

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 18 2018

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
conformance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy **180700 210731** Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No: 432-221-7331
Facility Name: PLU #359 (@ PLU #156) Facility Type: Exploration and Production

Surface Owner: Federal Mineral Owner: Federal API No: 30-015-43230

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	6	24S	30E	750	South	1825	East	Eddy

Latitude 32.241461° Longitude -103.918046° NAD83

NATURE OF RELEASE

Type of Release release volume).	Fresh Water (< 1 gallon of chemical added to	Volume of Release	516 bbls	Volume Recovered	0 bbls
Source of Release	Victaulic clamp connection on contractor trailer	Date and Hour of Occurrence	4/4/2018 12:40 pm	Date and Hour of Discovery	4/4/2018 12:40 pm
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM)		
By Whom?	Amy Ruth	Date and Hour:	4/5/2018 9:12 am		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		

If a Watercourse was Impacted, Describe Fully.*
N/A

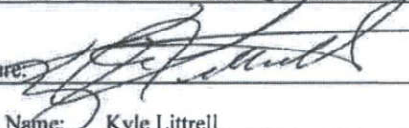
Describe Cause of Problem and Remedial Action Taken.*

A 12" Victaulic clamp became disconnected from the contractor chemical trailer. Pumps were shut down and the line was clamped. The fresh water released had .88 gallons of chemical additives. The trailer and associated tanks were removed to the frac location and placed within lined containment for the remaining operation.

Describe Area Affected and Cleanup Action Taken.*

The leak affected 5,400 square feet of caliche pad/lease road and approximately 13,700 square feet of pasture north of the pad and on ROW's. An environmental contractor will be retained to assist with delineation and remediation efforts.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist: 	
Title: Environmental Coordinator	Approval Date: 4/18/18	Expiration Date: N/A
E-mail Address: Kyle.Littrell@xtoenergy.com	Conditions of Approval: See attached	Attached 
Date: 4/18/2018 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4708
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.241461 Longitude W 103.918046
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: PLU #359 @ PLU #156	Site Type: Production Well Facility
Date Release Discovered: 4/4/2018	API# (if applicable): 30-015-43230

Unit Letter	Section	Township	Range	County
O	6	24S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe)	Volume/Weight Released (provide units) : 516 bbls Fresh water with < 1-gallon of chemical additives	Volume/Weight Recovered (provide units): 0 bbls

Cause of Release

A 12-inch clamp became disconnected from the contractor chemical trailer. The fresh water released had 0.88 gallons of chemical additives. Approximately 5,400 square feet of caliche pad and lease road and approximately 13,700 square feet of pasture north of the pad and on the right-of-way were impacted by the release.

Incident ID	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? 516 bbls released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Mike Bratcher/Crystal Weaver (NMOCD) and Shelly Tucker/Jim Amos (BLM) on 4/4/2018 at 12:40 pm	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Supervisor</u>
Signature: <u></u>	Date: <u>10/4/2019</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4708
Facility ID	
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Printed Name: _____ Kyle Littrell _____ Title: _____ SH&E Supervisor _____

Signature: _____ Date: _____ 10/4/2019 _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	
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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/4/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/24/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist



LT Environmental, Inc.

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

October 8, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505**RE: Closure Request
Poker Lake Unit #359 at Poker Lake Unit #156
Remediation Permit Number 2RP-4708
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request report detailing site assessment and soil sampling activities at the Poker Lake Unit (PLU) #359 at PLU #156 (Site), located in Unit O, Section 6, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacted soil resulting from a release of fresh water with chemical additives at the Site.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing. Based on the laboratory analytical results for soil samples collected at the Site, XTO is submitting this Closure Request, describing site assessment activities that have occurred and requesting no further action for the release event.

RELEASE BACKGROUND

On April 4, 2018, a clamp became disconnected from a contractor's chemical trailer. Approximately 516 barrels (bbls) of fresh water with less than 1-gallon of chemical additives were released. No fluids were recovered. Approximately 5,400 square feet of caliche pad and lease road and approximately 13,700 square feet of pasture north of the pad and on the right-of-way (ROW) were impacted by the release. XTO reported the release to NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on April 18, 2018, and was assigned Remediation Permit (RP) Number 2RP-4708 (Attachment 1).



Billings, B.
Page 2

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 of the NMAC. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is water well number 02108, located approximately 4,570 feet southeast of the Site. The water well has a depth to groundwater of 186 feet bgs and a total depth of 200 feet bgs. Ground surface elevation at the water well location is approximately 3,197 feet above mean sea level (AMSL), which is approximately 18 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 4,000 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not located in a geologically unstable area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On June 7, 2019, LTE personnel inspected the Site to evaluate the release extent and mark the site for utility locates. LTE personnel returned to the Site on June 12 and June 13, 2019 to assess soil within the release extent. Boreholes and potholes were advanced via hand auger or backhoe at thirteen locations on the well pad and pasture area north of the well pad to assess for potential soil impacts. Boreholes BH01 and BH02 and potholes PH01 through PH11 were advanced to a depth of 4 feet bgs. Two delineation soil samples were collected from each borehole and pothole from depths of 2 feet and 4 feet bgs. Soil from the boreholes and potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each borehole and pothole were logged on lithologic/soil sampling logs, which are included





Billings, B.
Page 3

in Attachment 2. The delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Based on visual observations, field screening, and laboratory analytical results for the delineation soil samples, excavation of soil was not warranted. Photographic documentation was conducted during the Site visit. Photographs are included in Attachment 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in all delineation soil samples collected from boreholes BH01 and BH02 and potholes PH01 through PH11. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Boreholes and potholes were advanced at thirteen locations on the well pad and north of the well pad to assess for potential soil impacts as a result of the April 4, 2018, fresh water release. Laboratory analytical results for the delineation soil samples collected from boreholes BH01 and BH02 and potholes PH01 through PH11 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and no further remediation was required. While no fluids were recovered at the time of the release, fresh water with limited chemical additives were the only fluids released. Based on visual observations, field screening, and laboratory analytical results, no impacted soil was identified as a result of the release. XTO requests no further action for RP Number 2RP-4708. An updated NMOCD Form C-141 is included as Attachment 1.

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





Billings, B.
Page 4

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "Bryan Paraspolo".

Bryan Paraspolo
Project Environmental Scientist

A handwritten signature in blue ink, appearing to read "Ashley L. Ager".

Ashley L. Ager, P.G.
Senior Geologist

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

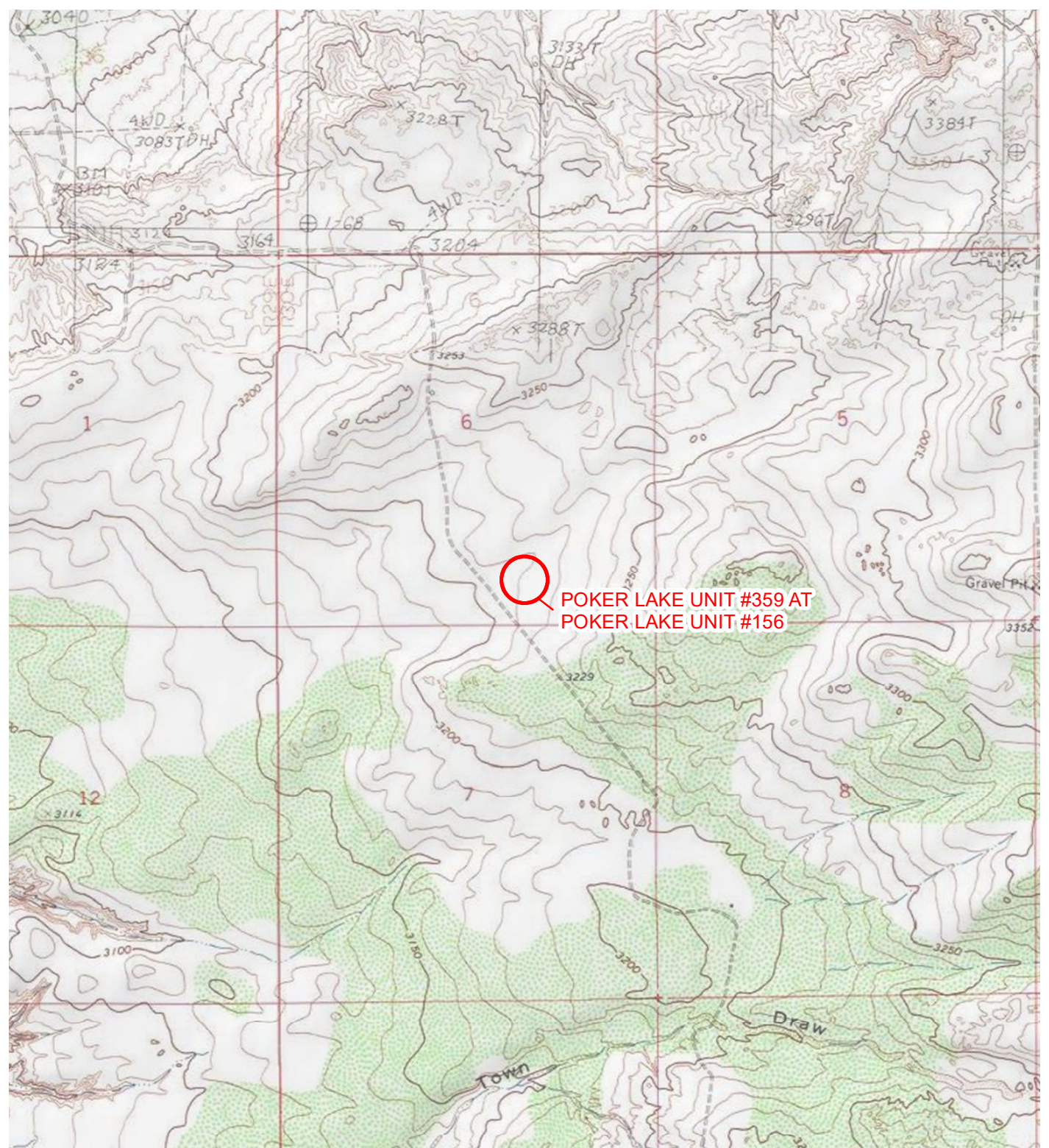
Attachments:

Figure 1 Site Location Map
Figure 2 Delineation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4708)
Attachment 2 Lithologic/Soil Sample Logs
Attachment 3 Photographic Log
Attachment 4 Laboratory Analytical Reports



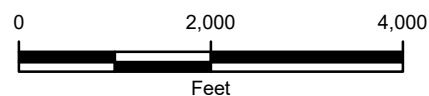
FIGURES



**LEGEND**

 SITE LOCATION

IMAGE COURTESY OF ESRI/USGS



NOTE: REMEDIATION PERMIT
NUMBER 2RP-4708

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT #359 AT POKER LAKE UNIT #156
UNIT O SEC 6 T24S-R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



