020 14:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.21.2020 14:19	
o-Terphenyl	84-15-1	101	%	70-135	10.21.2020 14:19	



Certificate of Analytical Results 675659

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS03**
Lab Sample Id: 675659-005

Matrix: Soil
Date Collected: 10.19.2020 15:50

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 10:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.21.2020 14:45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.21.2020 14:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	10.21.2020 14:45		
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.21.2020 14:45		



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. **ND** Not Detected.

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 BS 013

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

MB Sample Id: 7713657-1-BLK

Matrix: Solid

LCS Sample Id: 7713657-1-BKS

Prep Method: E300P

Date Prep: 10.21.2020

LCSD Sample Id: 7713657-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	253	101	90-110	2	20	mg/kg	10.21.2020 15:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

Parent Sample Id: 675659-001

Matrix: Soil

MS Sample Id: 675659-001 S

Prep Method: E300P

Date Prep: 10.21.2020

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.5	200	212	101	216	103	90-110	2	20	mg/kg	10.21.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

Parent Sample Id: 675674-006

Matrix: Soil

MS Sample Id: 675674-006 S

Prep Method: E300P

Date Prep: 10.21.2020

MSD Sample Id: 675674-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1170	201	1360	95	1350	90	90-110	1	20	mg/kg	10.21.2020 17:15	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

MB Sample Id: 7713646-1-BLK

Matrix: Solid

LCS Sample Id: 7713646-1-BKS

Prep Method: SW8015P

Date Prep: 10.21.2020

LCSD Sample Id: 7713646-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	874	87	873	87	70-135	0	35	mg/kg	10.21.2020 11:16	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1030	103	70-135	5	35	mg/kg	10.21.2020 11:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		112		129		70-135	%	10.21.2020 11:16
o-Terphenyl	100		103		100		70-135	%	10.21.2020 11:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

Matrix: Solid

MB Sample Id: 7713646-1-BLK

Prep Method: SW8015P

Date Prep: 10.21.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.2020 10:55	

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 BS 013

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

Parent Sample Id: 675659-001

Matrix: Soil

MS Sample Id: 675659-001 S

Prep Method: SW8015P

Date Prep: 10.21.2020

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	875	88	812	81	70-135	7	35	mg/kg	10.21.2020 12:37	
Diesel Range Organics (DRO)	<49.8	996	997	100	942	94	70-135	6	35	mg/kg	10.21.2020 12:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		128		70-135	%	10.21.2020 12:37
o-Terphenyl	104		95		70-135	%	10.21.2020 12:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140327

MB Sample Id: 7713655-1-BLK

Matrix: Solid

LCS Sample Id: 7713655-1-BKS

Prep Method: SW5035A

Date Prep: 10.21.2020

LCSD Sample Id: 7713655-1-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	0.109	109	0.105	105	70-130	4	35	mg/kg	10.21.2020 11:12	
Toluene	<0.00200	0.100	0.105	105	0.101	101	70-130	4	35	mg/kg	10.21.2020 11:12	
Ethylbenzene	<0.00200	0.100	0.0973	97	0.0934	93	71-129	4	35	mg/kg	10.21.2020 11:12	
m,p-Xylenes	<0.00400	0.200	0.198	99	0.189	95	70-135	5	35	mg/kg	10.21.2020 11:12	
o-Xylene	<0.00200	0.100	0.0967	97	0.0929	93	71-133	4	35	mg/kg	10.21.2020 11:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		98		70-130	%	10.21.2020 11:12
4-Bromofluorobenzene	84		84		85		70-130	%	10.21.2020 11:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140327

Parent Sample Id: 675659-001

Matrix: Soil

MS Sample Id: 675659-001 S

Prep Method: SW5035A

Date Prep: 10.21.2020

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.104	103	0.101	101	70-130	3	35	mg/kg	10.21.2020 11:57	
Toluene	<0.00201	0.101	0.104	103	0.0969	97	70-130	7	35	mg/kg	10.21.2020 11:57	
Ethylbenzene	<0.00201	0.101	0.0973	96	0.0872	87	71-129	11	35	mg/kg	10.21.2020 11:57	
m,p-Xylenes	<0.00402	0.201	0.198	99	0.176	88	70-135	12	35	mg/kg	10.21.2020 11:57	
o-Xylene	<0.00201	0.101	0.0954	94	0.0860	86	71-133	10	35	mg/kg	10.21.2020 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		97		70-130	%	10.21.2020 11:57
4-Bromofluorobenzene	88		87		70-130	%	10.21.2020 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

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

575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770) 440-8860) T-1-800-451-1000

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

Page 1 of 1

Work Order No: 675659

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:	522 West Mermond
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enakaka@ltenv.com, dmoir@ltenv.com
Project Name:	P10 CV T1 W1 A12		

Work Order Comments	
Program: UST/PST State of Project: Reporting Level II Deliverables: EDD	<input type="checkbox"/> RP <input type="checkbox"/> Growfields <input type="checkbox"/> RC <input type="checkbox"/> \$pertund <input type="checkbox"/> <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> RP <input type="checkbox"/> Level IV <input type="checkbox"/> <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	NEW CVA JV BS 013	Turn Around
Project Number:	012920112	Routine <input checked="" type="checkbox"/>
P. O. Number:	Eddy County	Rush: <input type="checkbox"/>
Sampler's Name:	Elizabeth Naka	Due Date:

SAMPLE RECEIPT		Temp Blank:	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Temperature (°C):		1.2/1.0					
Received Intact:		<input checked="" type="radio"/> Yes <input type="radio"/> No			Thermometer ID	4MM007	
Cooler Custody Seals:		<input checked="" type="radio"/> Yes <input type="radio"/> No			Correction Factor:	-0.2	
Sample Custody Seals:		<input checked="" type="radio"/> Yes <input type="radio"/> No			Total Containers:	5	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
SW01	S	10/19/20	1530	0'-3'
SW02			1535	0'-4'
FS01			1540	3'
FS02			1545	3'
FS03			1550	4'
Total 200.7 / 6010				

[illegible]

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 / 774

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)	Date/Time	Received by: (Signature)	Date/Time
	10/20/20 0815		10/21/20 08:50
	4		
	6		

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10.21.2020 08.50.00 AM

Work Order #: 675659

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)?	1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 10.21.2020

