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	NRM2004445859
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.16472 Longitude -103.79703
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 147	Site Type Well Location
Date Release Discovered 01/28/20	API# *(if applicable)* 30-015-31177 (Poker Lake Unit 147)

Unit Letter	Section	Township	Range	County
B	05	25S	31E	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) 11.39	Volume Recovered (bbls) 10
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The Poker Lake Unit 147 well unloaded overnight causing the water tank to overflow 11.39 barrels of produced water into an unlined berm. Vacuum truck was dispatched and recovered 10 barrels with 1.39 barrels remaining in the soil. A third party contractor will be retained for remediation activities.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NRM2004445859
District RP	
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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? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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 not 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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2/11/2020

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Ramona Marcus Date: 2/13/2020

NRM2004445859

Location:	**Poker Lake Unit 147**		
Spill Date:	**1/28/2020**		
MAIN POOL			
Approximate Area =		783.00	sq. ft.
Average Saturation (or depth) of spill =		4.00	inches
Average Porosity Factor =		0.03	
VOLUME OF LEAK			
Total Produced Water =		1.39	bbls
TOTAL VOLUME OF LEAK			
Total Produced Water =		**11.39**	**bbls**
VOLUME RECOVERED			
Total Produced Water =		10.00	bbls

Incident ID	NRM2004445859
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	> 100 (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

Incident ID	NRM2004445859
District RP	
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 11/23/2020

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

OCD Only

Received by: Date:

Incident ID	NRM2004445859
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 11/23/2020

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☒ Deferral Approved

Signature: Jennifer Nobui Date: 03/04/2022

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

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Energy Minerals and Natural Resources Department

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Form C-141
Revised August 24, 2018
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Incident ID	NRM2004445859
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Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)*
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.16472 Longitude -103.79703
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 147	Site Type Well Location
Date Release Discovered 01/28/20	API# *(if applicable)* 30-015-31177 (Poker Lake Unit 147)

Unit Letter	Section	Township	Range	County
B	05	25S	31E	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) 11.39	Volume Recovered (bbls) 10
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The Poker Lake Unit 147 well unloaded overnight causing the water tank to overflow 11.39 barrels of produced water into an unlined berm. Vacuum truck was dispatched and recovered 10 barrels with 1.39 barrels remaining in the soil. A third party contractor will be retained for remediation activities.

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State of New Mexico
Oil Conservation Division

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Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 2/11/2020

email: Kyle_Littrell@xtoenergy.com Telephone:

OCD Only

Received by: Ramona Marcus Date: 2/13/2020

NRM2004445859

Location:	**Poker Lake Unit 147**	
Spill Date:	**1/28/2020**	
MAIN POOL		
Approximate Area =	783.00	sq. ft.
Average Saturation (or depth) of spill =	4.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Produced Water =	1.39	bbls
TOTAL VOLUME OF LEAK		
Total Produced Water =	**11.39**	**bbls**
VOLUME RECOVERED		
Total Produced Water =	10.00	bbls

Incident ID	NRM2004445859
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Site Assessment/Characterization

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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.***

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State of New Mexico
Oil Conservation Division

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Printed Name: _____Kyle Littrell_____ Title: _____SH&E Supervisor_____

Signature:_____ _____ Date: ___11/23/2020 _

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

OCD Only

Received by: _____ Date: _____

Incident ID	NRM2004445859
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 11/23/2020

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

OCD Only

Received by: Date:

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Date:

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

November 25, 2020

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

Re: Deferral Request
Poker Lake Unit 147
Incident Number NRM2004445859
Eddy County, New Mexico

To Whom it May Concern:

WSP USA Inc. (WSP) (formerly LT Environmental, Inc.), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and remediation activities at the Poker Lake Unit (PLU) 147 (Site) in Unit B, Section 05, Township 25 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and remediation activities was to address impacts to soil following the release of produced water at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation for Incident Number NRM2004445859 until the Site is reconstructed, and/or the well pad is abandoned.

RELEASE BACKGROUND

On January 28, 2020, a produced water tank overflowed, resulting in the release of approximately 11.39 barrels (bbls) of produced water into the unlined storage tank containment berm. A vacuum truck was dispatched to the Site to recover freestanding fluids, of which approximately 10 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on February 11, 2020 and was assigned Incident Number NRM2004445859.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321034103465501, located approximately 1.25 miles northeast of the Site. The groundwater well has a reported depth to groundwater of 474 feet bgs and a total depth of 740 feet bgs. Within 3.5-mile radius, there are two New Mexico Office of the State Engineer (NMOSE) wells and three USGS wells that indicate a regional depth to groundwater greater than 100 feet bgs. NMOSE well

C-03891 was most recently sampled in November 2015. NMOSE well C-03891 is located approximately 1.7 miles west of the Site and had a reported depth to water of 429 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated referenced well records are included in Attachment 1

The closest continuously flowing water or significant watercourse to the Site is an unnamed dry wash, located approximately 3,471 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). The Site receptors are identified on Figure 1.

During October 2020, in an effort to confirm depth to water in the area, a borehole (BH01) was advanced to a depth of 110 feet bgs via truck-mounted hollow stem auger. The borehole was located approximately 2,290 feet east of the Site. The location of borehole BH01 is provided on Figure 1. A WSP geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Attachment 2. The borehole was left open for over 72 hours to allow for potential slow infill of ground water. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned utilizing hydrated bentonite chips.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On February 21, 2020, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected two preliminary soil samples (SS01 and SS02) within the unlined containment berm at a depth of approximately 0.5 feet bgs to assess the extent of soil impacts at the ground surface. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride

utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit, and a photographic log is included in Attachment 3.

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

The laboratory analytical results for preliminary soil samples SS01 and SS02 indicated that BTEX, TPH-GRO/TPH-DRO, and TPH concentrations exceeded the Closure Criteria. Based on visible staining in the release area, field screening activities, and laboratory analytical results for the preliminary soil samples, excavation and delineation activities were warranted.

EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

The following is a summary of the excavation and delineation activities conducted at the Site.

Excavation Activities

Between March 18, 2020 and June 24, 2020, WSP personnel were at the Site to oversee excavation of impacted soil as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary soil samples.

Eastern Excavation

Excavation activities were performed in the area around preliminary soil sample SS01 using a track-mounted backhoe and transport vehicle. The excavation was located within the containment berm on the east side of the produced water tank. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The excavation was completed to an approximate depth of 7 feet bgs. Following removal of impacted soil to the extent possible, WSP collected 5-point composite soil samples every 200 square feet from sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing.

The eastern excavation measured approximately 486 square feet. Composite soil samples FS01 through FS03 and FS03A were collected from the floor of the excavation from depths ranging from 7 feet to 7.5 feet bgs. Composite samples SW01 through SW03 and SW05 were collected from sidewalls of the excavation from depths ranging from ground surface to 7 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above.

Laboratory analytical results for excavation samples FS01, FS02, FS03A, SW01, SW02, and SW05, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for floor sample FS03 and sidewall sample SW03 indicated that TPH and/or TPH-GRO/TPH-DRO concentrations exceeded the Closure Criteria. Additional soil was removed from the area around floor sample FS03 and subsequent floor sample FS03A was compliant with the Closure Criteria. Sidewall sample SW03 was collected immediately adjacent to the produced water tank. Further excavation of impacted soil beyond excavation sidewall sample SW03 was limited by the presence the active produced water tank. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site production equipment and pipelines. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the production equipment or pipelines. This policy was enforced where impacted soil was identified within 2 feet of the produced water tank.

Southwestern Excavation

Excavation activities were performed in the area around preliminary soil sample SS02 utilizing a hydro-vacuum. The excavation was located within the containment berm, in between the produced water tank and crude oil storage tanks and south of the oil tanks. The southwest excavation measured approximately 544 square feet. Following removal of impacted soil to the extent possible, WSP collected 5-point composite soil samples every 200 square feet from sidewalls and floor of the excavation. Composite soil samples FS04 through FS07, FS04A, and FS06A were collected from the floor of the excavation from depths ranging from 3 feet to 7 feet bgs. Composite samples SW04 and SW06 through SW10 were collected from sidewalls of the excavation from depths ranging from ground surface to 7 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above.

Laboratory analytical results for excavation samples FS07, SW08, SW09, and SW10, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for floor samples FS04, FS05, and FS06 and sidewall samples SW04, SW06, and SW07 indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Additional soil was removed from the areas around samples SW06 and FS06 and subsequent samples FS06A,

SW09, and SW10 were compliant with the Closure Criteria. Further excavation of impacted soil beyond sidewall samples SW04 and SW07 and floor samples FS04 and FS05 was limited by the presence the active oil tanks and pipelines. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site production equipment and pipelines.

Due presence of active equipment and safety restrictions, further excavation of impacted soil could not be completed in the eastern or southwestern excavation in the areas represented by samples SW03, SW04, SW07, FS04, and FS05. To treat the impacted soil left in place, a 10% solution of MicroBlaze® was applied to the sidewalls and floor of the excavations to enhance bioremediation of residual hydrocarbons in these areas. The excavation extents and excavation soil sample locations are presented on Figure 3.

The combined excavation extents measured approximately 1,029 square feet. A total of approximately 152 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

Delineation Activities

Between March 19, 2020 and May 28, 2020, WSP personnel were at the Site to oversee delineation activities. The delineation activities were completed in coordination with excavation activities to define the lateral and vertical extent of impacted soil and delineate the extent of impacted soil remaining in-place.

Potholes PH01 through PH04 were advanced via track-mounted backhoe around the perimeter of the containment berm to depths ranging from 4 feet to 7 feet bgs. Delineation soil samples were collected from the potholes from depths ranging from 1 foot to 7 feet bgs.

Boreholes BH01 through BH03 were advanced within the containment berm release extent to depths ranging from 4 feet to 8 feet bgs. Borehole BH01 was advanced via hand auger between the produced water tank and the crude oil tanks to a depth of approximately 4 feet bgs before encountering auger refusal. Borehole BH02 was advanced south of the oil tanks via hydro-vacuum to a depth of approximately 8 feet bgs. Borehole BH03 was advanced via hand auger east of the produced water tank to a depth of approximately 8 feet bgs. Delineation soil samples were collected from the boreholes from depths ranging from 2 feet to 8 feet bgs.

Soil from the potholes and boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach© chloride QuanTab© test strips, respectively. The delineation

soil samples were collected, handled, and analyzed as described above. Field screening results and observations for each pothole and borehole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The boreholes, potholes, and delineation soil sample locations are presented on Figure 4.