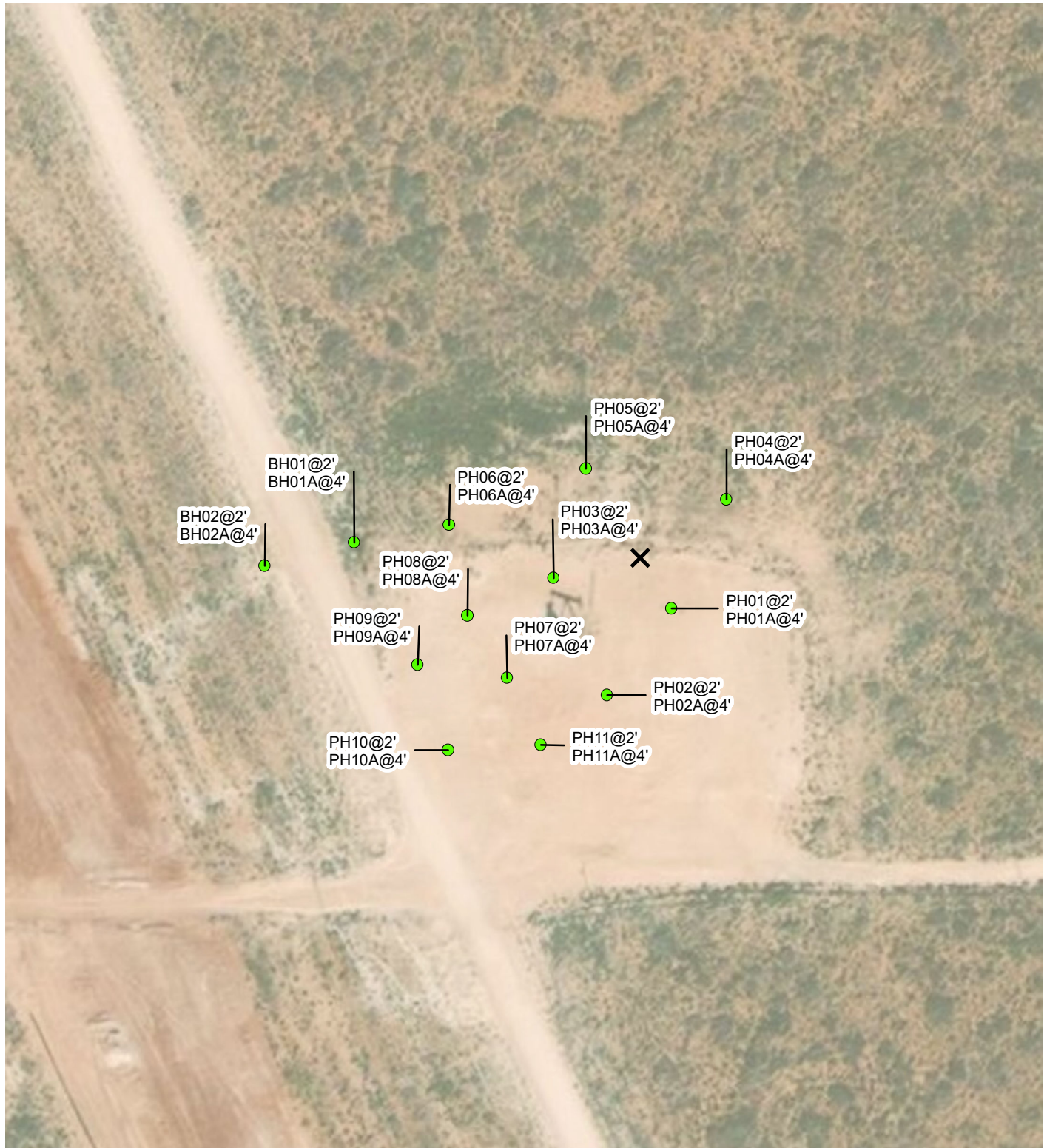
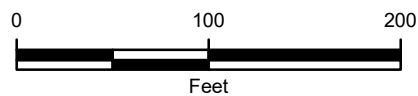


IMAGE COURTESY OF ESRI

LEGEND

RELEASE LOCATION

SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

SAMPLE ID@DEPTH BELOW
GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-4708

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT #359 AT POKER LAKE UNIT #156
UNIT O SEC 6 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012919114_POKER LAKE UNIT #359\012919114_FIG02_DELINEATION_4708.mxd

TABLE



TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT #359 AT POKER LAKE UNIT #156
REMEDATION PERMIT NUMBER 2RP-4708
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BH01	2	6/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	15.2
BH01A	4	6/12/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<15.0	<15.0	<15.0	<15.0	<15.0	23.3
BH02	2	6/13/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<14.9	<14.9	<14.9	<14.9	<14.9	147
BH02A	4	6/13/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	106
PH01	2	6/12/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<15.0	<15.0	<15.0	<15.0	<15.0	20.9
PH01A	4	6/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	65.2
PH02	2	6/12/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<15.0	<15.0	<15.0	<15.0	<15.0	149
PH02A	4	6/12/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<15.0	<15.0	<15.0	<15.0	<15.0	191
PH03	2	6/12/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<15.0	<15.0	<15.0	<15.0	<15.0	16.2
PH03A	4	6/12/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<15.0	<15.0	<15.0	<15.0	<15.0	30.5
PH04	2	6/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<14.9	<14.9	<14.9	<14.9	<14.9	23.8
PH04A	4	6/12/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	104
PH05	2	6/12/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	107
PH05A	4	6/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	114
PH06	2	6/12/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<15.0	<15.0	<15.0	<15.0	<15.0	28.7
PH06A	4	6/12/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	32.0
PH07	2	6/13/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	46.6
PH07A	4	6/13/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	<5.02
PH08	2	6/13/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	42.6
PH08A	4	6/13/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<15.0	<15.0	<15.0	<15.0	<15.0	47.8
PH09	2	6/13/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<15.0	<15.0	<15.0	<15.0	<15.0	32.6
PH09A	4	6/13/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	181
PH10	2	6/13/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<15.0	<15.0	<15.0	<15.0	<15.0	11.2
PH10A	4	6/13/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0	<15.0	6.68
PH11	2	6/13/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<15.0	<15.0	<15.0	<15.0	<15.0	13.4
PH11A	4	6/13/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<15.0	<15.0	<15.0	<15.0	<15.0	29.0
NMOC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

NMAC - New Mexico Administrative Code

NMOC - New Mexico Oil Conservation Division

NE - not established

ORO - oil range organics

TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4708)

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 18 2018

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
conformance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

NAB 1810850031
Name of Company: XTO Energy | BOPCO 2100731
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220
Facility Name: PLU #359 (@ PLU #156)
Contact: Kyle Littrell
Telephone No: 432-221-7331
Facility Type: Exploration and Production
Surface Owner: Federal
Mineral Owner: Federal
API No: 30-015-43230

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	6	24S	30E	750	South	1825	East	Eddy

Latitude 32.241461° Longitude -103.918046° NAD83

NATURE OF RELEASE

Type of Release release volume).	Fresh Water (< 1 gallon of chemical added to	Volume of Release	516 bbls	Volume Recovered	0 bbls
Source of Release	Victaulic clamp connection on contractor trailer	Date and Hour of Occurrence	4/4/2018 12:40 pm	Date and Hour of Discovery	4/4/2018 12:40 pm
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM)		
By Whom?	Amy Ruth	Date and Hour:	4/5/2018 9:12 am		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*

A 12" Victaulic clamp became disconnected from the contractor chemical trailer. Pumps were shut down and the line was clamped. The fresh water released had .88 gallons of chemical additives. The trailer and associated tanks were removed to the frac location and placed within lined containment for the remaining operation.

Describe Area Affected and Cleanup Action Taken.*

The leak affected 5,400 square feet of caliche pad/lease road and approximately 13,700 square feet of pasture north of the pad and on ROW's. An environmental contractor will be retained to assist with delineation and remediation efforts.

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

OIL CONSERVATION DIVISION

Signature:

Printed Name: Kyle Littrell

Title: Environmental Coordinator

E-mail Address: Kyle.Littrell@xtoenergy.com

Date: 4/18/2018

Phone: 432-221-7331

Approved by Environmental Specialist

Approval Date: 4/18/18

Expiration Date: N/A

Conditions of Approval:

See attached

Attached

2RP-4708

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4708
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude N 32.241461 Longitude W 103.918046
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: PLU #359 @ PLU #156	Site Type: Production Well Facility
Date Release Discovered: 4/4/2018	API# (if applicable): 30-015-43230

Unit Letter	Section	Township	Range	County
O	6	24S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe)	Volume/Weight Released (provide units) : 516 bbls Fresh water with < 1-gallon of chemical additives	Volume/Weight Recovered (provide units): 0 bbls

Cause of Release

A 12-inch clamp became disconnected from the contractor chemical trailer. The fresh water released had 0.88 gallons of chemical additives. Approximately 5,400 square feet of caliche pad and lease road and approximately 13,700 square feet of pasture north of the pad and on the right-of-way were impacted by the release.

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? 516 bbls released.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Mike Bratcher/Crystal Weaver (NMOCD) and Shelly Tucker/Jim Amos (BLM) on 4/4/2018 at 12:40 pm	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why: N/A
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: <u>Kyle Littrell</u> Title: <u>SH&E Supervisor</u> Signature: <u></u> Date: <u>10/4/2019</u> email: <u>Kyle_Littrell@xtoenergy.com</u> Telephone: <u>432-221-7331</u>
<u>OCD Only</u> Received by: _____ Date: _____

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

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

Printed Name: _____ Kyle Littrell _____ Title: _____ SH&E Supervisor _____

Signature: _____ Date: _____ 10/4/2019 _____

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-4708
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 10/4/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS



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

Compliance · Engineering · Remediation

Identifier:

PH-1

Date:

06/12/2019

Project Name:

PLU 359@156

RP Number:

2RP - 4708

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

PEP, chbide,

Logged By: L. Lambrecht

Method: backho

Hole Diameter:

2'

Total Depth:

4'

Comments:

delineation

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	CK2 19.8				0		gr-sm	dry sand, nodar, 80/10 sand/Plas
dry	CK2 10.2			PK-1	1			brn
					2			
					3			
dry	CK2 5.1			PK-1/A	4		caliche	3.5' caliche, dry
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.



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

Compliance · Engineering · Remediation

Identifier:

PH-2

Date:

06/12/2019

Project Name:

PLU 359-@156

RP Number:

2RP-4708

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: L. Lambach

Method: backhoe

Lat Long:

Field Screening:

pH chlorides

Hole Diameter:

2'

Total Depth:

4'

Comments:

de/lineation

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
	CH2	10.2			0		Sw/Sm	Soil, red, N stain, brown
	CH2	8.1		PH-2	1			
	CH2	8.1			2			
	CH2	8.4		PH-2	3			
					4		caliche	rocky, caliche ~ 5" diameter
					5			deepest depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <i>PH3</i> Date: <i>06/12/2014</i>						
Project Name: <i>PLU 359@156</i> RP Number: <i>RRP-4708</i>								
Logged By: <i>L. Lamborch</i> Method: <i>backhoe</i>								
Hole Diameter: <i>2'</i> Total Depth: <i>4'</i>								
Lat/Long: _____ Field Screening: <i>PTD, chlorides</i>								
Comments: <i>delineation</i>								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<i>dry</i>	<i>CH2</i>	<i>21.4</i>			0		<i>SW-SM</i>	<i>Sand dry, No odor, brown</i>
<i>dry</i>	<i>CH2</i>	<i>18.1</i>		<i>PH3</i>	1			
					2			
					3			
<i>dry</i>	<i>CH2</i>	<i>2.2</i>		<i>PH3/PH</i>	4			<i>Sand moist days / sticky texture brown</i>
<i>deeper depth</i>								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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

Compliance · Engineering · Remediation

Identifier:

P164

Date:

06/12/2019

Project Name:

PLU 359@156

RP Number:

2RP-4708

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: L. Lambach

Method: backhoe

Lat/Long:

Field Screening:

chloride, PID

Hole Diameter:

2'

Total Depth:

4'

Comments:

degradation

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	192				0		sw-sr	dry sand, organics mixed, brown
dry	192			P164	1			dry sand, brown, nodules
					2			↓
					3			
dry	2192			P164A	4		↓	dry, no plastic, brown, nodules
					5			deeper depth
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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

Compliance · Engineering · Remediation

Identifier: *PLBS (near)* Date: *06/12/2019*
Project Name: *PLU359@156* RP Number: *2RP4708*
Logged By: *L. Lumbach* Method: *backhoe*
Hole Diameter: *2'* Total Depth: *4'*