Checklist reviewed by:



Jessica Kramer

Date: 10.22.2020

Certificate of Analysis Summary 675674



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV BS 013

Project Id: 012920112

Date Received in Lab: Wed 10.21.2020 08:50

Contact: Dan Moir

Report Date: 10.26.2020 14:44

Project Location: Eddy County

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	675674-001	675674-002	675674-003	675674-004	675674-005	675674-006
	<i>Field Id:</i>	FS04	FS05	FS06	FS07	FS08	FS09
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	10.20.2020 13:30	10.20.2020 13:35	10.20.2020 14:30	10.20.2020 14:20	10.20.2020 14:25	10.20.2020 15:40
BTEX by EPA 8021B	<i>Extracted:</i>	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48
	<i>Analyzed:</i>	10.21.2020 15:07	10.21.2020 15:30	10.21.2020 15:52	10.21.2020 16:15	10.21.2020 16:37	10.21.2020 17:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.00296 0.00200
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.0992 0.00200
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.0820 0.00200
m,p-Xylenes		<0.00397 0.00397	<0.00399 0.00399	<0.00402 0.00402	<0.00401 0.00401	<0.00400 0.00400	0.403 0.00399
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.156 0.00200
Total Xylenes		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.559 0.00200
Total BTEX		<0.00198 0.00198	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	0.743 0.00200
Chloride by EPA 300	<i>Extracted:</i>	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12
	<i>Analyzed:</i>	10.21.2020 16:38	10.21.2020 16:44	10.21.2020 16:50	10.21.2020 16:57	10.21.2020 17:03	10.21.2020 17:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7460 50.4	226 10.0	149 10.0	3730 50.1	4060 49.6	1170 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00
	<i>Analyzed:</i>	10.21.2020 14:40	10.21.2020 15:00	10.21.2020 15:21	10.21.2020 15:41	10.21.2020 16:02	10.21.2020 16:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.8 49.8	<50.2 50.2	<50.0 50.0	<50.3 50.3	64.1 50.1
Diesel Range Organics (DRO)		128 50.0	113 49.8	<50.2 50.2	824 50.0	523 50.3	900 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<50.2 50.2	82.1 50.0	59.3 50.3	81.7 50.1
Total GRO-DRO		128 50.0	113 49.8	<50.2 50.2	824 50.0	523 50.3	964 50.1
Total TPH		128 50.0	113 49.8	<50.2 50.2	906 50.0	582 50.3	1050 50.1

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 675674



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV BS 013

Project Id: 012920112

Date Received in Lab: Wed 10.21.2020 08:50

Contact: Dan Moir

Report Date: 10.26.2020 14:44

Project Location: Eddy County

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	675674-007	675674-008	675674-009	675674-010	675674-011	675674-012
	<i>Field Id:</i>	FS10	FS11	SW03	SW04	SW05	SW06
	<i>Depth:</i>	4- ft	4- ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	10.20.2020 15:45	10.20.2020 15:50	10.20.2020 13:40	10.20.2020 14:15	10.20.2020 14:50	10.20.2020 14:55
BTEX by EPA 8021B	<i>Extracted:</i>	10.22.2020 11:16	10.22.2020 11:16	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48	10.21.2020 13:48
	<i>Analyzed:</i>	10.23.2020 17:39	10.23.2020 18:02	10.21.2020 19:03	10.21.2020 19:25	10.21.2020 19:47	10.21.2020 20:10
	<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	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		0.00961 0.00200	0.00963 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00402 0.00402	<0.00402 0.00402	<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		0.00961 0.00200	0.00963 0.00201	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12
	<i>Analyzed:</i>	10.21.2020 17:27	10.21.2020 17:34	10.21.2020 17:52	10.21.2020 17:58	10.21.2020 18:04	10.21.2020 18:11
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		414 9.98	159 9.92	151 10.0	808 10.1	50.1 10.1	87.5 10.1
TPH by SW8015 Mod	<i>Extracted:</i>	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00
	<i>Analyzed:</i>	10.21.2020 17:03	10.21.2020 17:23	10.21.2020 17:44	10.21.2020 18:04	10.21.2020 12:17	10.21.2020 13:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.1 50.1
Diesel Range Organics (DRO)		325 50.1	73.4 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.1 50.1
Total GRO-DRO		325 50.1	73.4 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.1 50.1
Total TPH		325 50.1	73.4 50.2	<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.1 50.1

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 675674



LT Environmental, Inc., Arvada, CO

Project Name: PLU CVX JV BS 013

Project Id: 012920112
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Wed 10.21.2020 08:50
Report Date: 10.26.2020 14:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	675674-013	675674-014	675674-015	675674-016	675674-017	
	<i>Field Id:</i>	SW07	SW08	SW09	SW10	SW11	
	<i>Depth:</i>	0-4 ft	0-4 ft	0-4 ft	0-3 ft	0-3 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	10.20.2020 13:15	10.20.2020 15:00	10.20.2020 15:05	10.20.2020 15:25	10.20.2020 15:30	
BTEX by EPA 8021B	<i>Extracted:</i>	10.21.2020 13:48	10.21.2020 13:48	10.22.2020 11:16	10.22.2020 11:16	10.22.2020 11:16	
	<i>Analyzed:</i>	10.21.2020 20:32	10.21.2020 20:55	10.23.2020 18:24	10.23.2020 16:19	10.23.2020 17:17	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	
Toluene		<0.00201 0.00201	0.00357 0.00200	0.0174 0.00201	0.0142 0.00201	<0.00198 0.00198	
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	
m,p-Xylenes		<0.00402 0.00402	0.00483 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00397 0.00397	
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	
Total Xylenes		<0.00201 0.00201	0.00483 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	
Total BTEX		<0.00201 0.00201	0.00840 0.00200	0.0174 0.00201	0.0142 0.00201	<0.00198 0.00198	
Chloride by EPA 300	<i>Extracted:</i>	10.21.2020 14:12	10.21.2020 14:12	10.21.2020 14:12	10.22.2020 13:54	10.22.2020 13:54	
	<i>Analyzed:</i>	10.21.2020 18:17	10.21.2020 18:23	10.21.2020 18:29	10.22.2020 16:34	10.22.2020 16:52	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		23.6 9.94	15.9 10.1	16.3 9.92	24.1 9.94	35.6 10.0	
TPH by SW8015 Mod	<i>Extracted:</i>	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	10.21.2020 11:00	
	<i>Analyzed:</i>	10.21.2020 13:38	10.21.2020 13:59	10.21.2020 14:19	10.21.2020 14:40	10.21.2020 15:00	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.8 49.8	
Diesel Range Organics (DRO)		<49.8 49.8	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.8 49.8	
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.8 49.8	
Total GRO-DRO		<49.8 49.8	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.8 49.8	
Total TPH		<49.8 49.8	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.8 49.8	