Laboratory analytical results for delineation soil samples BH01/BH01A, BH02/BH02A, and BH03, collected from depths ranging from 2 feet to 7 feet bgs, indicated that TPH and/or TPH-GRO/TPH-DRO exceeded the Closure Criteria. Laboratory analytical results for final delineation soil samples BH02B and BH03A, collected at a depth of 8 feet bgs, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with Closure Criteria and defined the vertical extent of impacted soil.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH04 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with Closure Criteria and defined the lateral and vertical extent of the release.

The delineation samples from potholes PH01 through PH04 and borehole samples BH02B and BH03A provide lateral and vertical delineation of the impacted soil remaining in place within the containment berm. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are provided in Attachment 4.

DEFERRAL REQUEST

The release occurred in an area of active production equipment and pipelines. Approximately 152 cubic yards of impacted soil were excavated via backhoe, hand shoveling, and hydro-vacuum; however, residual impacted soil was left in place immediately surrounding active storage tanks and pipelines for compliance with XTO safety policy regarding earth moving activities within 2 feet of active production equipment and pipelines. Laboratory analytical results for excavation samples SW03, SW04, SW07, FS04, and FS05 indicated that soil with TPH-GRO/TPH-DRO and TPH concentrations exceeding the Closure Criteria was left in place. These areas were treated with multiple applications of MicroBlaze® to enhance bioremediation of the impacted soil remaining in-place.

The impacted soil remaining in place is delineated vertically and laterally by excavation soil samples FS01 through FS03, FS07, FS06A, SW01, SW02, SW05, and SW08 through SW10, collected from the sidewalls and floor of the final excavation extent, delineation soil samples BH02B, BH03A, and delineation soil samples collected from potholes PH01 through PH04. An estimated 54 cubic yards of impacted soil remains in place, assuming a maximum 7-foot depth based on the excavation and delineation soil samples listed above, that were compliant with the Closure Criteria. The deferral area and associated delineation samples are identified on Figure 5.

XTO requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the released fluids were recovered during initial response activities, impacted soil remaining in place is limited to the area immediately surrounding active production equipment and pipelines, no saturated soil remains in-place, and depth to groundwater was confirmed to be greater than 100 feet at the Site. XTO requests deferral of final remediation for Incident Number NRM2004445859. Upon approval of this Deferral Request, XTO will backfill the on-pad excavations with material purchased locally and recontour the Site to match pre-existing Site conditions.

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

Sincerely,

WSP USA Inc.

Elizabeth Naka
Assistant Consultant

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

cc: Kyle Littrell, XTO
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Jim Amos, Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Delineation Soil Sample Locations
Figure 5	Deferral Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Records
Attachment 2	Lithologic/Sampling Log
Attachment 3	Photographic Log

Attachment 4 Laboratory Analytical Reports

FIGURES

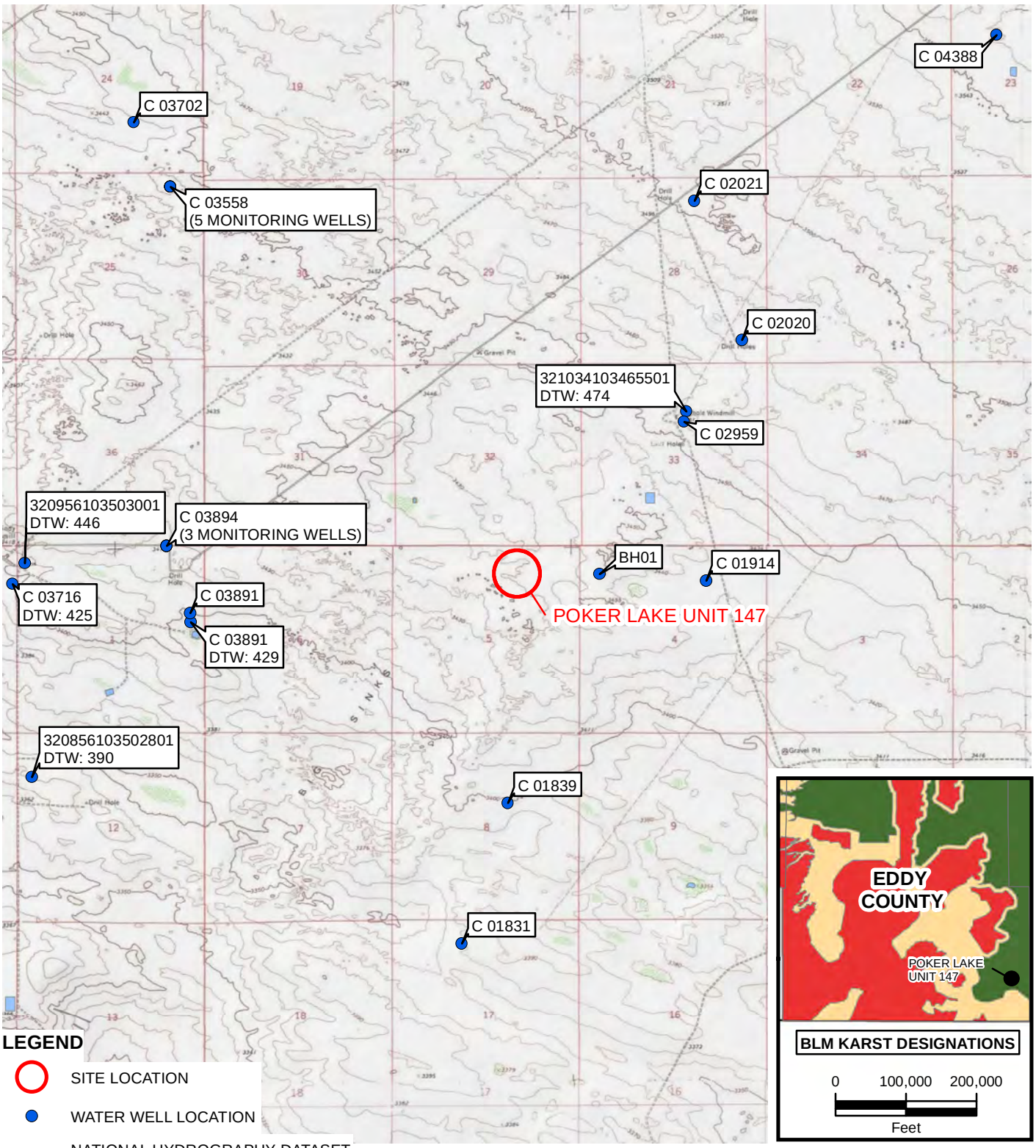
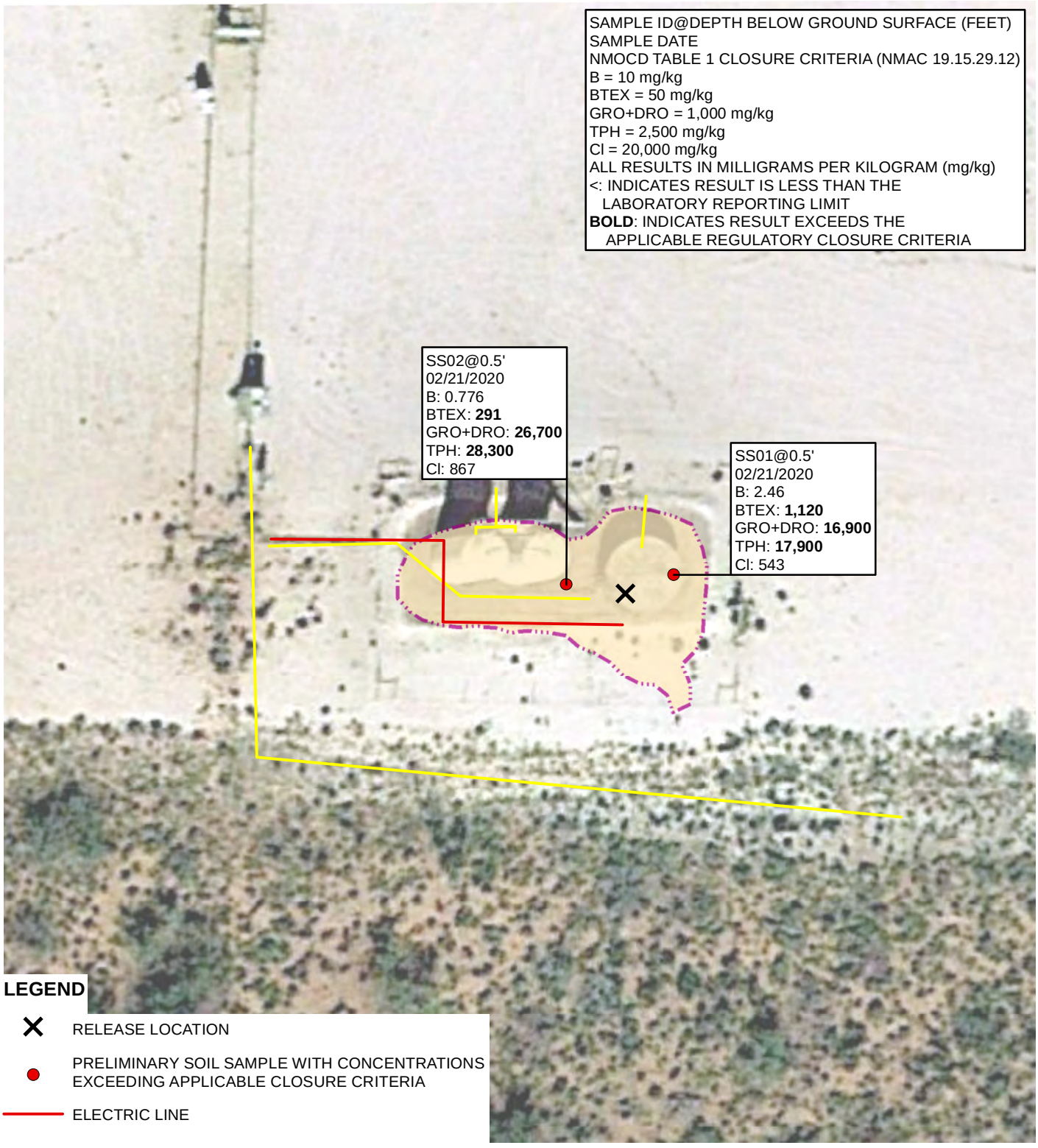


FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 147
UNIT B SEC 5 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