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

P/P, chlorides

Comments:

delineation

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
	<i>CHL 8.2</i>			<i>PLBS</i>	2'		<i>swsm</i>	<i>Soil brown, dry, no odor</i>
					3			
	<i>CHL 4.4</i>			<i>PLBSH</i>	4'			
					5			<i>deepest depth</i>
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <u>PH-6 (real)</u> Date: <u>06/12/2019</u>						
Project Name: <u>PLU 359 R156</u> RP Number: <u>2RP 4708</u>								
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:	Field Screening: <u>chloride, PED</u>	Logged By: <u>L. Lambah</u> Method: <u>backhoe</u>						
Comments: <u>deliberate</u>		Hole Diameter: <u>2'</u> Total Depth: <u>4'</u>						
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
					1			
<u>dry</u>	<u>492</u>	<u>10.4</u>		<u>PH-6</u>	2'			<u>swsm sand, brown, water. Nstch</u>
					3			
<u>dry</u>	<u>492</u>	<u>12.6</u>		<u>PH-6A</u>	4'			
					5			<u>depth depth</u>
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PTH07		Date: 06/13/09		
		Project Name: PLU359@156		RP Number: 2RP-4708				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: L. Lambrecht		Method: backhoe		
Lat/Long:		Field Screening: <i>PEP, chlorides</i>		Hole Diameter: 2'		Total Depth: 4'		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<i>dry</i>	<i><109</i>				0			
<i>dry</i>	<i><109</i>			<i>PK67</i>	<i>(1')</i>			<i>swm sand, dry, no odor <15 ft. lines brown</i>
					3			
<i>dry</i>	<i><109</i>			<i>PK7A</i>	<i>(4')</i>			
					5			<i>deepest depth</i>
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <i>PH08</i> Date: <i>06/13/2019</i>						
Project Name: <i>PLU 359@156</i> RP Number: <i>2RP 4708</i>								
Lat/Long:	Field Screening: <i>PH0, chlorides</i> Hole Diameter: <i>2"</i> Total Depth: <i>4'</i>	Method: <i>backhoe</i>						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
<i>dry</i>	<i><100</i>				0			
<i>dry</i>	<i><100</i>			<i>PH08</i>	1			<i>SW-SW water, dry sand, brown</i>
<i>dry</i>	<i><100</i>			<i>PH08A</i>	2			
<i>dry</i>	<i><100</i>				3			
<i>dry</i>	<i><100</i>				4			<i>deepest depth</i>
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <u>PH-9</u>	Date: <u>06/13/2019</u>					
		Project Name: <u>PLU 359@156</u>	RP Number: <u>2RP 4708</u>					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: <u>PH-9, chlorides</u>	Logged By: <u>L. Lambach</u> Method: <u>backhoe</u> Hole Diameter: <u>2'</u> Total Depth: <u>4'</u>					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
<u>dry</u>	<u><109</u>			<u>PH-9</u>	<u>(1)</u>		<u>sw-sm</u>	<u>Sand, dry, no odor, non plastic, no organics</u>
<u>dry</u>	<u><109</u>			<u>PH-9</u>	<u>(2)</u>			
					3			
<u>dry</u>	<u>122</u>			<u>PH-9A</u>	<u>(4)</u>			
<u>Logest depth</u>								
[Crossed out section]								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



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

Compliance · Engineering · Remediation

Identifier:

PH10

Date:

06/13/2019

Project Name:

PLU 359@156

RP Number:

2RP 4708

Logged By:

L. Lamborn

Method:

backhoe

Hole Diameter:

2'

Total Depth:

4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

PH, chloride,

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	<100				0			
dry	<100			PH10	(1)		SW-SM	sand, dry, No odor, <15% fines, easily settled, non plastic
					(2)			
					3			
dry	<100			PH10A	(4)			
deepest depth								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



LT Environmental, Inc.



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

Compliance · Engineering · Remediation

Identifier:

PH11

Date:

06/13/2019

Project Name:

PLU 359@156

RP Number:

2RP 47-8

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:

chlorides

Logged By: L. Lambach

Method: backhoe

Hole Diameter:

2'

Total Depth:

4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
dry	<109				0			
dry	<109			PH11	1		sw-sm	sand, dry, no odor, nonplastic, gritty
dry	<109			PH11A	2			
					3			
dry	<109				4			
deeper depth								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: <i>BH1</i> Date: <i>06/12/2019</i>
Project Name: <i>PLU 359@156</i>		RP Number: <i>2RP-4708</i>
Lat/Long:		Logged By: <i>L. Lambuch</i>
Field Screening: <i>PID, chloides</i>		Method: <i>backhoe</i>
Comments:		Hole Diameter: <i>2.5"</i> Total Depth: <i>4'</i>

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
<i>dry</i>	<i><109</i>				<i>①</i>		<i>sw-sm</i>	<i>Sand, dry, no odor, no staining, no organics</i>
<i>dry</i>	<i><109</i>			<i>BH1</i>	<i>②</i>			
					3			
<i>dry</i>	<i><109</i>			<i>BH1A</i>	<i>④</i>			
<i>deepest depth</i>								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BK2	Date: 06/13/2019
		Project Name: PLU 359@156	RP Number: 2RP 4708
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: L. Lambach	Method: backhoe
Lat/Long:		Hole Diameter: 2.5"	Total Depth: 4'
Comments:		Soil Screening: PID, chloride Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
dry	109				(1)			sw-sm sand, dry, no odor, no stain
dry	109			BK2	(2)			
					3			
dry	109			BK2	(4)			
deepest depth								
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View of release area facing east.



Photograph 2: View of release area facing northeast.



Photograph 3: View of release area facing south.

PLU #359 @ PLU #156 (2RP-4708)
Eddy County, New Mexico
Photographs Taken: June 13, 2019



ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Analytical Report 627893

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 359 @ 156

12919114

27-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



27-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **627893**

PLU 359 @ 156

Project Address: Delaware Basin

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 627893. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 627893 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 627893****LT Environmental, Inc., Arvada, CO**

PLU 359 @ 156

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	06-12-19 14:10	2 ft	627893-001
BH01A	S	06-12-19 14:20	4 ft	627893-002
BH02	S	06-13-19 10:40	2 ft	627893-003
BH02A	S	06-13-19 10:50	4 ft	627893-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 359 @ 156

Project ID: 12919114
Work Order Number(s): 627893

Report Date: 27-JUN-19
Date Received: 06/17/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092646 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 627897-001 S, 627897-001 SD, 627893-001.

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 627897-001 SD.



Certificate of Analysis Summary 627893

LT Environmental, Inc., Arvada, CO

Project Name: PLU 359 @ 156



Project Id: 12919114
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 27-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627893-001	627893-002	627893-003	627893-004		
	<i>Field Id:</i>	BH01	BH01A	BH02	BH02A		
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jun-12-19 14:10	Jun-12-19 14:20	Jun-13-19 10:40	Jun-13-19 10:50		
BTEX by SW 8260C SUB: T104704215-19-29	<i>Extracted:</i>	Jun-25-19 12:45	Jun-25-19 12:45	Jun-26-19 11:10	Jun-26-19 11:10		
	<i>Analyzed:</i>	Jun-25-19 15:56	Jun-25-19 16:16	Jun-26-19 13:13	Jun-26-19 13:33		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
Toluene		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
Ethylbenzene		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
m,p-Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201		
o-Xylene		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
Total Xylenes		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
Total BTEX		<0.00100 0.00100	<0.000992 0.000992	<0.000990 0.000990	<0.00101 0.00101		
Chloride by EPA 300	<i>Extracted:</i>	Jun-17-19 17:40	Jun-25-19 16:30	Jun-25-19 16:30	Jun-25-19 16:30		
	<i>Analyzed:</i>	Jun-18-19 12:51	Jun-26-19 09:23	Jun-26-19 10:28	Jun-26-19 10:35		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		15.2 5.02	23.3 5.01	147 4.96	106 4.96		
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00	Jun-17-19 12:00		
	<i>Analyzed:</i>	Jun-17-19 22:31	Jun-17-19 22:55	Jun-17-19 23:20	Jun-17-19 23:44		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0		
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH01**
 Lab Sample Id: 627893-001

Matrix: Soil
 Date Collected: 06.12.19 14.10

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.17.19 17.40

Basis: Wet Weight

Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.2	5.02	mg/kg	06.18.19 12.51		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 06.17.19 12.00

Basis: Wet Weight

Seq Number: 3092646

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 22.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 22.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 22.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 22.31	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	136	%	70-135	06.17.19 22.31	**
o-Terphenyl	84-15-1	108	%	70-135	06.17.19 22.31	



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH01**
 Lab Sample Id: 627893-001

Matrix: Soil
 Date Collected: 06.12.19 14.10

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093418

Date Prep: 06.25.19 12.45

Prep Method: SW5035A

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 15.56	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 15.56	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100		%	74-126	06.25.19 15.56	
1,2-Dichloroethane-D4	17060-07-0	100		%	80-120	06.25.19 15.56	
Toluene-D8	2037-26-5	98		%	73-132	06.25.19 15.56	
4-Bromofluorobenzene	460-00-4	88		%	58-152	06.25.19 15.56	



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH01A**
 Lab Sample Id: 627893-002

Matrix: Soil
 Date Collected: 06.12.19 14.20

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3093549

Date Prep: 06.25.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.3	5.01	mg/kg	06.26.19 09.23		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 22.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 22.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 22.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 22.55	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 22.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	06.17.19 22.55	
o-Terphenyl	84-15-1	109	%	70-135	06.17.19 22.55	



Certificate of Analytical Results 627893



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH01A**
Lab Sample Id: 627893-002

Matrix: Soil
Date Collected: 06.12.19 14.20

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093418

Prep Method: SW5035A

% Moisture:

Date Prep: 06.25.19 12.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 16.16	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.25.19 16.16	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	104		%	74-126	06.25.19 16.16	
1,2-Dichloroethane-D4	17060-07-0	110		%	80-120	06.25.19 16.16	
Toluene-D8	2037-26-5	100		%	73-132	06.25.19 16.16	
4-Bromofluorobenzene	460-00-4	88		%	58-152	06.25.19 16.16	



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH02**
 Lab Sample Id: 627893-003

Matrix: Soil
 Date Collected: 06.13.19 10.40

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3093549

Date Prep: 06.25.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	147	4.96	mg/kg	06.26.19 10.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.17.19 23.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.17.19 23.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.17.19 23.20	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.17.19 23.20	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.17.19 23.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	06.17.19 23.20	
o-Terphenyl	84-15-1	98	%	70-135	06.17.19 23.20	



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH02**
 Lab Sample Id: 627893-003

Matrix: Soil
 Date Collected: 06.13.19 10.40

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093590

Prep Method: SW5035A

% Moisture:

Date Prep: 06.26.19 11.10

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.26.19 13.13	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.26.19 13.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	101	%	74-126	06.26.19 13.13	
1,2-Dichloroethane-D4	17060-07-0	105	%	80-120	06.26.19 13.13	
Toluene-D8	2037-26-5	103	%	73-132	06.26.19 13.13	
4-Bromofluorobenzene	460-00-4	86	%	58-152	06.26.19 13.13	



Certificate of Analytical Results 627893

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH02A**
 Lab Sample Id: 627893-004

Matrix: Soil
 Date Collected: 06.13.19 10.50

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3093549

Date Prep: 06.25.19 16.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	106	4.96	mg/kg	06.26.19 10.35		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3092646

Date Prep: 06.17.19 12.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.17.19 23.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.17.19 23.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.17.19 23.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.17.19 23.44	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.17.19 23.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	06.17.19 23.44	
o-Terphenyl	84-15-1	111	%	70-135	06.17.19 23.44	



Certificate of Analytical Results 627893



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **BH02A**
Lab Sample Id: 627893-004

Matrix: Soil
Date Collected: 06.13.19 10.50

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093590

Prep Method: SW5035A

% Moisture:

Date Prep: 06.26.19 11.10

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	06.26.19 13.33	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.26.19 13.33	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	103		%	74-126	06.26.19 13.33	
1,2-Dichloroethane-D4	17060-07-0	110		%	80-120	06.26.19 13.33	
Toluene-D8	2037-26-5	98		%	73-132	06.26.19 13.33	
4-Bromofluorobenzene	460-00-4	88		%	58-152	06.26.19 13.33	



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.