BRL - Below Reporting Limit

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



Analytical Report 675674

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU CVX JV BS 013

012920112

10.26.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.26.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **675674**

PLU CVX JV BS 013

Project Address: Eddy County

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 Eurofins Xenco, LLC Report Number(s) 675674. 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 Eurofins Xenco, LLC. 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. 675674 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

**Sample Cross Reference 675674****LT Environmental, Inc., Arvada, CO**

PLU CVX JV BS 013

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS04	S	10.20.2020 13:30	4 ft	675674-001
FS05	S	10.20.2020 13:35	4 ft	675674-002
FS06	S	10.20.2020 14:30	4 ft	675674-003
FS07	S	10.20.2020 14:20	4 ft	675674-004
FS08	S	10.20.2020 14:25	4 ft	675674-005
FS09	S	10.20.2020 15:40	4 ft	675674-006
FS10	S	10.20.2020 15:45	4 ft	675674-007
FS11	S	10.20.2020 15:50	4 ft	675674-008
SW03	S	10.20.2020 13:40	0 - 4 ft	675674-009
SW04	S	10.20.2020 14:15	0 - 4 ft	675674-010
SW05	S	10.20.2020 14:50	0 - 4 ft	675674-011
SW06	S	10.20.2020 14:55	0 - 4 ft	675674-012
SW07	S	10.20.2020 13:15	0 - 4 ft	675674-013
SW08	S	10.20.2020 15:00	0 - 4 ft	675674-014
SW09	S	10.20.2020 15:05	0 - 4 ft	675674-015
SW10	S	10.20.2020 15:25	0 - 3 ft	675674-016
SW11	S	10.20.2020 15:30	0 - 3 ft	675674-017



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *PLU CVX JV BS 013*

Project ID: 012920112

Work Order Number(s): 675674

Report Date: 10.26.2020

Date Received: 10.21.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3140333 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 675674-013.



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS04** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-001 Date Collected: 10.20.2020 13:30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7460	50.4	mg/kg	10.21.2020 16:38		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 14:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	128	50.0	mg/kg	10.21.2020 14:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.2020 14:40	U	1
Total GRO-DRO	PHC628	128	50.0	mg/kg	10.21.2020 14:40		1
Total TPH	PHC635	128	50.0	mg/kg	10.21.2020 14:40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	10.21.2020 14:40	
o-Terphenyl	84-15-1	101	%	70-135	10.21.2020 14:40	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS04**
Lab Sample Id: 675674-001

Matrix: Soil
Date Collected: 10.20.2020 13:30

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.21.2020 15:07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.21.2020 15:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	10.21.2020 15:07	
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.21.2020 15:07	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS05**
Lab Sample Id: 675674-002

Matrix: Soil
Date Collected: 10.20.2020 13:35

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	226	10.0	mg/kg	10.21.2020 16:44		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	113	49.8	mg/kg	10.21.2020 15:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Total GRO-DRO	PHC628	113	49.8	mg/kg	10.21.2020 15:00		1
Total TPH	PHC635	113	49.8	mg/kg	10.21.2020 15:00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.21.2020 15:00	
o-Terphenyl	84-15-1	101	%	70-135	10.21.2020 15:00	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS05**
Lab Sample Id: 675674-002

Matrix: Soil
Date Collected: 10.20.2020 13:35

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.21.2020 15:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 15:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.21.2020 15:30	
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.21.2020 15:30	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS06**
Lab Sample Id: 675674-003

Matrix: Soil
Date Collected: 10.20.2020 14:30

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	149	10.0	mg/kg	10.21.2020 16:50		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 15:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 15:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 15:21	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 15:21	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 15:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.21.2020 15:21	
o-Terphenyl	84-15-1	97	%	70-135	10.21.2020 15:21	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS06**
Lab Sample Id: 675674-003

Matrix: Soil
Date Collected: 10.20.2020 14:30

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.21.2020 15:52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.21.2020 15:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.21.2020 15:52	
4-Bromofluorobenzene	460-00-4	90	%	70-130	10.21.2020 15:52	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS07** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-004 Date Collected: 10.20.2020 14:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3730	50.1	mg/kg	10.21.2020 16:57		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 15:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	824	50.0	mg/kg	10.21.2020 15:41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	82.1	50.0	mg/kg	10.21.2020 15:41		1
Total GRO-DRO	PHC628	824	50.0	mg/kg	10.21.2020 15:41		1
Total TPH	PHC635	906	50.0	mg/kg	10.21.2020 15:41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	10.21.2020 15:41	
o-Terphenyl	84-15-1	132	%	70-135	10.21.2020 15:41	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS07**
Lab Sample Id: 675674-004

Matrix: Soil
Date Collected: 10.20.2020 14:20

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.21.2020 16:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 16:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.21.2020 16:15		
4-Bromofluorobenzene	460-00-4	88	%	70-130	10.21.2020 16:15		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS08** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-005 Date Collected: 10.20.2020 14:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4060	49.6	mg/kg	10.21.2020 17:03		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.21.2020 16:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	523	50.3	mg/kg	10.21.2020 16:02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	59.3	50.3	mg/kg	10.21.2020 16:02		1
Total GRO-DRO	PHC628	523	50.3	mg/kg	10.21.2020 16:02		1
Total TPH	PHC635	582	50.3	mg/kg	10.21.2020 16:02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.21.2020 16:02	
o-Terphenyl	84-15-1	94	%	70-135	10.21.2020 16:02	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS08**
Lab Sample Id: 675674-005