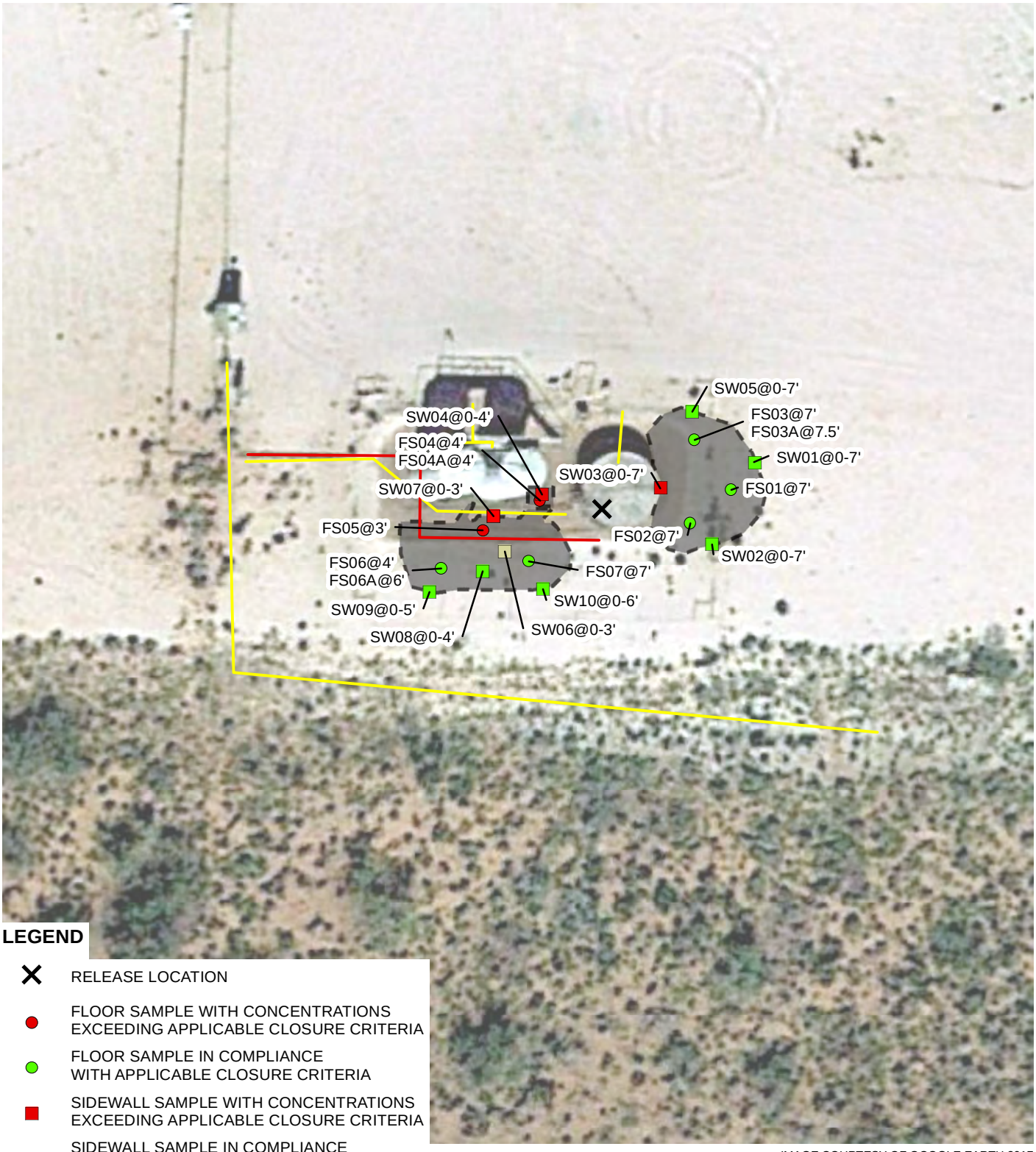
P:\XTO Energy\GIS\MXD\012920024_PLU 147\012920024_FIG01_SL_2020.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NRM2004445859

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 147
UNIT B SEC 5 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920024_PLU 147\012920024_FIG02_PRELIMINARY_2020.mxd



LEGEND

- RELEASE LOCATION
- FLOOR SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- ELECTRIC LINE
- GAS LINE
- EXCAVATION EXTENT

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBER NRM2004445859

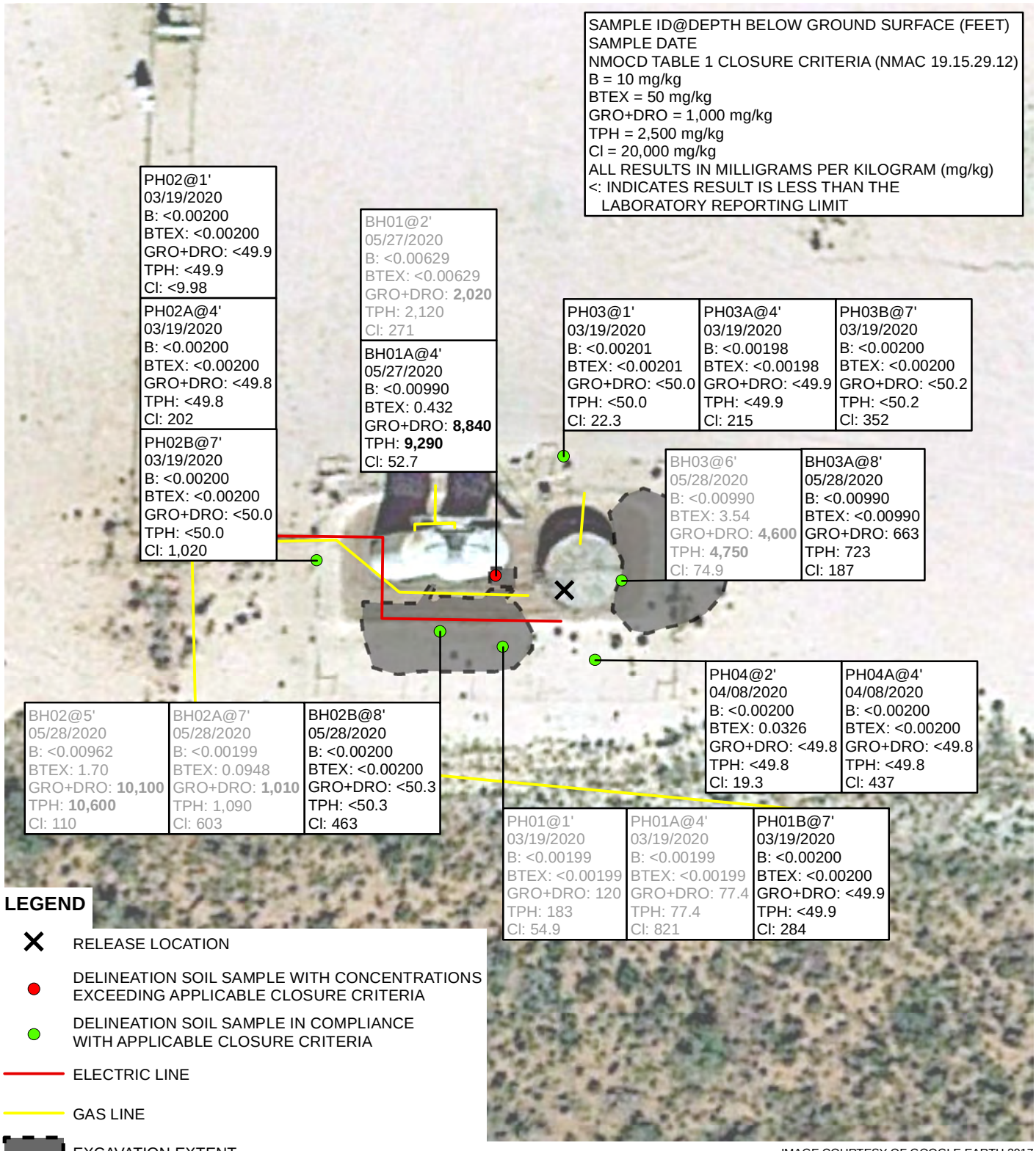
IMAGE COURTESY OF GOOGLE EARTH 2017

0 30 60
Feet

N

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 147
UNIT B SEC 5 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

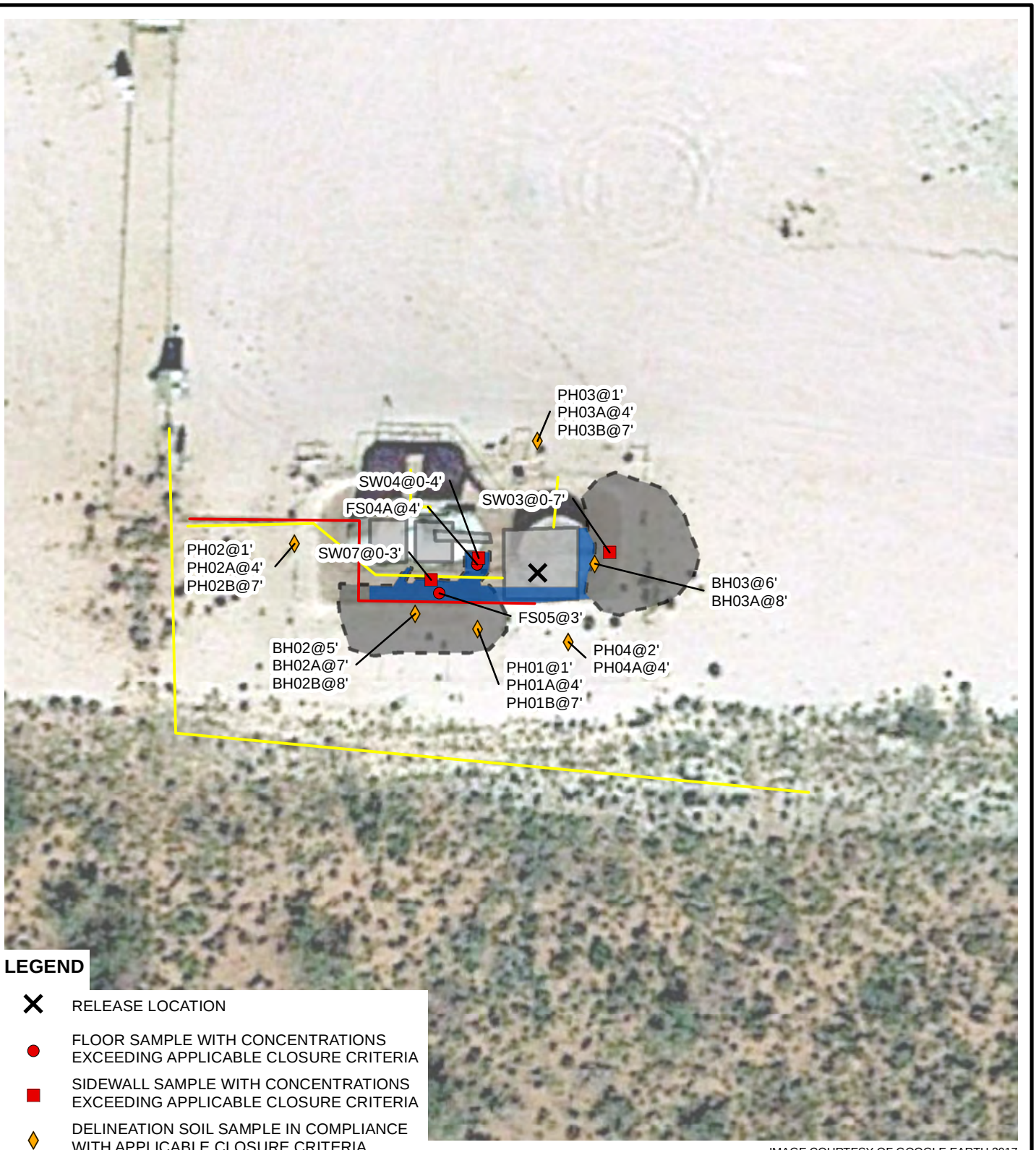
P:\XTO Energy\GIS\MXD\012920024_PLU 147\012920024_FIG03_EXCAVATION_112420_2020.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NRM2004445859
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 147
UNIT B SEC 5 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920024_PLU 147\012920024_FIG04_DELINEATION_2020.mxd