PLU 359 @ 156

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

MB Sample Id: 7680130-1-BLK

Matrix: Solid

LCS Sample Id: 7680130-1-BKS

Prep Method: E300P

Date Prep: 06.17.19

LCSD Sample Id: 7680130-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	253	101	90-110	0	20	mg/kg	06.18.19 10:13	

Analytical Method: Chloride by EPA 300

Seq Number: 3093549

MB Sample Id: 7680720-1-BLK

Matrix: Solid

LCS Sample Id: 7680720-1-BKS

Prep Method: E300P

Date Prep: 06.25.19

LCSD Sample Id: 7680720-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	226	90	226	90	90-110	0	20	mg/kg	06.26.19 09:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

Parent Sample Id: 627724-135

Matrix: Soil

MS Sample Id: 627724-135 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627724-135 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.03	252	245	97	247	98	90-110	1	20	mg/kg	06.18.19 10:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

Parent Sample Id: 627896-006

Matrix: Soil

MS Sample Id: 627896-006 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627896-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.5	248	274	98	273	98	90-110	0	20	mg/kg	06.18.19 11:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3093549

Parent Sample Id: 627893-002

Matrix: Soil

MS Sample Id: 627893-002 S

Prep Method: E300P

Date Prep: 06.25.19

MSD Sample Id: 627893-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.3	251	275	100	275	100	90-110	0	20	mg/kg	06.26.19 09:30	

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 359 @ 156

Analytical Method: Chloride by EPA 300

Seq Number: 3093549

Parent Sample Id: 628664-030

Matrix: Soil

MS Sample Id: 628664-030 S

Prep Method: E300P

Date Prep: 06.25.19

MSD Sample Id: 628664-030 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.860	251	269	107	270	108	90-110	0	20	mg/kg	06.26.19 11:11	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092646

MB Sample Id: 7680153-1-BLK

Matrix: Solid

LCS Sample Id: 7680153-1-BKS

Prep Method: TX1005P

Date Prep: 06.17.19

LCSD Sample Id: 7680153-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1020	102	1030	103	70-135	1	20	mg/kg	06.17.19 15:17	
Diesel Range Organics (DRO)	<8.13	1000	988	99	1050	105	70-135	6	20	mg/kg	06.17.19 15:17	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		116		118		70-135	%	06.17.19 15:17
o-Terphenyl	108		94		105		70-135	%	06.17.19 15:17

Analytical Method: TPH by SW8015 Mod

Seq Number: 3092646

Parent Sample Id: 627897-001

Matrix: Soil

MS Sample Id: 627897-001 S

Prep Method: TX1005P

Date Prep: 06.17.19

MSD Sample Id: 627897-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	12.9	1000	1200	119	1170	116	70-135	3	20	mg/kg	06.17.19 16:41	
Diesel Range Organics (DRO)	18.3	1000	1190	117	1150	113	70-135	3	20	mg/kg	06.17.19 16:41	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	147	**	151	**	70-135	%	06.17.19 16:41
o-Terphenyl	126		145	**	70-135	%	06.17.19 16:41

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

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

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

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



LT Environmental, Inc.

PLU 359 @ 156

Analytical Method: BTEX by SW 8260C

Seq Number: 3093418

MB Sample Id: 7680681-1-BLK

Matrix: Solid

LCS Sample Id: 7680681-1-BKS

Prep Method: SW5030B

Date Prep: 06.25.19

LCSD Sample Id: 7680681-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0500	0.0497	99	0.0502	100	62-132	1	25	mg/kg	06.25.19 08:53	
Toluene	<0.00100	0.0500	0.0528	106	0.0534	107	66-124	1	25	mg/kg	06.25.19 08:53	
Ethylbenzene	<0.00100	0.0500	0.0527	105	0.0537	107	71-134	2	25	mg/kg	06.25.19 08:53	
m,p-Xylenes	<0.00200	0.100	0.106	106	0.107	107	69-128	1	25	mg/kg	06.25.19 08:53	
o-Xylene	<0.00100	0.0500	0.0504	101	0.0509	102	72-131	1	25	mg/kg	06.25.19 08:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		97		92		74-126	%	06.25.19 08:53
1,2-Dichloroethane-D4	107		99		94		80-120	%	06.25.19 08:53
Toluene-D8	102		97		95		73-132	%	06.25.19 08:53
4-Bromofluorobenzene	88		107		108		58-152	%	06.25.19 08:53

Analytical Method: BTEX by SW 8260C

Seq Number: 3093590

MB Sample Id: 7680777-1-BLK

Matrix: Solid

LCS Sample Id: 7680777-1-BKS

Prep Method: SW5035A

Date Prep: 06.26.19

LCSD Sample Id: 7680777-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0500	0.0562	112	0.0515	103	62-132	9	25	mg/kg	06.26.19 09:11	
Toluene	<0.00100	0.0500	0.0585	117	0.0550	110	66-124	6	25	mg/kg	06.26.19 09:11	
Ethylbenzene	<0.00100	0.0500	0.0596	119	0.0542	108	71-134	9	25	mg/kg	06.26.19 09:11	
m,p-Xylenes	<0.00200	0.100	0.120	120	0.110	110	69-128	9	25	mg/kg	06.26.19 09:11	
o-Xylene	<0.00100	0.0500	0.0587	117	0.0527	105	72-131	11	25	mg/kg	06.26.19 09:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	95		98		97		74-126	%	06.26.19 09:11
1,2-Dichloroethane-D4	100		104		98		80-120	%	06.26.19 09:11
Toluene-D8	97		98		94		73-132	%	06.26.19 09:11
4-Bromofluorobenzene	86		111		106		58-152	%	06.26.19 09:11

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 359 @ 156

Analytical Method: BTEX by SW 8260C

Seq Number: 3093418

Parent Sample Id: 628719-002

Matrix: Soil

MS Sample Id: 628719-002 S

Prep Method: SW5030B

Date Prep: 06.25.19

MSD Sample Id: 628719-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00119	0.0593	0.0385	65	0.0433	73	62-132	12	25	mg/kg	06.25.19 10:34	
Toluene	<0.00119	0.0593	0.0400	67	0.0445	75	66-124	11	25	mg/kg	06.25.19 10:34	
Ethylbenzene	<0.00119	0.0593	0.0414	70	0.0449	76	71-134	8	25	mg/kg	06.25.19 10:34	X
m,p-Xylenes	<0.00237	0.119	0.0801	67	0.0906	77	69-128	12	25	mg/kg	06.25.19 10:34	X
o-Xylene	<0.00119	0.0593	0.0365	62	0.0406	69	72-131	11	25	mg/kg	06.25.19 10:34	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		99		74-126	%	06.25.19 10:34
1,2-Dichloroethane-D4	115		107		80-120	%	06.25.19 10:34
Toluene-D8	93		92		73-132	%	06.25.19 10:34
4-Bromofluorobenzene	100		105		58-152	%	06.25.19 10:34

Analytical Method: BTEX by SW 8260C

Seq Number: 3093590

Parent Sample Id: 627894-003

Matrix: Soil

MS Sample Id: 627894-003 S

Prep Method: SW5035A

Date Prep: 06.26.19

MSD Sample Id: 627894-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0501	0.0417	83	0.0383	77	62-132	9	25	mg/kg	06.26.19 10:15	
Toluene	<0.00100	0.0501	0.0426	85	0.0394	79	66-124	8	25	mg/kg	06.26.19 10:15	
Ethylbenzene	<0.00100	0.0501	0.0446	89	0.0393	79	71-134	13	25	mg/kg	06.26.19 10:15	
m,p-Xylenes	<0.00200	0.100	0.0888	89	0.0785	79	69-128	12	25	mg/kg	06.26.19 10:15	
o-Xylene	<0.00100	0.0501	0.0413	82	0.0374	75	72-131	10	25	mg/kg	06.26.19 10:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		98		74-126	%	06.26.19 10:15
1,2-Dichloroethane-D4	101		103		80-120	%	06.26.19 10:15
Toluene-D8	94		95		73-132	%	06.26.19 10:15
4-Bromofluorobenzene	102		100		58-152	%	06.26.19 10:15

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

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

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

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



Chain of Custody

Work Order No:

1027893

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

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Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	lilaumbach@ltenv.com, dmoir@ltenv.com

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

Project Name:	PLU 359 @ 156	Turn Around	
Project Number:	12919114	Routine	☒
P.O. Number:	2RP-4708	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
	Temperature (°C):	42.4.0	Thermometer ID	128
	Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes ☐ No ☒ N/A	Total Containers:	
	Sample Custody Seals:	Yes ☐ No ☒ N/A		

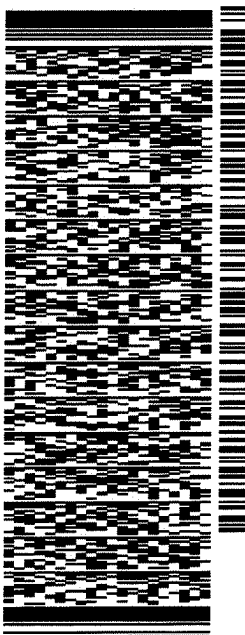
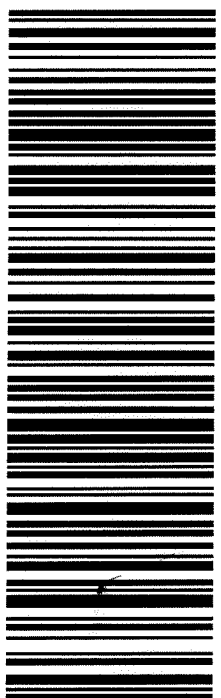
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	
BH01	S	06/12/14	14:10	2'	X	X	X	
BH01A	S	06/12/14	14:20	4'	X	X	X	
BH02	S	06/13/14	10:40	2'	X	X	X	
BH02A	S	06/13/14	10:50	4'	X	X	X	
[Large scribbled area]								

ANALYSIS REQUEST									
Work Order Notes									
TAT starts the day received by the lab, if received by 4:30pm									

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
[Signature]	[Signature]	06-14-14 13:30	[Signature]	[Signature]	06/17/14 07:05

ORIGIN ID: CACOA (281) 240-4200 SAMPLE CUSTODY SAMPLE CUSTODY 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 14JUN19 ACTWGT: 56.00 LB CAD: 114488676/NINET4100 DIMS: 21x14x14 IN	
TO SAMPLE RECEIVING MIDLAND FEDEx OFFICE PRINT & SHIP CENTER FEDEx OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701		BILL SENDER	
(432) 704-5440 INV: REF: PO: DEPT:			
			
			
J191019010701uv			
TRK# 7754 8000 4696 0201		SATURDAY HOLD PRIORITY OVERNIGHT HLD MAFKI LBB TX-US	
41 MAFFA			

565J11D210/23AD

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Inter-Office Shipment

IOS Number : **42128**

Date/Time: 06.24.2019 14:27 Created by: Jessica Kramer
 Lab# From: **Midland** Delivery Priority:
 Lab# To: **Houston** Air Bill No.: 775553778262

Please send report to: Jessica Kramer
 Address: 1211 W. Florida Ave
 E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627893-001	S	BH01	06.12.2019 14:10	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 14:10	JKR	BZ BZME EBZ XYLENE	
627893-002	S	BH01A	06.12.2019 14:20	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 14:20	JKR	BZ BZME EBZ XYLENE	
627893-003	S	BH02	06.13.2019 10:40	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 10:40	JKR	BZ BZME EBZ XYLENE	
627893-004	S	BH02A	06.13.2019 10:50	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 10:50	JKR	BZ BZME EBZ XYLENE	

Inter Office Shipment or Sample Comments:

SAMPLES BREAK HOLD 06/26/19

Relinquished By: Jessica Kramer
 Jessica Kramer
 Date Relinquished: 06.24.2019

Received By: Ashly Kowalski
 Ashly Kowalski
 Date Received: 06.25.2019 09:40
 Cooler Temperature: 0.6



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 42128

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : HOU-068

Sent By: Jessica Kramer

Date Sent: 06.24.2019 02:27 PM

Received By: Ashly Kowalski

Date Received: 06.25.2019 09:40 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

SAMPLES BREAK HOLD 06/26/19

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Ashly Kowalski

Date: 06.25.2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/17/2019 07:25:00 AM

Work Order #: 627893

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 06/17/2019

Checklist reviewed by:

Kalei Stout

Date: 06/17/2019

Analytical Report 627896

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 359 @ 156

12919114

27-JUN-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)



27-JUN-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **627896**

PLU 359 @ 156

Project Address: Delaware Basin

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 627896. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 627896 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	06-12-19 10:10	2 ft	627896-001
PH01A	S	06-12-19 10:20	4 ft	627896-002
PH02	S	06-12-19 10:35	2 ft	627896-003
PH02A	S	06-12-19 10:50	4 ft	627896-004
PH03	S	06-12-19 11:10	2 ft	627896-005
PH03A	S	06-12-19 11:25	4 ft	627896-006
PH04	S	06-12-19 11:40	2 ft	627896-007
PH04A	S	06-12-19 11:50	4 ft	627896-008
PH05	S	06-12-19 15:05	2 ft	627896-009
PH05A	S	06-12-19 15:15	4 ft	627896-010
PH06	S	06-12-19 15:30	2 ft	627896-011
PH06A	S	06-12-19 15:40	4 ft	627896-012
PH07	S	06-13-19 08:30	2 ft	627896-013
PH07A	S	06-13-19 08:40	4 ft	627896-014
PH08	S	06-13-19 08:50	2 ft	627896-015
PH08A	S	06-13-19 09:05	4 ft	627896-016
PH09	S	06-13-19 09:20	2 ft	627896-017
PH09A	S	06-13-19 09:30	4 ft	627896-018
PH10	S	06-13-19 09:45	2 ft	627896-019
PH10A	S	06-13-19 10:00	4 ft	627896-020
PH11	S	06-13-19 10:15	2 ft	627896-021
PH11A	S	06-13-19 10:30	4 ft	627896-022



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 359 @ 156

Project ID: 12919114
Work Order Number(s): 627896

Report Date: 27-JUN-19
Date Received: 06/17/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3093267 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected.