Matrix: Soil
Date Collected: 10.20.2020 14:25

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.21.2020 16:37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 16:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	10.21.2020 16:37		
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.21.2020 16:37		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS09** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-006 Date Collected: 10.20.2020 15:40 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1170	9.98	mg/kg	10.21.2020 17:09		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	64.1	50.1	mg/kg	10.21.2020 16:42		1
Diesel Range Organics (DRO)	C10C28DRO	900	50.1	mg/kg	10.21.2020 16:42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	81.7	50.1	mg/kg	10.21.2020 16:42		1
Total GRO-DRO	PHC628	964	50.1	mg/kg	10.21.2020 16:42		1
Total TPH	PHC635	1050	50.1	mg/kg	10.21.2020 16:42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	10.21.2020 16:42	
o-Terphenyl	84-15-1	101	%	70-135	10.21.2020 16:42	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS09**
Lab Sample Id: 675674-006

Matrix: Soil
Date Collected: 10.20.2020 15:40

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00296	0.00200	mg/kg	10.21.2020 17:55		1
Toluene	108-88-3	0.0992	0.00200	mg/kg	10.21.2020 17:55		1
Ethylbenzene	100-41-4	0.0820	0.00200	mg/kg	10.21.2020 17:55		1
m,p-Xylenes	179601-23-1	0.403	0.00399	mg/kg	10.21.2020 17:55		1
o-Xylene	95-47-6	0.156	0.00200	mg/kg	10.21.2020 17:55		1
Total Xylenes	1330-20-7	0.559	0.00200	mg/kg	10.21.2020 17:55		1
Total BTEX		0.743	0.00200	mg/kg	10.21.2020 17:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	10.21.2020 17:55	
1,4-Difluorobenzene	540-36-3	93	%	70-130	10.21.2020 17:55	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS10**
Lab Sample Id: 675674-007

Matrix: Soil
Date Collected: 10.20.2020 15:45

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	414	9.98	mg/kg	10.21.2020 17:27		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.21.2020 17:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	325	50.1	mg/kg	10.21.2020 17:03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.21.2020 17:03	U	1
Total GRO-DRO	PHC628	325	50.1	mg/kg	10.21.2020 17:03		1
Total TPH	PHC635	325	50.1	mg/kg	10.21.2020 17:03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.21.2020 17:03	
o-Terphenyl	84-15-1	98	%	70-135	10.21.2020 17:03	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS10**
Lab Sample Id: 675674-007

Matrix: Soil
Date Collected: 10.20.2020 15:45

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 11:16

% Moisture:
Basis: Wet Weight

Seq Number: 3140546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.23.2020 17:39	U	1
Toluene	108-88-3	0.00961	0.00200	mg/kg	10.23.2020 17:39		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.23.2020 17:39	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.23.2020 17:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.23.2020 17:39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.23.2020 17:39	U	1
Total BTEX		0.00961	0.00200	mg/kg	10.23.2020 17:39		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	10.23.2020 17:39		
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.23.2020 17:39		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS11**
Lab Sample Id: 675674-008

Matrix: Soil
Date Collected: 10.20.2020 15:50

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	159	9.92	mg/kg	10.21.2020 17:34		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 17:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	73.4	50.2	mg/kg	10.21.2020 17:23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 17:23	U	1
Total GRO-DRO	PHC628	73.4	50.2	mg/kg	10.21.2020 17:23		1
Total TPH	PHC635	73.4	50.2	mg/kg	10.21.2020 17:23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	10.21.2020 17:23	
o-Terphenyl	84-15-1	97	%	70-135	10.21.2020 17:23	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **FS11**
Lab Sample Id: 675674-008

Matrix: Soil
Date Collected: 10.20.2020 15:50

Date Received: 10.21.2020 08:50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 11:16

% Moisture:
Basis: Wet Weight

Seq Number: 3140546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.23.2020 18:02	U	1
Toluene	108-88-3	0.00963	0.00201	mg/kg	10.23.2020 18:02		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.23.2020 18:02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.23.2020 18:02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.23.2020 18:02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.23.2020 18:02	U	1
Total BTEX		0.00963	0.00201	mg/kg	10.23.2020 18:02		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	10.23.2020 18:02		
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.23.2020 18:02		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW03** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-009 Date Collected: 10.20.2020 13:40 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	151	10.0	mg/kg	10.21.2020 17:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140320 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 17:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 17:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 17:44	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 17:44	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 17:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.21.2020 17:44	
o-Terphenyl	84-15-1	101	%	70-135	10.21.2020 17:44	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW03**
Lab Sample Id: 675674-009

Matrix: Soil
Date Collected: 10.20.2020 13:40

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.21.2020 19:03	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.21.2020 19:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	10.21.2020 19:03		
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.2020 19:03		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW04**
Lab Sample Id: 675674-010

Matrix: Soil
Date Collected: 10.20.2020 14:15

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3140331

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	808	10.1	mg/kg	10.21.2020 17:58		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140320

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.21.2020 18:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.21.2020 18:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.21.2020 18:04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.21.2020 18:04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.21.2020 18:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.21.2020 18:04	
o-Terphenyl	84-15-1	103	%	70-135	10.21.2020 18:04	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW04**
Lab Sample Id: 675674-010

Matrix: Soil
Date Collected: 10.20.2020 14:15

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.21.2020 19:25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.21.2020 19:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.21.2020 19:25	
4-Bromofluorobenzene	460-00-4	84	%	70-130	10.21.2020 19:25	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW05** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-011 Date Collected: 10.20.2020 14:50 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.1	10.1	mg/kg	10.21.2020 18:04		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 12:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 12:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 12:17	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 12:17	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 12:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	10.21.2020 12:17	
o-Terphenyl	84-15-1	104	%	70-135	10.21.2020 12:17	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW05**
Lab Sample Id: 675674-011

Matrix: Soil
Date Collected: 10.20.2020 14:50

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.21.2020 19:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.21.2020 19:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.21.2020 19:47	
4-Bromofluorobenzene	460-00-4	87	%	70-130	10.21.2020 19:47	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW06** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-012 Date Collected: 10.20.2020 14:55 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	87.5	10.1	mg/kg	10.21.2020 18:11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	10.21.2020 13:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	10.21.2020 13:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	10.21.2020 13:18	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	10.21.2020 13:18	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	10.21.2020 13:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	10.21.2020 13:18	
o-Terphenyl	84-15-1	132	%	70-135	10.21.2020 13:18	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW06**
Lab Sample Id: 675674-012