LEGEND

- RELEASE LOCATION
- FLOOR SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- GAS LINE
- EXCAVATION EXTENT
- INFRASTRUCTURE
- DEFERRAL AREA

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: INCIDENT NUMBER NRM2004445859

IMAGE COURTESY OF GOOGLE EARTH 2017

0 30 60
Feet

N

FIGURE 5
DEFERRAL SOIL SAMPLE LOCATIONS
POKER LAKE UNIT 147
UNIT B SEC 5 T25S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

Table 1

Soil Analytical Results
Poker Lake Unit 147
Incident Number NRM2004445859
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	02/21/2020	0.5	2.46	**1,120**	3,030	13,900	966	**16,900**	**17,900**	543
SS02	02/21/2020	0.5	0.776	**291**	2,930	23,800	1,560	**26,700**	**28,300**	867
Eastern Excavation Samples										
FS01	03/18/2020	7	<0.00201	0.0426	<50.0	77.0	<50.0	77.0	77.0	312
FS02	03/18/2020	7	<0.00200	0.139	<49.8	526	<49.8	526	526	341
FS03	03/18/2020	7	<0.00202	0.249	85.5	974	56.7	**1,060**	1,120	306
FS03A	04/08/2020	7.5	<0.00200	<0.00200	<50.0	231	<50.0	231	231	412
SW01	03/18/2020	0 - 7	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	159
SW02	03/18/2020	0 - 7	<0.0101	<0.0101	<50.1	<50.1	<50.1	<50.1	<50.1	15.2
SW03	03/18/2020	0 - 7	<0.0714	22.5	1,440	4,850	225	**6,290**	**6,520**	110
SW05	04/08/2020	0 - 7	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	39.6
Southwestern Excavation Samples										
FS04	03/19/2020	4	<0.0102	23.7	3,270	8,870	334	**12,100**	**12,500**	206
FS04A	05/27/2020	4	<0.00201	0.0224	<50.0	1,130	78.3	**1,130**	1,210	915
FS05	04/09/2020	3	<0.0278	**61.8**	1,590	4,750	192	**6,340**	**6,530**	605
FS06	05/06/2020	4	<0.00201	1.30	283	2190	113	**2,470**	**2,590**	136
FS06A	05/27/2020	6	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	586
FS07	06/24/2020	7	<0.00198	<0.00198	<49.8	378	<49.8	378	378	62.7
SW04	03/19/2020	0 - 4	0.0106	16.1	714	2,440	105	**3,150**	**3,260**	260
SW06	04/09/2020	0 - 3	<0.0278	28.0	949	4,540	227	**5,490**	**5,720**	313
SW07	04/09/2020	0 - 3	<0.0278	30.9	2,050	8,820	416	**10,900**	**11,300**	367
SW08	05/06/2020	0 - 4	<0.00198	<0.00198	<49.9	290	<49.9	290	290	93.7
SW09	05/14/2020	0 - 6	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	199
SW10	05/14/2020	0 - 7	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	291

Table 1

Soil Analytical Results
Poker Lake Unit 147
Incident Number NRM2004445859
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Samples										
BH01	05/27/2020	2	<0.00629	<0.00629	63.4	1,960	95.7	**2,020**	2,120	271
BH01A	05/27/2020	4	<0.00990	0.432	596	8,240	451	**8,840**	**9,290**	52.7
BH02	05/28/2020	5	<0.00962	1.70	783	9,350	441	**10,100**	**10,600**	110
BH02A	05/28/2020	7	<0.00199	0.0948	<49.9	1,010	84.2	**1,010**	1,090	603
BH02B	06/10/2020	8	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	463
BH03	05/28/2020	6	<0.00990	3.54	778	3,820	147	**4,600**	**4,750**	74.9
BH03A	05/28/2020	8	<0.00990	<0.00990	<50.1	663	60.0	663	723	187
PH01	03/19/2020	1	<0.00199	<0.00199	<49.9	120	62.7	120	183	54.9
PH01A	03/19/2020	4	<0.00199	<0.00199	<50.0	77.4	<50.0	77.4	77.4	821
PH01B	03/19/2020	7	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	284
PH02	03/19/2020	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<9.98
PH02A	03/19/2020	4	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	202
PH02B	03/19/2020	7	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,020
PH03	03/19/2020	1	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	22.3
PH03A	03/19/2020	4	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	215
PH03B	03/19/2020	7	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	352
PH04	04/08/2020	2	<0.00200	0.0326	<49.8	<49.8	<49.8	<49.8	<49.8	19.3
PH04A	04/08/2020	4	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	437

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
Text Impacted soil has been excavated

ATTACHMENT 1: REFERENCED WELL RECORD

USGS 320956103503001 24S.30E.36.33333

Available data for this site: SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

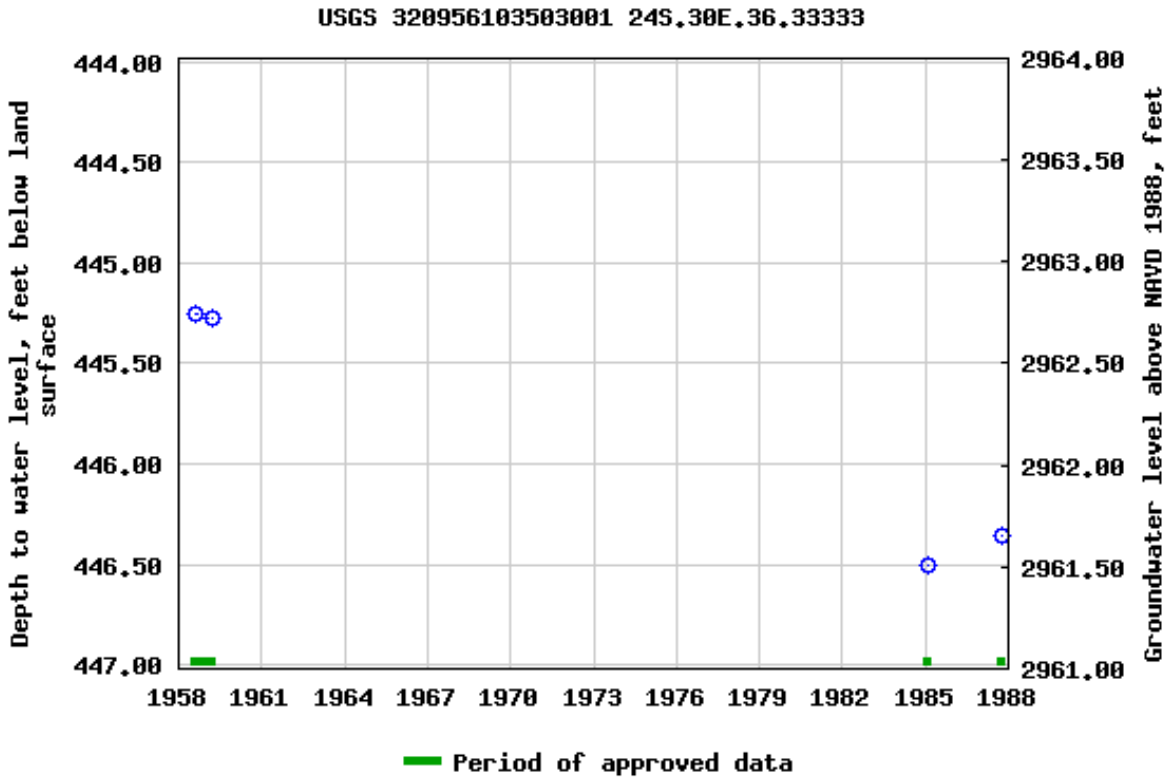
Latitude 32°09'56", Longitude 103°50'30" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 480 feet
Land surface altitude: 3,408 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

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

OPERATION:

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



USGS 320956103503001 24S.30E.36.33333

Available data for this site: SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