Samples affected are: 627896-008.

Batch: LBA-3093512 BTEX by SW 8260C

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

Batch: LBA-3093590 BTEX by SW 8260C

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



Certificate of Analysis Summary 627896

LT Environmental, Inc., Arvada, CO

Project Name: PLU 359 @ 156



Project Id: 12919114
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 27-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627896-001	627896-002	627896-003	627896-004	627896-005	627896-006
	<i>Field Id:</i>	PH01	PH01A	PH02	PH02A	PH03	PH03A
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-12-19 10:10	Jun-12-19 10:20	Jun-12-19 10:35	Jun-12-19 10:50	Jun-12-19 11:10	Jun-12-19 11:25
BTEX by SW 8260C SUB: T104704215-19-29	<i>Extracted:</i>	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45
	<i>Analyzed:</i>	Jun-25-19 17:01	Jun-25-19 16:37	Jun-25-19 17:26	Jun-25-19 17:50	Jun-25-19 18:14	Jun-25-19 18:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
Toluene		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
Ethylbenzene		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
m,p-Xylenes		<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198
o-Xylene		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
Total Xylenes		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
Total BTEX		<0.000990 0.000990	<0.00100 0.00100	<0.000990 0.000990	<0.000996 0.000996	<0.000996 0.000996	<0.000992 0.000992
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-17-19 17:40
	<i>Analyzed:</i>	Jun-19-19 10:17	Jun-19-19 10:21	Jun-19-19 10:36	Jun-19-19 10:41	Jun-19-19 10:55	Jun-18-19 11:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		20.9 4.97	65.2 5.01	149 5.01	191 5.05	16.2 4.97	30.5 4.96
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00
	<i>Analyzed:</i>	Jun-21-19 19:23	Jun-21-19 20:41	Jun-21-19 21:07	Jun-21-19 21:33	Jun-21-19 21:59	Jun-21-19 22:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627896

LT Environmental, Inc., Arvada, CO

Project Name: PLU 359 @ 156

Project Id: 12919114
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 27-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627896-007	627896-008	627896-009	627896-010	627896-011	627896-012
	<i>Field Id:</i>	PH04	PH04A	PH05	PH05A	PH06	PH06A
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-12-19 11:40	Jun-12-19 11:50	Jun-12-19 15:05	Jun-12-19 15:15	Jun-12-19 15:30	Jun-12-19 15:40
BTEX by SW 8260C SUB: T104704215-19-29	<i>Extracted:</i>	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45
	<i>Analyzed:</i>	Jun-25-19 19:02	Jun-25-19 19:26	Jun-25-19 19:50	Jun-25-19 20:14	Jun-25-19 20:39	Jun-25-19 21:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
m,p-Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.000990 0.000990	<0.00100 0.00100
Chloride by EPA 300	<i>Extracted:</i>	Jun-17-19 17:40	Jun-17-19 17:40	Jun-17-19 17:40	Jun-17-19 17:40	Jun-17-19 17:40	Jun-17-19 17:40
	<i>Analyzed:</i>	Jun-18-19 12:00	Jun-18-19 12:05	Jun-18-19 12:22	Jun-18-19 12:28	Jun-18-19 12:34	Jun-18-19 12:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		23.8 4.99	104 4.97	107 4.98	114 5.04	28.7 5.01	32.0 5.02
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00
	<i>Analyzed:</i>	Jun-21-19 22:50	Jun-21-19 23:15	Jun-21-19 23:40	Jun-22-19 00:05	Jun-22-19 00:55	Jun-22-19 01:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627896

LT Environmental, Inc., Arvada, CO

Project Name: PLU 359 @ 156



Project Id: 12919114
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 27-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627896-013	627896-014	627896-015	627896-016	627896-017	627896-018
	<i>Field Id:</i>	PH07	PH07A	PH08	PH08A	PH09	PH09A
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft	2- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-13-19 08:30	Jun-13-19 08:40	Jun-13-19 08:50	Jun-13-19 09:05	Jun-13-19 09:20	Jun-13-19 09:30
BTEX by SW 8260C SUB: T104704215-19-29	<i>Extracted:</i>	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45	Jun-25-19 13:45
	<i>Analyzed:</i>	Jun-25-19 21:27	Jun-25-19 21:51	Jun-25-19 22:15	Jun-25-19 22:39	Jun-25-19 23:03	Jun-25-19 23:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
Toluene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
Ethylbenzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
m,p-Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200
o-Xylene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
Total Xylenes		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
Total BTEX		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000992 0.000992	<0.00101 0.00101	<0.00100 0.00100
Chloride by EPA 300	<i>Extracted:</i>	Jun-17-19 17:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 08:40	Jun-19-19 09:10
	<i>Analyzed:</i>	Jun-18-19 12:45	Jun-19-19 11:10	Jun-19-19 11:15	Jun-19-19 11:20	Jun-19-19 11:24	Jun-19-19 09:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		46.6 5.01	<5.02 5.02	42.6 4.97	47.8 4.96	32.6 5.02	181 5.01
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00	Jun-21-19 13:00
	<i>Analyzed:</i>	Jun-22-19 01:44	Jun-22-19 02:09	Jun-22-19 02:33	Jun-22-19 02:58	Jun-22-19 03:22	Jun-22-19 03:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 627896

LT Environmental, Inc., Arvada, CO

Project Name: PLU 359 @ 156



Project Id: 12919114
Contact: Dan Moir
Project Location: Delaware Basin

Date Received in Lab: Mon Jun-17-19 07:25 am
Report Date: 27-JUN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	627896-019	627896-020	627896-021	627896-022		
	<i>Field Id:</i>	PH10	PH10A	PH11	PH11A		
	<i>Depth:</i>	2- ft	4- ft	2- ft	4- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jun-13-19 09:45	Jun-13-19 10:00	Jun-13-19 10:15	Jun-13-19 10:30		
BTEX by SW 8260C SUB: T104704215-19-29	<i>Extracted:</i>	Jun-25-19 13:45	Jun-25-19 13:45	Jun-26-19 11:10	Jun-26-19 11:10		
	<i>Analyzed:</i>	Jun-25-19 23:52	Jun-26-19 00:16	Jun-26-19 12:53	Jun-26-19 12:33		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
Toluene		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
Ethylbenzene		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
m,p-Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
o-Xylene		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
Total Xylenes		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
Total BTEX		<0.000996 0.000996	<0.00100 0.00100	<0.000994 0.000994	<0.000990 0.000990		
Chloride by EPA 300	<i>Extracted:</i>	Jun-19-19 09:10	Jun-19-19 09:10	Jun-19-19 09:10	Jun-19-19 09:10		
	<i>Analyzed:</i>	Jun-19-19 10:02	Jun-19-19 10:09	Jun-19-19 10:16	Jun-19-19 10:30		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		11.2 5.01	6.68 4.98	13.4 5.00	29.0 4.98		
TPH by SW8015 Mod	<i>Extracted:</i>	Jun-21-19 13:00	Jun-21-19 13:00	Jun-22-19 09:00	Jun-22-19 09:00		
	<i>Analyzed:</i>	Jun-22-19 04:11	Jun-22-19 04:36	Jun-23-19 08:07	Jun-23-19 08:34		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		

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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH01**
 Lab Sample Id: 627896-001

Matrix: Soil
 Date Collected: 06.12.19 10.10

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.9	4.97	mg/kg	06.19.19 10.17		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 19.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 19.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 19.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 19.23	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	06.21.19 19.23	
o-Terphenyl	84-15-1	81	%	70-135	06.21.19 19.23	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH01**
 Lab Sample Id: 627896-001

Matrix: Soil
 Date Collected: 06.12.19 10.10

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Prep Method: SW5030B

Tech: SAD

% Moisture:

Analyst: SAD

Date Prep: 06.25.19 13.45

Basis: Wet Weight

Seq Number: 3093512

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 17.01	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.25.19 17.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	103	%	74-126	06.25.19 17.01	
1,2-Dichloroethane-D4	17060-07-0	104	%	80-120	06.25.19 17.01	
Toluene-D8	2037-26-5	101	%	73-132	06.25.19 17.01	
4-Bromofluorobenzene	460-00-4	103	%	58-152	06.25.19 17.01	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH01A**
 Lab Sample Id: 627896-002

Matrix: Soil
 Date Collected: 06.12.19 10.20

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300
 Tech: SPC
 Analyst: SPC
 Seq Number: 3092776

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 06.19.19 08.40

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	65.2	5.01	mg/kg	06.19.19 10.21		1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3093267

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 06.21.19 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 20.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 20.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 20.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 20.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 20.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.21.19 20.41	
o-Terphenyl	84-15-1	85	%	70-135	06.21.19 20.41	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH01A**
 Lab Sample Id: 627896-002

Matrix: Soil
 Date Collected: 06.12.19 10.20

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 16.37	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 16.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	74-126	06.25.19 16.37	
1,2-Dichloroethane-D4	17060-07-0	101	%	80-120	06.25.19 16.37	
Toluene-D8	2037-26-5	98	%	73-132	06.25.19 16.37	
4-Bromofluorobenzene	460-00-4	100	%	58-152	06.25.19 16.37	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH02**
 Lab Sample Id: 627896-003

Matrix: Soil
 Date Collected: 06.12.19 10.35

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	149	5.01	mg/kg	06.19.19 10.36		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 21.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 21.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.21.19 21.07	
o-Terphenyl	84-15-1	73	%	70-135	06.21.19 21.07	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH02**
Lab Sample Id: 627896-003

Matrix: Soil
Date Collected: 06.12.19 10.35

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 17.26	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.25.19 17.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	74-126	06.25.19 17.26	
1,2-Dichloroethane-D4	17060-07-0	101	%	80-120	06.25.19 17.26	
Toluene-D8	2037-26-5	97	%	73-132	06.25.19 17.26	
4-Bromofluorobenzene	460-00-4	97	%	58-152	06.25.19 17.26	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH02A**
 Lab Sample Id: 627896-004

Matrix: Soil
 Date Collected: 06.12.19 10.50

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	191	5.05	mg/kg	06.19.19 10.41		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 21.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 21.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 21.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 21.33	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 21.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	06.21.19 21.33	
o-Terphenyl	84-15-1	72	%	70-135	06.21.19 21.33	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH02A**
Lab Sample Id: 627896-004

Matrix: Soil
Date Collected: 06.12.19 10.50

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	06.25.19 17.50	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.25.19 17.50	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	102		%	74-126	06.25.19 17.50	
1,2-Dichloroethane-D4	17060-07-0	104		%	80-120	06.25.19 17.50	
Toluene-D8	2037-26-5	99		%	73-132	06.25.19 17.50	
4-Bromofluorobenzene	460-00-4	101		%	58-152	06.25.19 17.50	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH03**
 Lab Sample Id: 627896-005

Matrix: Soil
 Date Collected: 06.12.19 11.10

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300
 Tech: SPC
 Analyst: SPC
 Seq Number: 3092776

Prep Method: E300P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 06.19.19 08.40

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.2	4.97	mg/kg	06.19.19 10.55		1

Analytical Method: TPH by SW8015 Mod
 Tech: ARM
 Analyst: ARM
 Seq Number: 3093267

Prep Method: TX1005P
 % Moisture:
 Basis: Wet Weight
 Date Prep: 06.21.19 13.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 21.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 21.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 21.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 21.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 21.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.21.19 21.59	
o-Terphenyl	84-15-1	73	%	70-135	06.21.19 21.59	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH03**
Lab Sample Id: 627896-005