Matrix: Soil
Date Collected: 10.20.2020 14:55

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.21.2020 20:10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.21.2020 20:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.2020 20:10	
4-Bromofluorobenzene	460-00-4	86	%	70-130	10.21.2020 20:10	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW07** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-013 Date Collected: 10.20.2020 13:15 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.6	9.94	mg/kg	10.21.2020 18:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.21.2020 13:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.21.2020 13:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.21.2020 13:38	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.21.2020 13:38	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.21.2020 13:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	140	%	70-135	10.21.2020 13:38	**
o-Terphenyl	84-15-1	135	%	70-135	10.21.2020 13:38	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW07**
Lab Sample Id: 675674-013

Matrix: Soil
Date Collected: 10.20.2020 13:15

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.21.2020 20:32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.21.2020 20:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.21.2020 20:32	
4-Bromofluorobenzene	460-00-4	87	%	70-130	10.21.2020 20:32	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW08** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-014 Date Collected: 10.20.2020 15:00 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.9	10.1	mg/kg	10.21.2020 18:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 13:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 13:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 13:59	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 13:59	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 13:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	10.21.2020 13:59	
o-Terphenyl	84-15-1	91	%	70-135	10.21.2020 13:59	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW08**
Lab Sample Id: 675674-014

Matrix: Soil
Date Collected: 10.20.2020 15:00

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.21.2020 13:48

% Moisture:
Basis: Wet Weight

Seq Number: 3140327

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.21.2020 20:55	U	1
Toluene	108-88-3	0.00357	0.00200	mg/kg	10.21.2020 20:55		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.21.2020 20:55	U	1
m,p-Xylenes	179601-23-1	0.00483	0.00401	mg/kg	10.21.2020 20:55		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.21.2020 20:55	U	1
Total Xylenes	1330-20-7	0.00483	0.00200	mg/kg	10.21.2020 20:55		1
Total BTEX		0.00840	0.00200	mg/kg	10.21.2020 20:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.21.2020 20:55	
4-Bromofluorobenzene	460-00-4	85	%	70-130	10.21.2020 20:55	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW09** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-015 Date Collected: 10.20.2020 15:05 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.21.2020 14:12 % Moisture:
 Seq Number: 3140331 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.3	9.92	mg/kg	10.21.2020 18:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 14:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 14:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 14:19	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 14:19	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 14:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	10.21.2020 14:19	
o-Terphenyl	84-15-1	96	%	70-135	10.21.2020 14:19	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW09**
Lab Sample Id: 675674-015

Matrix: Soil
Date Collected: 10.20.2020 15:05

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 11:16

% Moisture:
Basis: Wet Weight

Seq Number: 3140546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.23.2020 18:24	U	1
Toluene	108-88-3	0.0174	0.00201	mg/kg	10.23.2020 18:24		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.23.2020 18:24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.23.2020 18:24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.23.2020 18:24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.23.2020 18:24	U	1
Total BTEX		0.0174	0.00201	mg/kg	10.23.2020 18:24		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	10.23.2020 18:24		
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.23.2020 18:24		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW10** Matrix: Soil Date Received: 10.21.2020 08:50
 Lab Sample Id: 675674-016 Date Collected: 10.20.2020 15:25 Sample Depth: 0 - 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 10.22.2020 13:54 % Moisture:
 Seq Number: 3140528 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.1	9.94	mg/kg	10.22.2020 16:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH
 Analyst: DTH Date Prep: 10.21.2020 11:00 % Moisture:
 Seq Number: 3140333 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.21.2020 14:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.21.2020 14:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.21.2020 14:40	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.21.2020 14:40	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.21.2020 14:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	10.21.2020 14:40	
o-Terphenyl	84-15-1	104	%	70-135	10.21.2020 14:40	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW10**
Lab Sample Id: 675674-016

Matrix: Soil
Date Collected: 10.20.2020 15:25

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 11:16

% Moisture:
Basis: Wet Weight

Seq Number: 3140546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.23.2020 16:19	U	1
Toluene	108-88-3	0.0142	0.00201	mg/kg	10.23.2020 16:19		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.23.2020 16:19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.23.2020 16:19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.23.2020 16:19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.23.2020 16:19	U	1
Total BTEX		0.0142	0.00201	mg/kg	10.23.2020 16:19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	10.23.2020 16:19		
1,4-Difluorobenzene	540-36-3	105	%	70-130	10.23.2020 16:19		



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW11**
Lab Sample Id: 675674-017

Matrix: Soil
Date Collected: 10.20.2020 15:30

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 13:54

% Moisture:
Basis: Wet Weight

Seq Number: 3140528

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.6	10.0	mg/kg	10.22.2020 16:52		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

Analyst: DTH

Date Prep: 10.21.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3140333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.21.2020 15:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	10.21.2020 15:00	
o-Terphenyl	84-15-1	95	%	70-135	10.21.2020 15:00	



Certificate of Analytical Results 675674

LT Environmental, Inc., Arvada, CO

PLU CVX JV BS 013

Sample Id: **SW11**
Lab Sample Id: 675674-017

Matrix: Soil
Date Collected: 10.20.2020 15:30

Date Received: 10.21.2020 08:50
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 10.22.2020 11:16

% Moisture:
Basis: Wet Weight

Seq Number: 3140546

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.23.2020 17:17	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.23.2020 17:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.23.2020 17:17	
4-Bromofluorobenzene	460-00-4	119	%	70-130	10.23.2020 17:17	



Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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 BS 013

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

MB Sample Id: 7713657-1-BLK

Matrix: Solid

LCS Sample Id: 7713657-1-BKS

Prep Method: E300P

Date Prep: 10.21.2020

LCSD Sample Id: 7713657-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	253	101	90-110	2	20	mg/kg	10.21.2020 15:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3140528

MB Sample Id: 7713727-1-BLK

Matrix: Solid

LCS Sample Id: 7713727-1-BKS

Prep Method: E300P

Date Prep: 10.22.2020

LCSD Sample Id: 7713727-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	254	102	249	100	90-110	2	20	mg/kg	10.22.2020 14:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

Parent Sample Id: 675659-001

Matrix: Soil

MS Sample Id: 675659-001 S

Prep Method: E300P

Date Prep: 10.21.2020

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.5	200	212	101	216	103	90-110	2	20	mg/kg	10.21.2020 15:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3140331