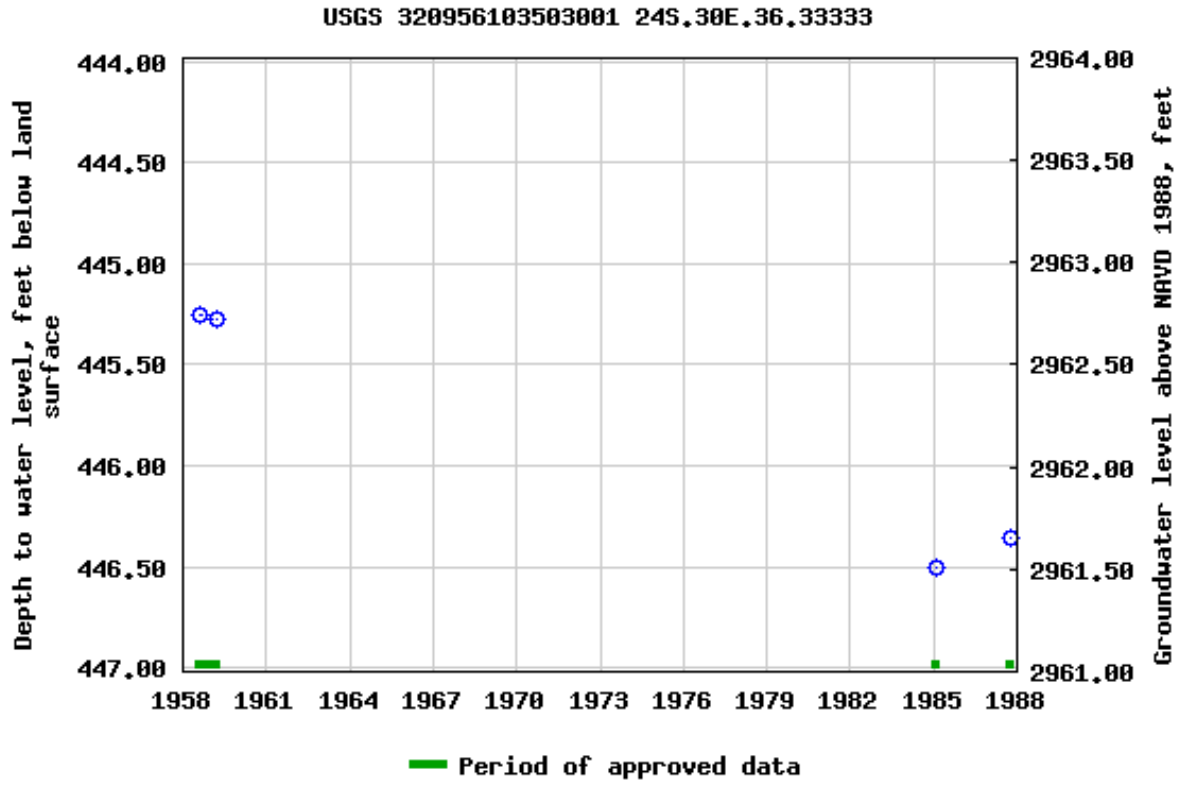
Latitude 32°09'56", Longitude 103°50'30" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 480 feet
Land surface altitude: 3,408 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

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

OPERATION:

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



USGS 321034103465501 24S.31E.33.231113

Available data for this site: SUMMARY OF ALL AVAILABLE DATA — GO

Well Site

DESCRIPTION:

Latitude 32°10'38.2", Longitude 103°46'53.0" NAD83
Eddy County, New Mexico , Hydrologic Unit 13070001
Well depth: 740 feet
Land surface altitude: 3,461.00 feet above NGVD29.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-03-12	1959-03-12	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

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

« Back to Google Earth — USGS Groundwater for USA: Water Levels -- 1 sites — Open in Microsoft Edge

Click to hide News Bulletins

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

Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =
- 321034103465501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

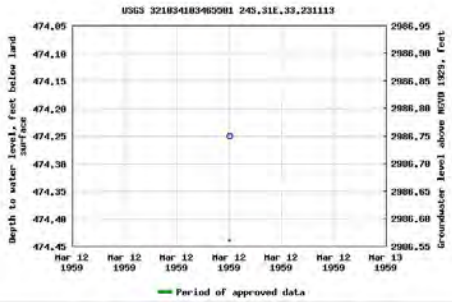
USGS 321034103465501 24S.31E.33.231113

Available data for this site: Groundwater: Field measurements — GO

Eddy County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°10'38.2", Longitude 103°46'53.0" NAD83
Land-surface elevation 3,461.00 feet above NGVD29
The depth of the well is 740 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03716 POD1	4	2	2	02	25S	30E	609069	3559211

Driller License: 1229 **Driller Company:** CARTER'S WELL DRILLING

Driller Name: RICHARD CARTER

Drill Start Date: 02/05/2014 **Drill Finish Date:** 03/03/2014 **Plug Date:**

Log File Date: 03/12/2014 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 50 GPM

Casing Size: **Depth Well:** 600 feet **Depth Water:** 425 feet

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

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03891 POD1	4	4	2	01	25S	30E	610608	3558890

Driller License:	1723	**Driller Company:**	SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.		
Driller Name:	RANDY STEWART				
Drill Start Date:	11/10/2015	**Drill Finish Date:**	11/14/2015	**Plug Date:**	
Log File Date:	12/04/2015	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	33 GPM
Casing Size:	6.13	**Depth Well:**	635 feet	**Depth Water:**	429 feet

Water Bearing Stratifications:	Top	Bottom	Description
	420	450	Sandstone/Gravel/Conglomerate
	450	460	Sandstone/Gravel/Conglomerate
	460	490	Sandstone/Gravel/Conglomerate
	490	500	Sandstone/Gravel/Conglomerate
	500	530	Sandstone/Gravel/Conglomerate
	530	635	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	460	635

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03716 POD1	4	2	2	02	25S	30E	609069	3559211

Driller License: 1229 **Driller Company:** CARTER'S WELL DRILLING

Driller Name: RICHARD CARTER

Drill Start Date: 02/05/2014 **Drill Finish Date:** 03/03/2014 **Plug Date:**

Log File Date: 03/12/2014 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 50 GPM

Casing Size: **Depth Well:** 600 feet **Depth Water:** 425 feet

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

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH01	Date: 10/8/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number: TE012920024	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: HAS		
Lat/Long: 32.164634,-103.789456	Field Screening: Chloride, PID	Hole Diameter: 8 1/4'	Total Depth: 110.4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	SWSC	SAND, dry, red-brown, medium grained, well graded, few clay, no stain, no odor
						4	CCHE	CALICHE/with gravel, dry, tan-brown, poorly consolidated, no stain, no odor
						10		
						20	SWSM	SAND, moist, red-brown, some silt, well graded, medium grainded, no stain, no odor
						24	CL	CLAY, moist, maroon, cohesive, high plasticity, trace sand, no stain, no odor
						30		
						35	SPSC	SAND, moist, red, fine grained, poorly graded, some clay, no stain, no odor
						40	SWSM	SAND, moist, brown-red, large grained, well graded, few silt, no stain, no odor
						50		
						54	SWSC	SAND, moist, brown-red, medium grained, well graded, some clay, no odor, no stain
						60		
						70		
						80		
							SWSC	grain size shift to large
						90	SWSC	caliche fragments present
						100		
						110		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH01	Date: 3/19/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
	<173	0.1	N	PH01	1'	0		
						1		Silty Sand, moist, reddish brown, poorly graded, fine-very fine
						2		
						3		
	593	0.6	N	PH01A	4'	4		Caliche, dry, tan-off white, consolidated, no stain, no odor
						5		
						6		
	274	1.6	N	PH01B	7'	7		Caliche, dry, tan-off white, consolidated, no stain, no odor
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH02	Date: 3/19/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
	<173	0.4	N	PH02	1'	0		
						1		Silty Sand, moist, reddish brown, poorly graded, fine-very fine
						2		
						3		
	173	0.5	N	PH02A	4'	4		Caliche, dry, tan-off white, consolidated, no stain, no odor
						5		
						6		
	929	0.2	N	PH02B	7'	7		Caliche, dry, tan-off white, consolidated, no stain, no odor
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH03	Date: 3/19/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: Fatima Smith	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
	<173	1.1	N	PH03	1'	1		Silty Sand, moist, reddish brown, poorly graded, fine-very fine
	207	0.6	N	PH03A	4'	4		Caliche, dry, tan-off white, consolidated, no stain, no odor
	--	1.1	N	PH03B	7'	7		Caliche, dry, tan-off white, consolidated, no stain, no odor

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH04	Date: 4/8/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: RM	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
	320	0.9		PH04	1'	1		SP-SM, brown
	<124	1.5		PH04A	2'	2		SP-SM, brown
	<124	0.2		PH04B	3'	3		SP-SM, brown
	1,100	0.3		PH04C	4'	4		Silty Sand, brown
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH01	Date: 5/28/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: JH	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 4'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
dry	212	566.9	yes	BH01	2'	2	SM	SAND, dry, brown, odor, staining
dry	248	478.3	yes	BH01A	4'	4	SM	SAND, dry, brown, odor, staining

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH02	Date: 5/28/2020-6/10/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: JH	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 8'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
dry	212	588.6	yes	BH02	5'	5	SM	SAND, dry, brown, odor, staining
dry	584	41.6	yes	BH02A	7'	7	SM	SAND, dry, brown, odor, staining
dry	716	10.1	no	BH02B	8'	8	SM	SAND, dry, brown, some silt and gravel, no odor, no staining

0
5
6
7
8
9
10
11
12

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH03	Date: 5/28/2020
Site Name: PLU 147	
RP or Incident Number: NRM2004445859	
LTE Job Number:	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: JH	Method:		
Lat/Long:	Field Screening: Chloride, PID	Hole Diameter:	Total Depth: 8'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
dry	152	1022	yes	BH03	6'	6	CHCE	CALICHE, dry, white-tan, odor, staining
dry	248	148.1	yes	BH03A	8'	8	CHCE	CALICHE, dry, white-tan, odor, staining

0
5
6
7
8
9
10
11
12

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Poker Lake Unit 147 Eddy County, New Mexico	NRM2004445859

Photo No.	Date
1	February 21, 2020

View of staining in eastern part of unlined containment

Photo No.	Date
2	February 21, 2020

View of staining in center of unlined containment.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Poker Lake Unit 147 Eddy County, New Mexico	NRM2004445859

Photo No.	Date
3	April 8, 2020

View of eastern excavation facing north.

Photo No.	Date
4	April 8, 2020

View of hydrovac excavation on south side of tank battery.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Poker Lake Unit 147 Eddy County, New Mexico	NRM2004445859

Photo No.	Date
5	February 15-17, 2020

View of hydrovac excavation between equipment.

Photo No.	Date
6	June 6, 2020

View of southern excavation looking east.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Poker Lake Unit 147 Eddy County, New Mexico	NRM2004445859

Photo No.	Date
7	October 8, 2020

View of backfill of eastern excavation.