Matrix: Soil
Date Collected: 06.12.19 11.10

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Date Prep: 06.25.19 13.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	06.25.19 18.14	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.25.19 18.14	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	106		%	74-126	06.25.19 18.14	
1,2-Dichloroethane-D4	17060-07-0	98		%	80-120	06.25.19 18.14	
Toluene-D8	2037-26-5	96		%	73-132	06.25.19 18.14	
4-Bromofluorobenzene	460-00-4	96		%	58-152	06.25.19 18.14	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH03A**
 Lab Sample Id: 627896-006

Matrix: Soil
 Date Collected: 06.12.19 11.25

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092652

Date Prep: 06.17.19 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.5	4.96	mg/kg	06.18.19 11.43		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 22.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 22.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 22.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 22.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 22.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.21.19 22.25	
o-Terphenyl	84-15-1	79	%	70-135	06.21.19 22.25	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH03A**
Lab Sample Id: 627896-006

Matrix: Soil
Date Collected: 06.12.19 11.25

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 18.38	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.25.19 18.38	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	105		%	74-126	06.25.19 18.38	
1,2-Dichloroethane-D4	17060-07-0	105		%	80-120	06.25.19 18.38	
Toluene-D8	2037-26-5	102		%	73-132	06.25.19 18.38	
4-Bromofluorobenzene	460-00-4	100		%	58-152	06.25.19 18.38	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH04**
 Lab Sample Id: 627896-007

Matrix: Soil
 Date Collected: 06.12.19 11.40

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.17.19 17.40

Basis: Wet Weight

Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.8	4.99	mg/kg	06.18.19 12.00		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 06.21.19 13.00

Basis: Wet Weight

Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	06.21.19 22.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	06.21.19 22.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	06.21.19 22.50	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	06.21.19 22.50	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	06.21.19 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	06.21.19 22.50	
o-Terphenyl	84-15-1	73	%	70-135	06.21.19 22.50	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH04**
Lab Sample Id: 627896-007

Matrix: Soil
Date Collected: 06.12.19 11.40

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 19.02	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 19.02	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	106		%	74-126	06.25.19 19.02	
1,2-Dichloroethane-D4	17060-07-0	102		%	80-120	06.25.19 19.02	
Toluene-D8	2037-26-5	99		%	73-132	06.25.19 19.02	
4-Bromofluorobenzene	460-00-4	103		%	58-152	06.25.19 19.02	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH04A** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-008 Date Collected: 06.12.19 11.50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.17.19 17.40 Basis: Wet Weight
 Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	104	4.97	mg/kg	06.18.19 12.05		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.21.19 13.00 Basis: Wet Weight
 Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 23.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 23.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 23.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 23.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 23.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	06.21.19 23.15	
o-Terphenyl	84-15-1	63	%	70-135	06.21.19 23.15	**



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH04A**
Lab Sample Id: 627896-008

Matrix: Soil
Date Collected: 06.12.19 11.50

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	06.25.19 19.26	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.25.19 19.26	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	104		%	74-126	06.25.19 19.26	
1,2-Dichloroethane-D4	17060-07-0	106		%	80-120	06.25.19 19.26	
Toluene-D8	2037-26-5	95		%	73-132	06.25.19 19.26	
4-Bromofluorobenzene	460-00-4	99		%	58-152	06.25.19 19.26	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH05** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-009 Date Collected: 06.12.19 15.05 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.17.19 17.40 Basis: Wet Weight
 Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	4.98	mg/kg	06.18.19 12.22		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.21.19 13.00 Basis: Wet Weight
 Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.21.19 23.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.21.19 23.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.21.19 23.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.21.19 23.40	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.21.19 23.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.21.19 23.40	
o-Terphenyl	84-15-1	70	%	70-135	06.21.19 23.40	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH05**
Lab Sample Id: 627896-009

Matrix: Soil
Date Collected: 06.12.19 15.05

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	06.25.19 19.50	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.25.19 19.50	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	102		%	74-126	06.25.19 19.50	
1,2-Dichloroethane-D4	17060-07-0	106		%	80-120	06.25.19 19.50	
Toluene-D8	2037-26-5	98		%	73-132	06.25.19 19.50	
4-Bromofluorobenzene	460-00-4	92		%	58-152	06.25.19 19.50	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH05A**
 Lab Sample Id: 627896-010

Matrix: Soil
 Date Collected: 06.12.19 15.15

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Analyst: CHE

Date Prep: 06.17.19 17.40

Basis: Wet Weight

Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	114	5.04	mg/kg	06.18.19 12.28		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 06.21.19 13.00

Basis: Wet Weight

Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 00.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 00.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 00.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 00.05	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 00.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	06.22.19 00.05	
o-Terphenyl	84-15-1	73	%	70-135	06.22.19 00.05	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH05A**
 Lab Sample Id: 627896-010

Matrix: Soil
 Date Collected: 06.12.19 15.15

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 20.14	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 20.14	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	106		%	74-126	06.25.19 20.14	
1,2-Dichloroethane-D4	17060-07-0	104		%	80-120	06.25.19 20.14	
Toluene-D8	2037-26-5	99		%	73-132	06.25.19 20.14	
4-Bromofluorobenzene	460-00-4	99		%	58-152	06.25.19 20.14	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH06**
 Lab Sample Id: 627896-011

Matrix: Soil
 Date Collected: 06.12.19 15.30

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092652

Date Prep: 06.17.19 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.7	5.01	mg/kg	06.18.19 12.34		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 00.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 00.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 00.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 00.55	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 00.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	06.22.19 00.55	
o-Terphenyl	84-15-1	78	%	70-135	06.22.19 00.55	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH06**
Lab Sample Id: 627896-011

Matrix: Soil
Date Collected: 06.12.19 15.30

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Prep Method: SW5030B

Tech: SAD

% Moisture:

Analyst: SAD

Date Prep: 06.25.19 13.45

Basis: Wet Weight

Seq Number: 3093512

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 20.39	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.25.19 20.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	107	%	74-126	06.25.19 20.39	
1,2-Dichloroethane-D4	17060-07-0	110	%	80-120	06.25.19 20.39	
Toluene-D8	2037-26-5	95	%	73-132	06.25.19 20.39	
4-Bromofluorobenzene	460-00-4	89	%	58-152	06.25.19 20.39	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH06A**
 Lab Sample Id: 627896-012

Matrix: Soil
 Date Collected: 06.12.19 15.40

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092652

Date Prep: 06.17.19 17.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.0	5.02	mg/kg	06.18.19 12.39		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 01.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 01.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 01.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 01.19	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 01.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.22.19 01.19	
o-Terphenyl	84-15-1	78	%	70-135	06.22.19 01.19	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

 Sample Id: **PH06A**
 Lab Sample Id: 627896-012

 Matrix: Soil
 Date Collected: 06.12.19 15.40

 Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 21.03	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 21.03	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	105		%	74-126	06.25.19 21.03	
1,2-Dichloroethane-D4	17060-07-0	99		%	80-120	06.25.19 21.03	
Toluene-D8	2037-26-5	86		%	73-132	06.25.19 21.03	
4-Bromofluorobenzene	460-00-4	99		%	58-152	06.25.19 21.03	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH07** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-013 Date Collected: 06.13.19 08.30 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.17.19 17.40 Basis: Wet Weight
 Seq Number: 3092652

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.6	5.01	mg/kg	06.18.19 12.45		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.21.19 13.00 Basis: Wet Weight
 Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 01.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 01.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 01.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 01.44	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 01.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	06.22.19 01.44	
o-Terphenyl	84-15-1	83	%	70-135	06.22.19 01.44	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH07**
Lab Sample Id: 627896-013

Matrix: Soil
Date Collected: 06.13.19 08.30

Date Received: 06.17.19 07.25
Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 21.27	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 21.27	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	101		%	74-126	06.25.19 21.27	
1,2-Dichloroethane-D4	17060-07-0	109		%	80-120	06.25.19 21.27	
Toluene-D8	2037-26-5	95		%	73-132	06.25.19 21.27	
4-Bromofluorobenzene	460-00-4	105		%	58-152	06.25.19 21.27	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH07A**
 Lab Sample Id: 627896-014

Matrix: Soil
 Date Collected: 06.13.19 08.40

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	06.19.19 11.10	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 02.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 02.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 02.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 02.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.22.19 02.09	
o-Terphenyl	84-15-1	93	%	70-135	06.22.19 02.09	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH07A**
Lab Sample Id: 627896-014

Matrix: Soil
Date Collected: 06.13.19 08.40

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 21.51	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 21.51	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	105		%	74-126	06.25.19 21.51	
1,2-Dichloroethane-D4	17060-07-0	105		%	80-120	06.25.19 21.51	
Toluene-D8	2037-26-5	101		%	73-132	06.25.19 21.51	
4-Bromofluorobenzene	460-00-4	102		%	58-152	06.25.19 21.51	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH08** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-015 Date Collected: 06.13.19 08.50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 06.19.19 08.40 Basis: Wet Weight
 Seq Number: 3092776

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.6	4.97	mg/kg	06.19.19 11.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.21.19 13.00 Basis: Wet Weight
 Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 02.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 02.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 02.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 02.33	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 02.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	06.22.19 02.33	
o-Terphenyl	84-15-1	88	%	70-135	06.22.19 02.33	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH08**
 Lab Sample Id: 627896-015

Matrix: Soil
 Date Collected: 06.13.19 08.50

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 22.15	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 22.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	107	%	74-126	06.25.19 22.15	
1,2-Dichloroethane-D4	17060-07-0	114	%	80-120	06.25.19 22.15	
Toluene-D8	2037-26-5	94	%	73-132	06.25.19 22.15	
4-Bromofluorobenzene	460-00-4	98	%	58-152	06.25.19 22.15	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH08A**
 Lab Sample Id: 627896-016

Matrix: Soil
 Date Collected: 06.13.19 09.05

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.8	4.96	mg/kg	06.19.19 11.20		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 02.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 02.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 02.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 02.58	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 02.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	06.22.19 02.58	
o-Terphenyl	84-15-1	87	%	70-135	06.22.19 02.58	



Certificate of Analytical Results 627896



LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH08A**
Lab Sample Id: 627896-016

Matrix: Soil
Date Collected: 06.13.19 09.05

Date Received: 06.17.19 07.25
Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
Toluene	108-88-3	<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
Ethylbenzene	100-41-4	<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.25.19 22.39	U	1
o-Xylene	95-47-6	<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
Total Xylenes	1330-20-7	<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
Total BTEX		<0.000992	0.000992	mg/kg	06.25.19 22.39	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	107		%	74-126	06.25.19 22.39	
1,2-Dichloroethane-D4	17060-07-0	107		%	80-120	06.25.19 22.39	
Toluene-D8	2037-26-5	95		%	73-132	06.25.19 22.39	
4-Bromofluorobenzene	460-00-4	99		%	58-152	06.25.19 22.39	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH09**
 Lab Sample Id: 627896-017

Matrix: Soil
 Date Collected: 06.13.19 09.20

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3092776

Date Prep: 06.19.19 08.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.6	5.02	mg/kg	06.19.19 11.24		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 03.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 03.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 03.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 03.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 03.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.22.19 03.22	
o-Terphenyl	84-15-1	90	%	70-135	06.22.19 03.22	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH09**
 Lab Sample Id: 627896-017

Matrix: Soil
 Date Collected: 06.13.19 09.20

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Prep Method: SW5030B

Tech: SAD

% Moisture:

Analyst: SAD

Date Prep: 06.25.19 13.45

Basis: Wet Weight

Seq Number: 3093512

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	06.25.19 23.03	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1
Total BTEX		<0.00101	0.00101	mg/kg	06.25.19 23.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	74-126	06.25.19 23.03	
1,2-Dichloroethane-D4	17060-07-0	103	%	80-120	06.25.19 23.03	
Toluene-D8	2037-26-5	96	%	73-132	06.25.19 23.03	
4-Bromofluorobenzene	460-00-4	101	%	58-152	06.25.19 23.03	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH09A** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-018 Date Collected: 06.13.19 09.30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.19 09.10 Basis: Wet Weight
 Seq Number: 3092967

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	181	5.01	mg/kg	06.19.19 09.40		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.21.19 13.00 Basis: Wet Weight
 Seq Number: 3093267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 03.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 03.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 03.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 03.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 03.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	06.22.19 03.47	
o-Terphenyl	84-15-1	88	%	70-135	06.22.19 03.47	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH09A**
 Lab Sample Id: 627896-018