Parent Sample Id: 675674-006

Matrix: Soil

MS Sample Id: 675674-006 S

Prep Method: E300P

Date Prep: 10.21.2020

MSD Sample Id: 675674-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1170	201	1360	95	1350	90	90-110	1	20	mg/kg	10.21.2020 17:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3140528

Parent Sample Id: 675753-001

Matrix: Soil

MS Sample Id: 675753-001 S

Prep Method: E300P

Date Prep: 10.22.2020

MSD Sample Id: 675753-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	520	200	699	90	713	97	90-110	2	20	mg/kg	10.22.2020 15:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3140528

Parent Sample Id: 675674-016

Matrix: Soil

MS Sample Id: 675674-016 S

Prep Method: E300P

Date Prep: 10.22.2020

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	24.1	200	235	105	90-110	mg/kg	10.22.2020 16:40	

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

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

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
PLU CVX JV BS 013

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

MB Sample Id: 7713646-1-BLK

Matrix: Solid

LCS Sample Id: 7713646-1-BKS

Prep Method: SW8015P

Date Prep: 10.21.2020

LCSD Sample Id: 7713646-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	874	87	873	87	70-135	0	35	mg/kg	10.21.2020 11:16	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1030	103	70-135	5	35	mg/kg	10.21.2020 11:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		112		129		70-135	%	10.21.2020 11:16
o-Terphenyl	100		103		100		70-135	%	10.21.2020 11:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140333

MB Sample Id: 7713647-1-BLK

Matrix: Solid

LCS Sample Id: 7713647-1-BKS

Prep Method: SW8015P

Date Prep: 10.21.2020

LCSD Sample Id: 7713647-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1110	111	1110	111	70-135	0	35	mg/kg	10.21.2020 11:16	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1120	112	70-135	0	35	mg/kg	10.21.2020 11:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		129		129		70-135	%	10.21.2020 11:16
o-Terphenyl	105		103		102		70-135	%	10.21.2020 11:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

Matrix: Solid

MB Sample Id: 7713646-1-BLK

Prep Method: SW8015P

Date Prep: 10.21.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.2020 10:55	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140333

Matrix: Solid

MB Sample Id: 7713647-1-BLK

Prep Method: SW8015P

Date Prep: 10.21.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.21.2020 10:55	

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 BS 013

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140320

Parent Sample Id: 675659-001

Matrix: Soil

MS Sample Id: 675659-001 S

Prep Method: SW8015P

Date Prep: 10.21.2020

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	875	88	812	81	70-135	7	35	mg/kg	10.21.2020 12:37	
Diesel Range Organics (DRO)	<49.8	996	997	100	942	94	70-135	6	35	mg/kg	10.21.2020 12:37	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		128		70-135	%	10.21.2020 12:37
o-Terphenyl	104		95		70-135	%	10.21.2020 12:37

Analytical Method: TPH by SW8015 Mod

Seq Number: 3140333

Parent Sample Id: 675674-011

Matrix: Soil

MS Sample Id: 675674-011 S

Prep Method: SW8015P

Date Prep: 10.21.2020

MSD Sample Id: 675674-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	1100	110	1060	107	70-135	4	35	mg/kg	10.21.2020 12:37	
Diesel Range Organics (DRO)	<50.1	1000	1120	112	1060	107	70-135	6	35	mg/kg	10.21.2020 12:37	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		135		70-135	%	10.21.2020 12:37
o-Terphenyl	116		108		70-135	%	10.21.2020 12:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140327

MB Sample Id: 7713655-1-BLK

Matrix: Solid

LCS Sample Id: 7713655-1-BKS

Prep Method: SW5035A

Date Prep: 10.21.2020

LCSD Sample Id: 7713655-1-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	0.109	109	0.105	105	70-130	4	35	mg/kg	10.21.2020 11:12	
Toluene	<0.00200	0.100	0.105	105	0.101	101	70-130	4	35	mg/kg	10.21.2020 11:12	
Ethylbenzene	<0.00200	0.100	0.0973	97	0.0934	93	71-129	4	35	mg/kg	10.21.2020 11:12	
m,p-Xylenes	<0.00400	0.200	0.198	99	0.189	95	70-135	5	35	mg/kg	10.21.2020 11:12	
o-Xylene	<0.00200	0.100	0.0967	97	0.0929	93	71-133	4	35	mg/kg	10.21.2020 11:12	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		98		70-130	%	10.21.2020 11:12
4-Bromofluorobenzene	84		84		85		70-130	%	10.21.2020 11:12

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 BS 013

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140546

Matrix: Solid

Prep Method: SW5035A

Date Prep: 10.22.2020

MB Sample Id: 7713744-1-BLK

LCS Sample Id: 7713744-1-BKS

LCSD Sample Id: 7713744-1-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	0.0926	93	0.0939	94	70-130	1	35	mg/kg	10.23.2020 14:14	
Toluene	<0.00200	0.100	0.104	104	0.101	101	70-130	3	35	mg/kg	10.23.2020 14:14	
Ethylbenzene	<0.00200	0.100	0.0875	88	0.0900	90	71-129	3	35	mg/kg	10.23.2020 14:14	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.178	89	70-135	0	35	mg/kg	10.23.2020 14:14	
o-Xylene	<0.00200	0.100	0.0889	89	0.0905	91	71-133	2	35	mg/kg	10.23.2020 14:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		100		98		70-130	%	10.23.2020 14:14
4-Bromofluorobenzene	116		108		104		70-130	%	10.23.2020 14:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140327

Matrix: Soil

Prep Method: SW5035A

Date Prep: 10.21.2020

Parent Sample Id: 675659-001

MS Sample Id: 675659-001 S

MSD Sample Id: 675659-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.104	103	0.101	101	70-130	3	35	mg/kg	10.21.2020 11:57	
Toluene	<0.00201	0.101	0.104	103	0.0969	97	70-130	7	35	mg/kg	10.21.2020 11:57	
Ethylbenzene	<0.00201	0.101	0.0973	96	0.0872	87	71-129	11	35	mg/kg	10.21.2020 11:57	
m,p-Xylenes	<0.00402	0.201	0.198	99	0.176	88	70-135	12	35	mg/kg	10.21.2020 11:57	
o-Xylene	<0.00201	0.101	0.0954	94	0.0860	86	71-133	10	35	mg/kg	10.21.2020 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		97		70-130	%	10.21.2020 11:57
4-Bromofluorobenzene	88		87		70-130	%	10.21.2020 11:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3140546