Photo No.	Date
8	October 8, 2020

View of location of BH01 along lease road that leads to well pad facing northwest.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

Analytical Report 653408

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 147

012920024

26-FEB-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

26-FEB-20

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

Reference: XENCO Report No(s): **653408**
PLU 147
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 653408. 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. 653408 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,

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 653408

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	02-21-20 12:00	0.5 ft	653408-001
SS02	S	02-21-20 12:05	0.5 ft	653408-002

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 147

Project ID: *012920024*
Work Order Number(s): *653408*

Report Date: *26-FEB-20*
Date Received: *02/24/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 653408

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id: 012920024
Contact: Dan Moir
Project Location:

Date Received in Lab: Mon Feb-24-20 08:30 am
Report Date: 26-FEB-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	653408-001		653408-002					
	Field Id:	SS01		SS02					
	Depth:	0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Feb-21-20 12:00		Feb-21-20 12:05					
BTEX by EPA 8021B	***Extracted:***	Feb-24-20 10:00		Feb-24-20 10:00					
	Analyzed:	Feb-25-20 10:56		Feb-25-20 11:16					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		2.46	2.04	0.776	0.510				
Toluene		175	2.04	36.1	2.04				
Ethylbenzene		48.6	2.04	13.8	2.04				
m,p-Xylenes		708	4.08	188	4.08				
o-Xylene		182	2.04	52.3	2.04				
Total Xylenes		890	2.04	240	2.04				
Total BTEX		1120	2.04	291	0.510				
Chloride by EPA 300	***Extracted:***	Feb-24-20 10:00		Feb-24-20 10:00					
	Analyzed:	Feb-24-20 12:52		Feb-24-20 12:58					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		543	10.1	867	9.98				
TPH by SW8015 Mod	***Extracted:***	Feb-24-20 13:30		Feb-24-20 13:30					
	Analyzed:	Feb-25-20 12:21		Feb-25-20 12:21					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		3030	249	2930	250				
Diesel Range Organics (DRO)		13900	249	23800	250				
Motor Oil Range Hydrocarbons (MRO)		966	249	1560	250				
Total GRO-DRO		16900	249	26700	250				
Total TPH		17900	249	28300	250				

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 653408

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	02.24.20 08.30
Lab Sample Id:	653408-001	Date Collected:	02.21.20 12.00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.24.20 10.00	Basis:	Wet Weight
Seq Number:	3117433				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**543**	10.1	mg/kg	02.24.20 12.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.24.20 13.30	Basis:	Wet Weight
Seq Number:	3117477				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3030**	249	mg/kg	02.25.20 12.21		5
Diesel Range Organics (DRO)	C10C28DRO	**13900**	249	mg/kg	02.25.20 12.21		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**966**	249	mg/kg	02.25.20 12.21		5
Total GRO-DRO	PHC628	**16900**	249	mg/kg	02.25.20 12.21		5
Total TPH	PHC635	**17900**	249	mg/kg	02.25.20 12.21		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	138	%	70-135	02.25.20 12.21	**
o-Terphenyl	84-15-1	121	%	70-135	02.25.20 12.21	

Certificate of Analytical Results 653408

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	02.24.20 08.30
Lab Sample Id:	653408-001	Date Collected:	02.21.20 12.00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.24.20 10.00	Basis:	Wet Weight
Seq Number:	3117499				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**2.46**	2.04	mg/kg	02.25.20 10.56		100
Toluene	108-88-3	**175**	2.04	mg/kg	02.25.20 10.56		100
Ethylbenzene	100-41-4	**48.6**	2.04	mg/kg	02.25.20 10.56		100
m,p-Xylenes	179601-23-1	**708**	4.08	mg/kg	02.25.20 10.56		100
o-Xylene	95-47-6	**182**	2.04	mg/kg	02.25.20 10.56		100
Total Xylenes	1330-20-7	**890**	2.04	mg/kg	02.25.20 10.56		100
Total BTEX		**1120**	2.04	mg/kg	02.25.20 10.56		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	02.25.20 10.56	
1,4-Difluorobenzene	540-36-3	93	%	70-130	02.25.20 10.56	

Certificate of Analytical Results 653408

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	02.24.20 08.30
Lab Sample Id:	653408-002	Date Collected:	02.21.20 12.05	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.24.20 10.00	Basis:	Wet Weight
Seq Number:	3117433				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**867**	9.98	mg/kg	02.24.20 12.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	02.24.20 13.30	Basis:	Wet Weight
Seq Number:	3117477				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2930**	250	mg/kg	02.25.20 12.21		5
Diesel Range Organics (DRO)	C10C28DRO	**23800**	250	mg/kg	02.25.20 12.21		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1560**	250	mg/kg	02.25.20 12.21		5
Total GRO-DRO	PHC628	**26700**	250	mg/kg	02.25.20 12.21		5
Total TPH	PHC635	**28300**	250	mg/kg	02.25.20 12.21		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	152	%	70-135	02.25.20 12.21	**
o-Terphenyl	84-15-1	135	%	70-135	02.25.20 12.21	

Certificate of Analytical Results 653408

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	02.24.20 08.30
Lab Sample Id:	653408-002	Date Collected:	02.21.20 12.05	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	02.24.20 10.00	Basis:	Wet Weight
Seq Number:	3117499				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.776**	0.510	mg/kg	02.25.20 11.16		100
Toluene	108-88-3	**36.1**	2.04	mg/kg	02.25.20 11.16		100
Ethylbenzene	100-41-4	**13.8**	2.04	mg/kg	02.25.20 11.16		100
m,p-Xylenes	179601-23-1	**188**	4.08	mg/kg	02.25.20 11.16		100
o-Xylene	95-47-6	**52.3**	2.04	mg/kg	02.25.20 11.16		100
Total Xylenes	1330-20-7	**240**	2.04	mg/kg	02.25.20 11.16		100
Total BTEX		**291**	0.510	mg/kg	02.25.20 11.16		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.25.20 11.16	
1,4-Difluorobenzene	540-36-3	101	%	70-130	02.25.20 11.16	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 653408

LT Environmental, Inc.

PLU 147

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117433 — Matrix: Solid — Date Prep: 02.24.20
MB Sample Id: 7697297-1-BLK — LCS Sample Id: 7697297-1-BKS — LCSD Sample Id: 7697297-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	253	101	253	101	90-110	0	20	mg/kg	02.24.20 10:21	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117433 — Matrix: Soil — Date Prep: 02.24.20
Parent Sample Id: 653380-001 — MS Sample Id: 653380-001 S — MSD Sample Id: 653380-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	128	199	337	105	359	117	90-110	6	20	mg/kg	02.24.20 11:51	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3117433 — Matrix: Soil — Date Prep: 02.24.20
Parent Sample Id: 653401-001 — MS Sample Id: 653401-001 S — MSD Sample Id: 653401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	254	200	461	104	462	104	90-110	0	20	mg/kg	02.24.20 10:38	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3117477 — Matrix: Solid — Date Prep: 02.24.20
MB Sample Id: 7697359-1-BLK — LCS Sample Id: 7697359-1-BKS — LCSD Sample Id: 7697359-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	760	76	760	76	70-135	0	35	mg/kg	02.24.20 14:46	
Diesel Range Organics (DRO)	<50.0	1000	836	84	853	85	70-135	2	35	mg/kg	02.24.20 14:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		101		113		70-135	%	02.24.20 14:46
o-Terphenyl	116		102		103		70-135	%	02.24.20 14:46

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3117477 — Matrix: Solid — Date Prep: 02.24.20
MB Sample Id: 7697359-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.24.20 14:26	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 653408

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3117477 | Matrix: Soil | Date Prep: 02.24.20
Parent Sample Id: 653401-001 | MS Sample Id: 653401-001 S | MSD Sample Id: 653401-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	907	91	1060	106	70-135	16	35	mg/kg	02.24.20 15:06	
Diesel Range Organics (DRO)	<50.1	1000	1050	105	1200	120	70-135	13	35	mg/kg	02.24.20 15:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		125		70-135	%	02.24.20 15:06
o-Terphenyl	118		132		70-135	%	02.24.20 15:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3117499 | Matrix: Solid | Date Prep: 02.24.20
MB Sample Id: 7697295-1-BLK | LCS Sample Id: 7697295-1-BKS | LCSD Sample Id: 7697295-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.105	105	70-130	3	35	mg/kg	02.24.20 11:03	
Toluene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	35	mg/kg	02.24.20 11:03	
Ethylbenzene	<0.00200	0.100	0.0985	99	0.0975	98	71-129	1	35	mg/kg	02.24.20 11:03	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.202	101	70-135	0	35	mg/kg	02.24.20 11:03	
o-Xylene	<0.00200	0.100	0.101	101	0.100	100	71-133	1	35	mg/kg	02.24.20 11:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		104		70-130	%	02.24.20 11:03
4-Bromofluorobenzene	96		92		93		70-130	%	02.24.20 11:03

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3117499 | Matrix: Soil | Date Prep: 02.24.20
Parent Sample Id: 653379-001 | MS Sample Id: 653379-001 S | MSD Sample Id: 653379-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0987	99	0.106	106	70-130	7	35	mg/kg	02.24.20 11:43	
Toluene	<0.00199	0.0996	0.0838	84	0.0933	94	70-130	11	35	mg/kg	02.24.20 11:43	
Ethylbenzene	<0.00199	0.0996	0.0704	71	0.0807	81	71-129	14	35	mg/kg	02.24.20 11:43	
m,p-Xylenes	<0.00398	0.199	0.141	71	0.163	82	70-135	14	35	mg/kg	02.24.20 11:43	
o-Xylene	<0.00199	0.0996	0.0730	73	0.0842	85	71-133	14	35	mg/kg	02.24.20 11:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.24.20 11:43
4-Bromofluorobenzene	96		94		70-130	%	02.24.20 11:43

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

Final 1.000

Chain of Custody

XENCO LABORATORIES

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

Work Order No: 653408

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrel
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:	Carlsbad, NM
Phone:	432.704.5178	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU 147
Project Number:	01192024
P.O. Number:	Spill date 01/28/20
Sampler's Name:	Robert McAfee

Turn Around

Routine ☑
Rush:
Due Date:

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.4	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	02/21/20	1200	0.5'	1	X	X	X
SS02	S	02/21/20	1205	0.5'	1	X	X	X

Work Order Notes

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

Sample Comments

SS01: discrete
SS02: discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Note: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert McAfee		2-24-20 0816			
2						2/24/20 830
3						
4						
5						
6						

Revised Date 051418 Rev. 2018 1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.24.2020 08.30.00 AM

Work Order #: 653408

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 02.24.2020

Checklist reviewed by: Jessica Kramer Date: 02.26.2020

Jessica Kramer

Analytical Report 656193

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 147

012920024

20-MAR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

20-MAR-20

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

Reference: XENCO Report No(s): **656193**
PLU 147
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 656193. 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. 656193 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,