Matrix: Soil
 Date Collected: 06.13.19 09.30

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.25.19 23.28	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.25.19 23.28	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100		%	74-126	06.25.19 23.28	
1,2-Dichloroethane-D4	17060-07-0	120		%	80-120	06.25.19 23.28	
Toluene-D8	2037-26-5	94		%	73-132	06.25.19 23.28	
4-Bromofluorobenzene	460-00-4	97		%	58-152	06.25.19 23.28	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH10**
 Lab Sample Id: 627896-019

Matrix: Soil
 Date Collected: 06.13.19 09.45

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092967

Date Prep: 06.19.19 09.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.2	5.01	mg/kg	06.19.19 10.02		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 04.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 04.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 04.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 04.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 04.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	06.22.19 04.11	
o-Terphenyl	84-15-1	90	%	70-135	06.22.19 04.11	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH10**
 Lab Sample Id: 627896-019

Matrix: Soil
 Date Collected: 06.13.19 09.45

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	06.25.19 23.52	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1
Total BTEX		<0.000996	0.000996	mg/kg	06.25.19 23.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	97	%	74-126	06.25.19 23.52	
1,2-Dichloroethane-D4	17060-07-0	102	%	80-120	06.25.19 23.52	
Toluene-D8	2037-26-5	98	%	73-132	06.25.19 23.52	
4-Bromofluorobenzene	460-00-4	92	%	58-152	06.25.19 23.52	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH10A**
 Lab Sample Id: 627896-020

Matrix: Soil
 Date Collected: 06.13.19 10.00

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092967

Date Prep: 06.19.19 09.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.68	4.98	mg/kg	06.19.19 10.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093267

Date Prep: 06.21.19 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.22.19 04.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.22.19 04.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.22.19 04.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.22.19 04.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.22.19 04.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	06.22.19 04.36	
o-Terphenyl	84-15-1	77	%	70-135	06.22.19 04.36	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH10A**
 Lab Sample Id: 627896-020

Matrix: Soil
 Date Collected: 06.13.19 10.00

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: SAD

Analyst: SAD

Seq Number: 3093512

Prep Method: SW5030B

% Moisture:

Date Prep: 06.25.19 13.45

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	06.26.19 00.16	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
Total BTEX		<0.00100	0.00100	mg/kg	06.26.19 00.16	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	97		%	74-126	06.26.19 00.16	
1,2-Dichloroethane-D4	17060-07-0	102		%	80-120	06.26.19 00.16	
Toluene-D8	2037-26-5	98		%	73-132	06.26.19 00.16	
4-Bromofluorobenzene	460-00-4	96		%	58-152	06.26.19 00.16	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH11** Matrix: Soil Date Received: 06.17.19 07.25
 Lab Sample Id: 627896-021 Date Collected: 06.13.19 10.15 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 06.19.19 09.10 Basis: Wet Weight
 Seq Number: 3092967

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.4	5.00	mg/kg	06.19.19 10.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.22.19 09.00 Basis: Wet Weight
 Seq Number: 3093428

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 08.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.23.19 08.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 08.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.23.19 08.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.23.19 08.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	06.23.19 08.07	
o-Terphenyl	84-15-1	99	%	70-135	06.23.19 08.07	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH11**
 Lab Sample Id: 627896-021

Matrix: Soil
 Date Collected: 06.13.19 10.15

Date Received: 06.17.19 07.25
 Sample Depth: 2 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093590

Prep Method: SW5030B

% Moisture:

Date Prep: 06.26.19 11.10

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	06.26.19 12.53	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1
Total BTEX		<0.000994	0.000994	mg/kg	06.26.19 12.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	101	%	74-126	06.26.19 12.53	
1,2-Dichloroethane-D4	17060-07-0	103	%	80-120	06.26.19 12.53	
Toluene-D8	2037-26-5	97	%	73-132	06.26.19 12.53	
4-Bromofluorobenzene	460-00-4	85	%	58-152	06.26.19 12.53	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH11A**
 Lab Sample Id: 627896-022

Matrix: Soil
 Date Collected: 06.13.19 10.30

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3092967

Date Prep: 06.19.19 09.10

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.0	4.98	mg/kg	06.19.19 10.30		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3093428

Date Prep: 06.22.19 09.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	06.23.19 08.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	06.23.19 08.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	06.23.19 08.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	06.23.19 08.34	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	06.23.19 08.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	06.23.19 08.34	
o-Terphenyl	84-15-1	105	%	70-135	06.23.19 08.34	



Certificate of Analytical Results 627896

LT Environmental, Inc., Arvada, CO

PLU 359 @ 156

Sample Id: **PH11A**
 Lab Sample Id: 627896-022

Matrix: Soil
 Date Collected: 06.13.19 10.30

Date Received: 06.17.19 07.25
 Sample Depth: 4 ft

Analytical Method: BTEX by SW 8260C

Tech: HOP

Analyst: HOP

Seq Number: 3093590

Date Prep: 06.26.19 11.10

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	06.26.19 12.33	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1
Total BTEX		<0.000990	0.000990	mg/kg	06.26.19 12.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	74-126	06.26.19 12.33	
1,2-Dichloroethane-D4	17060-07-0	102	%	80-120	06.26.19 12.33	
Toluene-D8	2037-26-5	97	%	73-132	06.26.19 12.33	
4-Bromofluorobenzene	460-00-4	89	%	58-152	06.26.19 12.33	



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.

PLU 359 @ 156

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

MB Sample Id: 7680130-1-BLK

Matrix: Solid

LCS Sample Id: 7680130-1-BKS

Prep Method: E300P

Date Prep: 06.17.19

LCSD Sample Id: 7680130-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	253	101	90-110	0	20	mg/kg	06.18.19 10:13	

Analytical Method: Chloride by EPA 300

Seq Number: 3092776

MB Sample Id: 7680201-1-BLK

Matrix: Solid

LCS Sample Id: 7680201-1-BKS

Prep Method: E300P

Date Prep: 06.19.19

LCSD Sample Id: 7680201-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	246	98	90-110	0	20	mg/kg	06.19.19 09:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3092967

MB Sample Id: 7680203-1-BLK

Matrix: Solid

LCS Sample Id: 7680203-1-BKS

Prep Method: E300P

Date Prep: 06.19.19

LCSD Sample Id: 7680203-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	243	97	243	97	90-110	0	20	mg/kg	06.19.19 09:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

Parent Sample Id: 627724-135

Matrix: Soil

MS Sample Id: 627724-135 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627724-135 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.03	252	245	97	247	98	90-110	1	20	mg/kg	06.18.19 10:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3092652

Parent Sample Id: 627896-006

Matrix: Soil

MS Sample Id: 627896-006 S

Prep Method: E300P

Date Prep: 06.17.19

MSD Sample Id: 627896-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.5	248	274	98	273	98	90-110	0	20	mg/kg	06.18.19 11:49	

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

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

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

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



LT Environmental, Inc.

PLU 359 @ 156

Analytical Method: Chloride by EPA 300

Seq Number: 3092776

Parent Sample Id: 627894-002

Matrix: Soil

MS Sample Id: 627894-002 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 627894-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	120	252	362	96	362	96	90-110	0	20	mg/kg	06.19.19 09:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3092776

Parent Sample Id: 627896-002

Matrix: Soil

MS Sample Id: 627896-002 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 627896-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.2	251	311	98	311	98	90-110	0	20	mg/kg	06.19.19 10:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3092967

Parent Sample Id: 627896-018

Matrix: Soil

MS Sample Id: 627896-018 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 627896-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	181	251	422	96	422	96	90-110	0	20	mg/kg	06.19.19 09:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3092967

Parent Sample Id: 627901-001

Matrix: Soil

MS Sample Id: 627901-001 S

Prep Method: E300P

Date Prep: 06.19.19

MSD Sample Id: 627901-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.7	251	292	104	293	105	90-110	0	20	mg/kg	06.19.19 15:30	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093267

MB Sample Id: 7680553-1-BLK

Matrix: Solid

LCS Sample Id: 7680553-1-BKS

Prep Method: TX1005P

Date Prep: 06.21.19

LCSD Sample Id: 7680553-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	951	95	1010	101	70-135	6	20	mg/kg	06.21.19 18:30	
Diesel Range Organics (DRO)	<8.13	1000	961	96	1050	105	70-135	9	20	mg/kg	06.21.19 18:30	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		82		86		70-135	%	06.21.19 18:30
o-Terphenyl	74		78		92		70-135	%	06.21.19 18:30

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

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

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

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



LT Environmental, Inc.

PLU 359 @ 156

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093428

MB Sample Id: 7680667-1-BLK

Matrix: Solid

LCS Sample Id: 7680667-1-BKS

Prep Method: TX1005P

Date Prep: 06.22.19

LCSD Sample Id: 7680667-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1180	118	1160	116	70-135	2	20	mg/kg	06.22.19 23:37	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1120	112	70-135	5	20	mg/kg	06.22.19 23:37	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	119		101		98		70-135	%	06.22.19 23:37			
o-Terphenyl	119		101		98		70-135	%	06.22.19 23:37			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093267

Parent Sample Id: 627896-001

Matrix: Soil

MS Sample Id: 627896-001 S

Prep Method: TX1005P

Date Prep: 06.21.19

MSD Sample Id: 627896-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	12.0	999	879	87	981	97	70-135	11	20	mg/kg	06.21.19 19:49	
Diesel Range Organics (DRO)	10.0	999	970	96	1080	107	70-135	11	20	mg/kg	06.21.19 19:49	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			78		89		70-135	%	06.21.19 19:49			
o-Terphenyl			84		95		70-135	%	06.21.19 19:49			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3093428

Parent Sample Id: 628450-021

Matrix: Soil

MS Sample Id: 628450-021 S

Prep Method: TX1005P

Date Prep: 06.22.19

MSD Sample Id: 628450-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.98	997	1130	113	1200	120	70-135	6	20	mg/kg	06.23.19 00:48	
Diesel Range Organics (DRO)	<15.0	997	1030	103	1110	111	70-135	7	20	mg/kg	06.23.19 00:48	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			93		97		70-135	%	06.23.19 00:48			
o-Terphenyl			93		97		70-135	%	06.23.19 00:48			

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 359 @ 156

Analytical Method: BTEX by SW 8260C

Seq Number: 3093512

MB Sample Id: 7680741-1-BLK

Matrix: Solid

LCS Sample Id: 7680741-1-BKS

Prep Method: SW5030B

Date Prep: 06.25.19

LCSD Sample Id: 7680741-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0500	0.0486	97	0.0511	102	62-132	5	25	mg/kg	06.25.19 13:24	
Toluene	<0.00100	0.0500	0.0484	97	0.0504	101	66-124	4	25	mg/kg	06.25.19 13:24	
Ethylbenzene	<0.00100	0.0500	0.0497	99	0.0518	104	71-134	4	25	mg/kg	06.25.19 13:24	
m,p-Xylenes	<0.00200	0.100	0.100	100	0.104	104	69-128	4	25	mg/kg	06.25.19 13:24	
o-Xylene	<0.00100	0.0500	0.0499	100	0.0524	105	72-131	5	25	mg/kg	06.25.19 13:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		102		101		74-126	%	06.25.19 13:24
1,2-Dichloroethane-D4	101		98		98		80-120	%	06.25.19 13:24
Toluene-D8	101		99		98		73-132	%	06.25.19 13:24
4-Bromofluorobenzene	101		100		102		58-152	%	06.25.19 13:24

Analytical Method: BTEX by SW 8260C

Seq Number: 3093590

MB Sample Id: 7680777-1-BLK

Matrix: Solid

LCS Sample Id: 7680777-1-BKS

Prep Method: SW5035A

Date Prep: 06.26.19

LCSD Sample Id: 7680777-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0500	0.0562	112	0.0515	103	62-132	9	25	mg/kg	06.26.19 09:11	
Toluene	<0.00100	0.0500	0.0585	117	0.0550	110	66-124	6	25	mg/kg	06.26.19 09:11	
Ethylbenzene	<0.00100	0.0500	0.0596	119	0.0542	108	71-134	9	25	mg/kg	06.26.19 09:11	
m,p-Xylenes	<0.00200	0.100	0.120	120	0.110	110	69-128	9	25	mg/kg	06.26.19 09:11	
o-Xylene	<0.00100	0.0500	0.0587	117	0.0527	105	72-131	11	25	mg/kg	06.26.19 09:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	95		98		97		74-126	%	06.26.19 09:11
1,2-Dichloroethane-D4	100		104		98		80-120	%	06.26.19 09:11
Toluene-D8	97		98		94		73-132	%	06.26.19 09:11
4-Bromofluorobenzene	86		111		106		58-152	%	06.26.19 09:11