Matrix: Soil

Prep Method: SW5035A

Date Prep: 10.22.2020

Parent Sample Id: 675674-016

MS Sample Id: 675674-016 S

MSD Sample Id: 675674-016 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	0.0943	94	70-130	13	35	mg/kg	10.23.2020 14:59	
Toluene	0.0142	0.100	0.117	103	0.103	89	70-130	13	35	mg/kg	10.23.2020 14:59	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0900	90	71-129	12	35	mg/kg	10.23.2020 14:59	
m,p-Xylenes	<0.00401	0.200	0.204	102	0.180	90	70-135	13	35	mg/kg	10.23.2020 14:59	
o-Xylene	<0.00200	0.100	0.0999	100	0.0916	92	71-133	9	35	mg/kg	10.23.2020 14:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		105		70-130	%	10.23.2020 14:59
4-Bromofluorobenzene	109		109		70-130	%	10.23.2020 14:59

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: 675674

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) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

www.xenco.com

Page 1 of 2

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:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@lternv.com, dmoir@lternv.com

Program: UST/PST	<input type="checkbox"/> RP	<input type="checkbox"/> Groundfields	<input type="checkbox"/> RC	<input type="checkbox"/> Fund
State of Project:				
Reporting Level II	<input type="checkbox"/> Level III	<input type="checkbox"/> ST/UST	<input type="checkbox"/> RP	<input type="checkbox"/> Level IV
Deliverables: EDD	<input type="checkbox"/> ADAPT	<input type="checkbox"/> Other:		

Project Name:	PLU CVX JV BS 013	Turn Around	
Project Number:	012420112	Routine	<input checked="" type="checkbox"/>
P.O. Number:		Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

Temperature (°C):	1.2/11.0	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID	TMM007		
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.2		
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Containers:	17		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)	ANALYSIS REQUEST										Sample Comments
FS04	S	10/20/20	1330	4'	1	X	X	X										Composite	
FS05			1335																
FS06			1430																
FS07			1428																
FS08			1425																
FS09			1540																
FS10			1545																
FS11			1550	4'															
SW03			1340	0'-4'															
SW04			1415	0'-4'															
Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sh As Ba Pb B Cd Cr Cu Fe Mn Ni Se V Zn																			
8RCRA 13PPM Texas 11 Al Sh As Ba Pb B Cd Cr Cu Fe Mn Ni Se V Zn																			
Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sh As Ba Pb B Cd Cr Cu Fe Mn Ni Se V Zn																			

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
 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>Elizabeth Naka</i>	<i>Elizabeth Naka</i>	10/20/20 08:15	<i>Elizabeth Naka</i>	<i>Elizabeth Naka</i>	10/21/20 08:50



Chain of Custody

Work Order No: 675674

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) 794-1295
 Hobbs, NM (575-392-7560) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com

Page 2 of 2

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:	522 West Mermond
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	anaka@ltenv.com dmoir@ltenv.com

Project Name:	PLU CVX JV B5013	Turn Around	
Project Number:	012920112	Routine	<input checked="" type="checkbox"/>
P.O. Number:		Rush:	
Sampler's Name:	Eddy County Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received intact:	Thermometer ID	Yes	No
Cooler Custody Seals:	Correction Factor:	Yes	No
Sample Custody Seals:	Total Containers:	Yes	No

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP	BTEX (E	Chloride	Sample Comments										
SW05	S	10/20/20	1450	0'-4'	1	X	X	X	Composite										
SW06			1455																
SW07			1315																
SW08			1500																
SW09			1505																
SW10			1525	0'-3'					Composite										
SW11			1530	0'-3'															
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														
					SW05-11														

composite

TAT starts the day received by the lab, if received by 4:30pm

Sample Comments

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

Office: 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>	10/20/20 0815	<i>[Signature]</i>	<i>[Signature]</i>	10/21/20 08:50

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10.21.2020 08.50.00 AM

Work Order #: 675674

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)?	1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

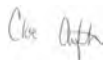
Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 10.21.2020

Checklist reviewed by:



Jessica Kramer

Date: 10.22.2020

Certificate of Analysis Summary 676836



LT Environmental, Inc., Arvada, CO

Project Name: PLU- CUX-JV-BS 013

Project Id: 012920112
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed 11.04.2020 10:22
Report Date: 11.06.2020 16:20
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	676836-001					
	Field Id:	SW12					
	Depth:	0-4 ft					
	Matrix:	SOIL					
	Sampled:	11.04.2020 09:00					
BTEX by EPA 8021B	Extracted:	11.04.2020 12:06					
	Analyzed:	11.05.2020 00:04					
	Units/RL:	mg/kg RL					
Benzene		<0.00200 0.00200					
Toluene		<0.00200 0.00200					
Ethylbenzene		<0.00200 0.00200					
m,p-Xylenes		<0.00400 0.00400					
o-Xylene		<0.00200 0.00200					
Total Xylenes		<0.00200 0.00200					
Total BTEX		<0.00200 0.00200					
Chloride by EPA 300	Extracted:	11.04.2020 13:40					
	Analyzed:	11.04.2020 16:26					
	Units/RL:	mg/kg RL					
Chloride		44.7 9.98					
TPH by SW8015 Mod	Extracted:	11.04.2020 13:00					
	Analyzed:	11.04.2020 23:51					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

BRL - Below Reporting Limit

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



Analytical Report 676836

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU- CUX-JV-BS 013

012920112

11.06.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.06.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **676836**

PLU- CUX-JV-BS 013

Project Address: Eddy County, New Mexico

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 Eurofins Xenco, LLC Report Number(s) 676836. 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 Eurofins Xenco, LLC. 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. 676836 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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



Sample Cross Reference 676836

LT Environmental, Inc., Arvada, CO

PLU- CUX-JV-BS 013

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW12	S	11.04.2020 09:00	0 - 4 ft	676836-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU- CUX-JV-BS 013

Project ID: 012920112
Work Order Number(s): 676836

Report Date: 11.06.2020
Date Received: 11.04.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 676836