Jessica Kramer

Jessica Kramer
Project Manager

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 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	03-18-20 10:55	7 ft	656193-001
FS02	S	03-18-20 11:40	7 ft	656193-002
FS03	S	03-18-20 11:45	7 ft	656193-003
SW01	S	03-18-20 11:49	0 - 7 ft	656193-004
SW02	S	03-18-20 11:51	0 - 7 ft	656193-005
SW03	S	03-18-20 11:53	0 - 7 ft	656193-006

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 147

Project ID: *012920024*
Work Order Number(s): *656193*

Report Date: *20-MAR-20*
Date Received: *03/19/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3120331 BTEX by EPA 8021B

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

Certificate of Analysis Summary 656193

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id: 012920024
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Mar-19-20 08:15 am
Report Date: 20-MAR-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	656193-001		656193-002		656193-003		656193-004		656193-005		656193-006	
	Field Id:	FS01		FS02		FS03		SW01		SW02		SW03	
	Depth:	7- ft		7- ft		7- ft		0-7 ft		0-7 ft		0-7 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-18-20 10:55		Mar-18-20 11:40		Mar-18-20 11:45		Mar-18-20 11:49		Mar-18-20 11:51		Mar-18-20 11:53	
BTEX by EPA 8021B	***Extracted:***	Mar-19-20 11:34		Mar-19-20 11:34		Mar-19-20 11:34		Mar-19-20 11:34		Mar-19-20 11:34		Mar-19-20 11:34	
	Analyzed:	Mar-19-20 15:04		Mar-19-20 15:24		Mar-19-20 15:44		Mar-19-20 16:05		Mar-19-20 16:25		Mar-20-20 03:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.0101	0.0101	<0.0714	0.0714
Toluene		<0.00201	0.00201	0.00416	0.00200	0.00709	0.00202	<0.00199	0.00199	<0.0101	0.0101	0.646	0.0714
Ethylbenzene		<0.00201	0.00201	0.00709	0.00200	0.0135	0.00202	<0.00199	0.00199	<0.0101	0.0101	1.26	0.0714
m,p-Xylenes		0.0293	0.00402	0.0832	0.00399	0.142	0.00403	<0.00398	0.00398	<0.0202	0.0202	13.1	0.143
o-Xylene		0.0133	0.00201	0.0446	0.00200	0.0863	0.00202	<0.00199	0.00199	<0.0101	0.0101	7.45	0.0714
Total Xylenes		0.0426	0.00201	0.128	0.00200	0.228	0.00202	<0.00199	0.00199	<0.0101	0.0101	20.6	0.0714
Total BTEX		0.0426	0.00201	0.139	0.00200	0.249	0.00202	<0.00199	0.00199	<0.0101	0.0101	22.5	0.0714
Chloride by EPA 300	***Extracted:***	Mar-19-20 12:16		Mar-19-20 12:16		Mar-19-20 12:16		Mar-19-20 12:16		Mar-19-20 12:16		Mar-19-20 12:16	
	Analyzed:	Mar-19-20 12:23		Mar-19-20 12:57		Mar-19-20 13:04		Mar-19-20 13:23		Mar-19-20 13:29		Mar-19-20 13:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		312	10.0	341	9.90	306	10.1	159	10.0	15.2	10.1	110	10.1
TPH by SW8015 Mod	***Extracted:***	Mar-19-20 16:15		Mar-19-20 16:15		Mar-19-20 16:15		** ** ** **		** ** ** **		** ** ** **	
	Analyzed:	Mar-19-20 16:34		Mar-19-20 16:54		Mar-19-20 17:14		Mar-19-20 16:34		Mar-19-20 16:54		Mar-19-20 17:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	85.5	50.1	<49.9	49.9	<50.1	50.1	1440	50.2
Diesel Range Organics (DRO)		77.0	50.0	526	49.8	974	50.1	<49.9	49.9	<50.1	50.1	4850	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	56.7	50.1	<49.9	49.9	<50.1	50.1	225	50.2
Total GRO-DRO		77.0	50.0	526	49.8	1060	50.1	<49.9	49.9	<50.1	50.1	6290	50.2
Total TPH		77.0	50.0	526	49.8	1120	50.1	<49.9	49.9	<50.1	50.1	6520	50.2

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

Jessica Kramer
Project Manager

Final 1.000

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-001	Date Collected:	03.18.20 10.55	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**312**	10.0	mg/kg	03.19.20 12.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 16.15	Basis:	Wet Weight
Seq Number:	3120382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.19.20 16.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**77.0**	50.0	mg/kg	03.19.20 16.34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.19.20 16.34	U	1
Total GRO-DRO	PHC628	**77.0**	50.0	mg/kg	03.19.20 16.34		1
Total TPH	PHC635	**77.0**	50.0	mg/kg	03.19.20 16.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	03.19.20 16.34	
o-Terphenyl	84-15-1	115	%	70-135	03.19.20 16.34	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-001	Date Collected:	03.18.20 10.55	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.19.20 15.04	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.19.20 15.04	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.19.20 15.04	U	1
m,p-Xylenes	179601-23-1	**0.0293**	0.00402	mg/kg	03.19.20 15.04		1
o-Xylene	95-47-6	**0.0133**	0.00201	mg/kg	03.19.20 15.04		1
Total Xylenes	1330-20-7	**0.0426**	0.00201	mg/kg	03.19.20 15.04		1
Total BTEX		**0.0426**	0.00201	mg/kg	03.19.20 15.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	03.19.20 15.04	
4-Bromofluorobenzene	460-00-4	100	%	70-130	03.19.20 15.04	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-002	Date Collected:	03.18.20 11.40	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**341**	9.90	mg/kg	03.19.20 12.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 16.15	Basis:	Wet Weight
Seq Number:	3120382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.19.20 16.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**526**	49.8	mg/kg	03.19.20 16.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.19.20 16.54	U	1
Total GRO-DRO	PHC628	**526**	49.8	mg/kg	03.19.20 16.54		1
Total TPH	PHC635	**526**	49.8	mg/kg	03.19.20 16.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	03.19.20 16.54	
o-Terphenyl	84-15-1	121	%	70-135	03.19.20 16.54	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-002	Date Collected:	03.18.20 11.40	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.19.20 15.24	U	1
Toluene	108-88-3	**0.00416**	0.00200	mg/kg	03.19.20 15.24		1
Ethylbenzene	100-41-4	**0.00709**	0.00200	mg/kg	03.19.20 15.24		1
m,p-Xylenes	179601-23-1	**0.0832**	0.00399	mg/kg	03.19.20 15.24		1
o-Xylene	95-47-6	**0.0446**	0.00200	mg/kg	03.19.20 15.24		1
Total Xylenes	1330-20-7	**0.128**	0.00200	mg/kg	03.19.20 15.24		1
Total BTEX		**0.139**	0.00200	mg/kg	03.19.20 15.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	03.19.20 15.24	
1,4-Difluorobenzene	540-36-3	104	%	70-130	03.19.20 15.24	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-003	Date Collected:	03.18.20 11.45	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**306**	10.1	mg/kg	03.19.20 13.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 16.15	Basis:	Wet Weight
Seq Number:	3120382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**85.5**	50.1	mg/kg	03.19.20 17.14		1
Diesel Range Organics (DRO)	C10C28DRO	**974**	50.1	mg/kg	03.19.20 17.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**56.7**	50.1	mg/kg	03.19.20 17.14		1
Total GRO-DRO	PHC628	**1060**	50.1	mg/kg	03.19.20 17.14		1
Total TPH	PHC635	**1120**	50.1	mg/kg	03.19.20 17.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	03.19.20 17.14	
o-Terphenyl	84-15-1	126	%	70-135	03.19.20 17.14	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-003	Date Collected:	03.18.20 11.45	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.19.20 15.44	U	1
Toluene	108-88-3	**0.00709**	0.00202	mg/kg	03.19.20 15.44		1
Ethylbenzene	100-41-4	**0.0135**	0.00202	mg/kg	03.19.20 15.44		1
m,p-Xylenes	179601-23-1	**0.142**	0.00403	mg/kg	03.19.20 15.44		1
o-Xylene	95-47-6	**0.0863**	0.00202	mg/kg	03.19.20 15.44		1
Total Xylenes	1330-20-7	**0.228**	0.00202	mg/kg	03.19.20 15.44		1
Total BTEX		**0.249**	0.00202	mg/kg	03.19.20 15.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	03.19.20 15.44	
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.19.20 15.44	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-004	Date Collected:	03.18.20 11.49	Sample Depth:	0 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**159**	10.0	mg/kg	03.19.20 13.23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.15.20 16.15	Basis:	Wet Weight
Seq Number:	3120393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.19.20 16.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.19.20 16.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.19.20 16.34	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.19.20 16.34	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.19.20 16.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.19.20 16.34	
o-Terphenyl	84-15-1	104	%	70-135	03.19.20 16.34	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-004	Date Collected:	03.18.20 11.49	Sample Depth:	0 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.19.20 16.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.19.20 16.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.19.20 16.05	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.19.20 16.05	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-005	Date Collected:	03.18.20 11.51	Sample Depth:	0 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.2**	10.1	mg/kg	03.19.20 13.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.15.20 16.15	Basis:	Wet Weight
Seq Number:	3120393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.19.20 16.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.19.20 16.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.19.20 16.54	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	03.19.20 16.54	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.19.20 16.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	03.19.20 16.54	
o-Terphenyl	84-15-1	104	%	70-135	03.19.20 16.54	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-005	Date Collected:	03.18.20 11.51	Sample Depth:	0 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1
Toluene	108-88-3	<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1
Ethylbenzene	100-41-4	<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1
m,p-Xylenes	179601-23-1	<0.0202	0.0202	mg/kg	03.19.20 16.25	U	1
o-Xylene	95-47-6	<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1
Total Xylenes	1330-20-7	<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1
Total BTEX		<0.0101	0.0101	mg/kg	03.19.20 16.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.19.20 16.25	
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.19.20 16.25	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-006	Date Collected:	03.18.20 11.53	Sample Depth:	0 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 12.16	Basis:	Wet Weight
Seq Number:	3120336				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	10.1	mg/kg	03.19.20 13.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.15.20 16.15	Basis:	Wet Weight
Seq Number:	3120393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1440**	50.2	mg/kg	03.19.20 17.14		1
Diesel Range Organics (DRO)	C10C28DRO	**4850**	50.2	mg/kg	03.19.20 17.14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**225**	50.2	mg/kg	03.19.20 17.14		1
Total GRO-DRO	PHC628	**6290**	50.2	mg/kg	03.19.20 17.14		1
Total TPH	PHC635	**6520**	50.2	mg/kg	03.19.20 17.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	03.19.20 17.14	
o-Terphenyl	84-15-1	110	%	70-135	03.19.20 17.14	

Certificate of Analytical Results 656193

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	03.19.20 08.15
Lab Sample Id:	656193-006	Date Collected:	03.18.20 11.53	Sample Depth:	0 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 11.34	Basis:	Wet Weight
Seq Number:	3120331				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0714	0.0714	mg/kg	03.20.20 03.38	U	1
Toluene	108-88-3	**0.646**	0.0714	mg/kg	03.20.20 03.38		1
Ethylbenzene	100-41-4	**1.26**	0.0714	mg/kg	03.20.20 03.38		1
m,p-Xylenes	179601-23-1	**13.1**	0.143	mg/kg	03.20.20 03.38		1
o-Xylene	95-47-6	**7.45**	0.0714	mg/kg	03.20.20 03.38		1
Total Xylenes	1330-20-7	**20.6**	0.0714	mg/kg	03.20.20 03.38		1
Total BTEX		**22.5**	0.0714	mg/kg	03.20.20 03.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.20.20 03.38	
4-Bromofluorobenzene	460-00-4	121	%	70-130	03.20.20 03.38	

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

QC Summary 656193

LT Environmental, Inc.