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 359 @ 156

Analytical Method: BTEX by SW 8260C

Seq Number: 3093512

Parent Sample Id: 627896-002

Matrix: Soil

MS Sample Id: 627896-002 S

Prep Method: SW5030B

Date Prep: 06.25.19

MSD Sample Id: 627896-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0502	0.0468	93	0.0418	84	62-132	11	25	mg/kg	06.25.19 14:13	
Toluene	<0.00100	0.0502	0.0455	91	0.0418	84	66-124	8	25	mg/kg	06.25.19 14:13	
Ethylbenzene	<0.00100	0.0502	0.0458	91	0.0427	86	71-134	7	25	mg/kg	06.25.19 14:13	
m,p-Xylenes	<0.00201	0.100	0.0923	92	0.0860	87	69-128	7	25	mg/kg	06.25.19 14:13	
o-Xylene	<0.00100	0.0502	0.0464	92	0.0429	86	72-131	8	25	mg/kg	06.25.19 14:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		103		74-126	%	06.25.19 14:13
1,2-Dichloroethane-D4	101		101		80-120	%	06.25.19 14:13
Toluene-D8	99		100		73-132	%	06.25.19 14:13
4-Bromofluorobenzene	104		102		58-152	%	06.25.19 14:13

Analytical Method: BTEX by SW 8260C

Seq Number: 3093590

Parent Sample Id: 627894-003

Matrix: Soil

MS Sample Id: 627894-003 S

Prep Method: SW5035A

Date Prep: 06.26.19

MSD Sample Id: 627894-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.0501	0.0417	83	0.0383	77	62-132	9	25	mg/kg	06.26.19 10:15	
Toluene	<0.00100	0.0501	0.0426	85	0.0394	79	66-124	8	25	mg/kg	06.26.19 10:15	
Ethylbenzene	<0.00100	0.0501	0.0446	89	0.0393	79	71-134	13	25	mg/kg	06.26.19 10:15	
m,p-Xylenes	<0.00200	0.100	0.0888	89	0.0785	79	69-128	12	25	mg/kg	06.26.19 10:15	
o-Xylene	<0.00100	0.0501	0.0413	82	0.0374	75	72-131	10	25	mg/kg	06.26.19 10:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		98		74-126	%	06.26.19 10:15
1,2-Dichloroethane-D4	101		103		80-120	%	06.26.19 10:15
Toluene-D8	94		95		73-132	%	06.26.19 10:15
4-Bromofluorobenzene	102		100		58-152	%	06.26.19 10:15

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

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

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

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



Chain of Custody

Work Order No:

427964

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

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Page

1 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	llaumbach@ltenv.com, dmoir@ltenv.com

Project Name:	PLU 359 @ 156	Turn Around	
Project Number:	12919114	Routine	☒
P.O. Number:	2RP-4708	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
	Temperature (°C):	-0.2	Thermometer ID:	18
	Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:	
	Sample Custody Seals:	Yes ☐ No ☒		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
PH-1	S	06/12/19	10:10	2'	1	✓	✓	✓		
PH-1A	S		10:20	4'	1	✓	✓	✓		
PH-2A	S		10:35	2'	1	✓	✓	✓		
PH-3	S		10:50	4'	1	✓	✓	✓		
PH-3A	S		11:10	2'	1	✓	✓	✓		
PH-3A	S		11:25	4'	1	✓	✓	✓		
PH-4	S		11:40	2'	1	✓	✓	✓		
PH-4A	S		11:50	4'	1	✓	✓	✓		
PH-5	S		15:05	2'	1	✓	✓	✓		
PH-5A	S		15:15	4'	1	✓	✓	✓		

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		06-14-19 13:30			06/17/19
					0725



Chain of Custody

Work Order No: 1027290

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

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Page 2 of 3

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:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	llaumbach@ltenv.com, dmoir@ltenv.com

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

Project Name:	PLU 359 @ 156	Turn Around	
Project Number:	12919114	Routine	☒
P.O. Number:	2RP-4708	Rush:	
Sampler's Name:	Lynda Laumbach	Due Date:	

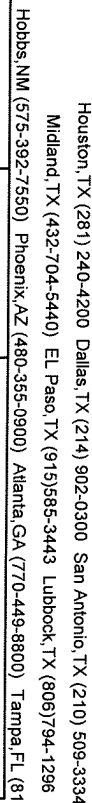
SAMPLE RECEIPT	Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
	Temperature (°C):	4.14.0	Thermometer ID:	PS
	Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes ☐ No ☒ N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
PH-6	S	06/12/19	15:30	2'	1	☒	☒	☒		
PH-6A	S	06/12/20	15:40	4'	1	☒	☒	☒		
PH-7	S	06/13/20	8:30	2'	1	☒	☒	☒		
PH-7A	S		8:40	4'	1	☒	☒	☒		
PH-8	S		8:50	2'	1	☒	☒	☒		
PH-8A	S		9:05	4'	1	☒	☒	☒		
PH-9	S		9:20	2'	1	☒	☒	☒		
PH-9A	S		9:30	4'	1	☒	☒	☒		
PH-10	S		9:45	2'	1	☒	☒	☒		
PH-10A	S		10:00	4'	1	☒	☒	☒		

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

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		06-14-19 13:32			06/17/19
					0725



Chain of Custody

Work Order No.:

077994

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Page 3 of 3

Work Order Comments									
Program: UST/PST		☐ RP	☐ Growfields	☐ RC	☐ \$portund	☐			
State of Project:									
Reporting Level II		☐ Level III	☐ ST/UST	☐ RP	☐ Level IV	☐			
Deliverables: EDD		☐	ADAPT	☐	Other:				

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride
P#11	S	06/13/94	10:15	2'	1	X	X	X
P#11A	S	06/17/94	10:30	4'	1	X	X	X

Total 200.7 / 6010 200.8 / 6020:

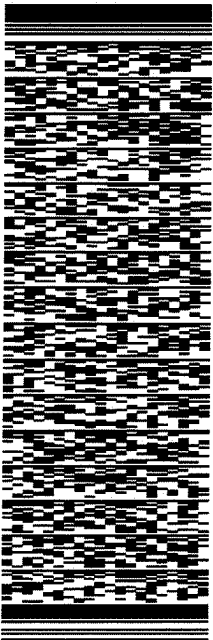
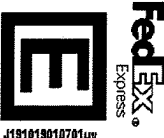
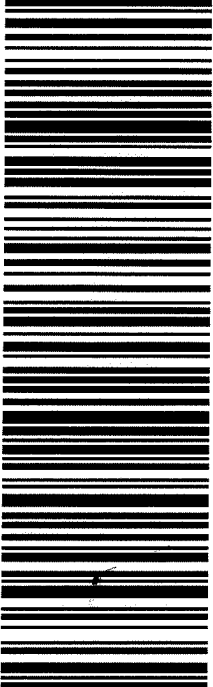
Circle Method(s) and Metal(s) to be analyzed

[illegible]

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		06-14-19 13:32			06-17-19
					07:25

ORIGIN ID:CAOA (281) 240-4200 SAMPLE CUSTODY SAMPLE CUSTODY 1089 N CANAL ST CARLSBAD, NM 88220 UNITED STATES US		SHIP DATE: 14JUN19 ACTWGT: 56.00 LB CAD: 114488676/INET4100 DIMS: 21x14x14 IN
TO SAMPLE RECEIVING MIDLAND FEDEX OFFICE PRINT & SHIP CENTER FEDEX OFFICE PRINT & SHIP CENTER 200 W INTERSTATE 20 MIDLAND TX 79701		
(432) 704-5440 INV: PO:	REF: DEPT:	
		
		
TRK# 7754 8000 4696 0201	SATURDAY HOLD PRIORITY OVERNIGHT HLD TX-US MAFKI LBB	41 MAFKA 

565J1/D210/23AD

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Inter-Office Shipment

IOS Number : **42129**

Date/Time: 06.24.2019 14:29 Created by: Jessica Kramer

Lab# From: **Midland** Delivery Priority:

Lab# To: **Houston** Air Bill No.: 775553778262

Please send report to: Jessica Kramer

Address: 1211 W. Florida Ave

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
627896-001	S	PH01	06.12.2019 10:10	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 10:10	JKR	BZ BZME EBZ XYLENE	
627896-002	S	PH01A	06.12.2019 10:20	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 10:20	JKR	BZ BZME EBZ XYLENE	
627896-003	S	PH02	06.12.2019 10:35	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 10:35	JKR	BZ BZME EBZ XYLENE	
627896-004	S	PH02A	06.12.2019 10:50	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 10:50	JKR	BZ BZME EBZ XYLENE	
627896-005	S	PH03	06.12.2019 11:10	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 11:10	JKR	BZ BZME EBZ XYLENE	
627896-006	S	PH03A	06.12.2019 11:25	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 11:25	JKR	BZ BZME EBZ XYLENE	
627896-007	S	PH04	06.12.2019 11:40	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 11:40	JKR	BZ BZME EBZ XYLENE	
627896-008	S	PH04A	06.12.2019 11:50	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 11:50	JKR	BZ BZME EBZ XYLENE	
627896-009	S	PH05	06.12.2019 15:05	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 15:05	JKR	BZ BZME EBZ XYLENE	
627896-010	S	PH05A	06.12.2019 15:15	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 15:15	JKR	BZ BZME EBZ XYLENE	
627896-011	S	PH06	06.12.2019 15:30	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 15:30	JKR	BZ BZME EBZ XYLENE	
627896-012	S	PH06A	06.12.2019 15:40	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.26.2019 15:40	JKR	BZ BZME EBZ XYLENE	
627896-013	S	PH07	06.13.2019 08:30	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 08:30	JKR	BZ BZME EBZ XYLENE	
627896-014	S	PH07A	06.13.2019 08:40	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 08:40	JKR	BZ BZME EBZ XYLENE	
627896-015	S	PH08	06.13.2019 08:50	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 08:50	JKR	BZ BZME EBZ XYLENE	
627896-016	S	PH08A	06.13.2019 09:05	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 09:05	JKR	BZ BZME EBZ XYLENE	
627896-017	S	PH09	06.13.2019 09:20	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 09:20	JKR	BZ BZME EBZ XYLENE	
627896-018	S	PH09A	06.13.2019 09:30	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 09:30	JKR	BZ BZME EBZ XYLENE	
627896-019	S	PH10	06.13.2019 09:45	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 09:45	JKR	BZ BZME EBZ XYLENE	
627896-020	S	PH10A	06.13.2019 10:00	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 10:00	JKR	BZ BZME EBZ XYLENE	
627896-021	S	PH11	06.13.2019 10:15	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 10:15	JKR	BZ BZME EBZ XYLENE	
627896-022	S	PH11A	06.13.2019 10:30	SW8260CBTEX	BTEX by SW 8260C	06.21.2019	06.27.2019 10:30	JKR	BZ BZME EBZ XYLENE	

Inter-Office Shipment

IOS Number : 42129

Date/Time: 06.24.2019 14:29 Created by: Jessica Kramer
Lab# From: **Midland** Delivery Priority:
Lab# To: **Houston** Air Bill No.: 775553778262

Please send report to: Jessica Kramer
Address: 1211 W. Florida Ave
E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

SAMPLE BREAK HOLD 06/26/19

Relinquished By: 
Jessica Kramer

Date Relinquished: 06.24.2019

Received By: 
Ashly Kowalski

Date Received: 06.25.2019 09:40

Cooler Temperature: 0.6



Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 42129

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : HOU-068

Sent By: Jessica Kramer

Date Sent: 06.24.2019 02.29 PM

Received By: Ashly Kowalski

Date Received: 06.25.2019 09.40 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

SAMPLE BREAK HOLD 06/26/19

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Ashly Kowalski

Date: 06.25.2019



Client: LT Environmental, Inc.

Date/ Time Received: 06/17/2019 07:25:00 AM

Work Order #: 627896

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 06/17/2019

Checklist reviewed by:

Jessica Kramer

Date: 06/17/2019

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 200052

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 200052
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	3/24/2023