LT Environmental, Inc., Arvada, CO

PLU- CUX-JV-BS 013

Sample Id: **SW12**
Lab Sample Id: 676836-001

Matrix: Soil
Date Collected: 11.04.2020 09:00

Date Received: 11.04.2020 10:22
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.04.2020 13:40

% Moisture:
Basis: Wet Weight

Seq Number: 3141404

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.7	9.98	mg/kg	11.04.2020 16:26		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.04.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3141396

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.04.2020 23:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.04.2020 23:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.04.2020 23:51	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.04.2020 23:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.04.2020 23:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.04.2020 23:51	
o-Terphenyl	84-15-1	105	%	70-135	11.04.2020 23:51	



Certificate of Analytical Results 676836

LT Environmental, Inc., Arvada, CO

PLU- CUX-JV-BS 013

Sample Id: **SW12**
Lab Sample Id: 676836-001

Matrix: Soil
Date Collected: 11.04.2020 09:00

Date Received: 11.04.2020 10:22
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.04.2020 12:06

% Moisture:
Basis: Wet Weight

Seq Number: 3141399

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.05.2020 00:04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.05.2020 00:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.05.2020 00:04		
1,4-Difluorobenzene	540-36-3	110	%	70-130	11.05.2020 00:04		

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. **ND** Not Detected.

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- CUX-JV-BS 013

Analytical Method: Chloride by EPA 300

Seq Number: 3141404

MB Sample Id: 7714493-1-BLK

Matrix: Solid

LCS Sample Id: 7714493-1-BKS

Prep Method: E300P

Date Prep: 11.04.2020

LCSD Sample Id: 7714493-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	260	104	90-110	0	20	mg/kg	11.04.2020 13:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3141404

Parent Sample Id: 676830-001

Matrix: Soil

MS Sample Id: 676830-001 S

Prep Method: E300P

Date Prep: 11.04.2020

MSD Sample Id: 676830-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	109	201	312	101	313	101	90-110	0	20	mg/kg	11.04.2020 14:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3141404

Parent Sample Id: 676830-011

Matrix: Soil

MS Sample Id: 676830-011 S

Prep Method: E300P

Date Prep: 11.04.2020

MSD Sample Id: 676830-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	26.1	199	236	105	235	105	90-110	0	20	mg/kg	11.04.2020 17:04	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3141396

MB Sample Id: 7714497-1-BLK

Matrix: Solid

LCS Sample Id: 7714497-1-BKS

Prep Method: SW8015P

Date Prep: 11.04.2020

LCSD Sample Id: 7714497-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	968	97	934	93	70-135	4	35	mg/kg	11.04.2020 15:46	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1040	104	70-135	5	35	mg/kg	11.04.2020 15:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		132		130		70-135	%	11.04.2020 15:46
o-Terphenyl	103		108		104		70-135	%	11.04.2020 15:46

Analytical Method: TPH by SW8015 Mod

Seq Number: 3141396

Matrix: Solid

MB Sample Id: 7714497-1-BLK

Prep Method: SW8015P

Date Prep: 11.04.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.04.2020 15:25	

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

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

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.
PLU- CUX-JV-BS 013

Analytical Method: TPH by SW8015 Mod

Seq Number: 3141396

Parent Sample Id: 676786-001

Matrix: Soil

MS Sample Id: 676786-001 S

Prep Method: SW8015P

Date Prep: 11.04.2020

MSD Sample Id: 676786-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	856	86	849	85	70-135	1	35	mg/kg	11.04.2020 16:46	
Diesel Range Organics (DRO)	<50.0	999	937	94	958	96	70-135	2	35	mg/kg	11.04.2020 16:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		134		70-135	%	11.04.2020 16:46
o-Terphenyl	110		115		70-135	%	11.04.2020 16:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141399

MB Sample Id: 7714494-1-BLK

Matrix: Solid

LCS Sample Id: 7714494-1-BKS

Prep Method: SW5035A

Date Prep: 11.04.2020

LCSD Sample Id: 7714494-1-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	0.0841	84	0.0862	86	70-130	2	35	mg/kg	11.04.2020 13:56	
Toluene	<0.00200	0.100	0.0805	81	0.0844	84	70-130	5	35	mg/kg	11.04.2020 13:56	
Ethylbenzene	<0.00200	0.100	0.0847	85	0.0863	86	71-129	2	35	mg/kg	11.04.2020 13:56	
m,p-Xylenes	<0.00400	0.200	0.171	86	0.176	88	70-135	3	35	mg/kg	11.04.2020 13:56	
o-Xylene	<0.00200	0.100	0.0849	85	0.0874	87	71-133	3	35	mg/kg	11.04.2020 13:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		97		99		70-130	%	11.04.2020 13:56
4-Bromofluorobenzene	113		101		107		70-130	%	11.04.2020 13:56

Analytical Method: BTEX by EPA 8021B

Seq Number: 3141399

Parent Sample Id: 676830-001

Matrix: Soil

MS Sample Id: 676830-001 S

Prep Method: SW5035A

Date Prep: 11.04.2020

MSD Sample Id: 676830-001 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	0.112	112	0.110	110	70-130	2	35	mg/kg	11.04.2020 14:40	
Toluene	<0.00200	0.100	0.100	100	0.102	102	70-130	2	35	mg/kg	11.04.2020 14:40	
Ethylbenzene	<0.00200	0.100	0.0995	100	0.0960	96	71-129	4	35	mg/kg	11.04.2020 14:40	
m,p-Xylenes	<0.00401	0.200	0.190	95	0.184	92	70-135	3	35	mg/kg	11.04.2020 14:40	
o-Xylene	<0.00200	0.100	0.0934	93	0.0911	91	71-133	2	35	mg/kg	11.04.2020 14:40	

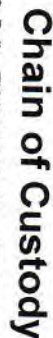
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		70-130	%	11.04.2020 14:40
4-Bromofluorobenzene	108		107		70-130	%	11.04.2020 14:40

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

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

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Work Order No: 60460836

Page 1 of 1

[illegible]

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11.04.2020 10.22.00 AM

Work Order #: 676836

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)?	.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 11.04.2020

Checklist reviewed by:



Jessica Kramer

Date: 11.06.2020

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 14733

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC Building #5	6401 Holiday Hill Road Midland, TX79707	OGRID: 5380	Action Number: 14733	Action Type: C-141
OCD Reviewer kcollins		Condition None		