PLU 147

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120336 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699267-1-BLK — LCS Sample Id: 7699267-1-BKS — LCSD Sample Id: 7699267-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	260	104	262	105	90-110	1	20	mg/kg	03.19.20 12:09	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120336 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656193-001 — MS Sample Id: 656193-001 S — MSD Sample Id: 656193-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	312	200	527	108	528	108	90-110	0	20	mg/kg	03.19.20 12:30	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120336 — Matrix: Solid — Date Prep: 03.19.20
Parent Sample Id: 656277-004 — MS Sample Id: 656277-004 S — MSD Sample Id: 656277-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	535	200	752	109	745	106	90-110	1	20	mg/kg	03.19.20 16:13	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120393 — Matrix: Solid — Date Prep: 03.15.20
MB Sample Id: 7699383-1-BLK — LCS Sample Id: 7699383-1-BKS — LCSD Sample Id: 7699383-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	911	91	946	95	70-135	4	35	mg/kg	03.19.20 14:52	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	1020	102	70-135	1	35	mg/kg	03.19.20 14:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		115		119		70-135	%	03.19.20 14:52
o-Terphenyl	99		118		113		70-135	%	03.19.20 14:52

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Final 1.000

QC Summary 656193

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120382 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699380-1-BLK — LCS Sample Id: 7699380-1-BKS — LCSD Sample Id: 7699380-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	938	94	1050	105	70-135	11	35	mg/kg	03.19.20 14:52	
Diesel Range Organics (DRO)	<50.0	1000	1050	105	1160	116	70-135	10	35	mg/kg	03.19.20 14:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		111		126		70-135	%	03.19.20 14:52
o-Terphenyl	98		119		134		70-135	%	03.19.20 14:52

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120393 — Matrix: Solid — Date Prep: 03.15.20
MB Sample Id: 7699383-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.19.20 14:32	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120382 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699380-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.19.20 14:32	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120393 — Matrix: Soil — Date Prep: 03.15.20
Parent Sample Id: 656197-001 — MS Sample Id: 656197-001 S — MSD Sample Id: 656197-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	906	91	924	92	70-135	2	35	mg/kg	03.19.20 15:53	
Diesel Range Organics (DRO)	<50.0	999	984	98	1020	102	70-135	4	35	mg/kg	03.19.20 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		117		70-135	%	03.19.20 15:53
o-Terphenyl	114		117		70-135	%	03.19.20 15:53

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656193

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3120382 | Matrix: Soil | Date Prep: 03.19.20
Parent Sample Id: 656196-001 | MS Sample Id: 656196-001 S | MSD Sample Id: 656196-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	903	90	924	92	70-135	2	35	mg/kg	03.19.20 15:53	
Diesel Range Organics (DRO)	<50.1	1000	983	98	1020	102	70-135	4	35	mg/kg	03.19.20 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		111		70-135	%	03.19.20 15:53
o-Terphenyl	111		117		70-135	%	03.19.20 15:53

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120331 | Matrix: Solid | Date Prep: 03.19.20
MB Sample Id: 7699269-1-BLK | LCS Sample Id: 7699269-1-BKS | LCSD Sample Id: 7699269-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.104	104	70-130	4	35	mg/kg	03.19.20 12:41	
Toluene	<0.00200	0.100	0.104	104	0.0995	100	70-130	4	35	mg/kg	03.19.20 12:41	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0950	95	71-129	5	35	mg/kg	03.19.20 12:41	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.197	99	70-135	5	35	mg/kg	03.19.20 12:41	
o-Xylene	<0.00200	0.100	0.103	103	0.0982	98	71-133	5	35	mg/kg	03.19.20 12:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		107		108		70-130	%	03.19.20 12:41
4-Bromofluorobenzene	94		93		95		70-130	%	03.19.20 12:41

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120331 | Matrix: Soil | Date Prep: 03.19.20
Parent Sample Id: 656196-001 | MS Sample Id: 656196-001 S | MSD Sample Id: 656196-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.104	105	70-130	1	35	mg/kg	03.19.20 13:22	
Toluene	<0.00200	0.100	0.0933	93	0.0844	85	70-130	10	35	mg/kg	03.19.20 13:22	
Ethylbenzene	<0.00200	0.100	0.0877	88	0.0770	78	71-129	13	35	mg/kg	03.19.20 13:22	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.153	77	70-135	15	35	mg/kg	03.19.20 13:22	
o-Xylene	<0.00200	0.100	0.0916	92	0.0828	83	71-133	10	35	mg/kg	03.19.20 13:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	03.19.20 13:22
4-Bromofluorobenzene	96		94		70-130	%	03.19.20 13:22

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

Final 1.000

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Order No: 456193

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfield ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 147	Turn Around	
Project Number:	012920024	Routine: ☐	
PO #:	1/28/20 spill date	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	
Received Intact:	(Yes) No	TNM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	3/18/20	1055	7	1	X	X	X
FS02	S		1140	7				
FS03	S		1145	7				
SW01	S		1149	0-7				
SW02	S		1151	0-7	↓	↓	↓	↓
SW03	S	↓	1153	0-7	1	X	X	X

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			3/19/20 7:55am	2		03/19/20 08:15
3				4		
5				6		

Revised Date101419 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.19.2020 08.15.00 AM

Work Order #: 656193

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 03.19.2020

Checklist reviewed by: Jessica Kramer Date: 03.19.2020

Jessica Kramer

Analytical Report 656335

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 147

012920024

20-MAR-20

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

20-MAR-20

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

Reference: XENCO Report No(s): **656335**
PLU 147
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 656335. 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. 656335 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,

Jessica Kramer

Jessica Kramer
Project Manager

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 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	03-19-20 09:29	1 ft	656335-001
PH01A	S	03-19-20 09:35	4 ft	656335-002
PH01B	S	03-19-20 09:57	7 ft	656335-003
PH02	S	03-19-20 10:25	1 ft	656335-004
PH02A	S	03-19-20 10:36	4 ft	656335-005
PH02B	S	03-19-20 10:54	7 ft	656335-006
PH03	S	03-19-20 11:43	1 ft	656335-007
PH03A	S	03-19-20 11:49	4 ft	656335-008
PH03B	S	03-19-20 12:05	7 ft	656335-009
SW04	S	03-19-20 11:30	0 - 4 ft	656335-010
FS04	S	03-19-20 11:33	4 ft	656335-011

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 147

Project ID: *012920024*
Work Order Number(s): *656335*

Report Date: *20-MAR-20*
Date Received: *03/19/2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3120334 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3120335 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 656335

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id: 012920024
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Mar-19-20 04:30 pm
Report Date: 20-MAR-20
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	656335-001		656335-002		656335-003		656335-004		656335-005		656335-006	
	Field Id:	PH01		PH01A		PH01B		PH02		PH02A		PH02B	
	Depth:	1- ft		4- ft		7- ft		1- ft		4- ft		7- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-19-20 09:29		Mar-19-20 09:35		Mar-19-20 09:57		Mar-19-20 10:25		Mar-19-20 10:36		Mar-19-20 10:54	
BTEX by EPA 8021B	***Extracted:***	Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00	
	Analyzed:	Mar-20-20 01:24		Mar-20-20 01:44		Mar-20-20 02:05		Mar-20-20 00:35		Mar-20-20 01:15		Mar-20-20 01:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00400	0.00400	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:09	
	Analyzed:	Mar-19-20 19:51		Mar-19-20 19:57		Mar-19-20 20:03		Mar-19-20 20:09		Mar-19-20 20:15		Mar-19-20 20:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		54.9	10.0	821	10.0	284	9.92	<9.98	9.98	202	9.88	1020	10.1
TPH by SW8015 Mod	***Extracted:***	Mar-19-20 17:20		Mar-19-20 17:20		Mar-19-20 17:30		Mar-19-20 17:30		Mar-19-20 17:30		Mar-19-20 17:30	
	Analyzed:	Mar-19-20 22:37		Mar-19-20 22:58		Mar-20-20 01:40		Mar-20-20 02:40		Mar-20-20 01:40		Mar-20-20 03:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		120	49.9	77.4	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		62.7	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0
Total GRO-DRO		120	49.9	77.4	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0
Total TPH		183	49.9	77.4	50.0	<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.0	50.0

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

Version: 1.%

Jessica Kramer
Project Manager

Final 1.000

Certificate of Analysis Summary 656335

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id: 012920024
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu Mar-19-20 04:30 pm
Report Date: 20-MAR-20
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	656335-007		656335-008		656335-009		656335-010		656335-011	
		Field Id:	PH03		PH03A		PH03B		SW04		FS04	
		Depth:	1- ft		4- ft		7- ft		0-4 ft		4- ft	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Mar-19-20 11:43		Mar-19-20 11:49		Mar-19-20 12:05		Mar-19-20 11:30		Mar-19-20 11:33	
BTEX by EPA 8021B	Extracted:		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00		Mar-19-20 18:00	
	Analyzed:		Mar-20-20 01:56		Mar-20-20 02:17		Mar-20-20 02:37		Mar-20-20 02:57		Mar-20-20 03:18	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	0.0106	0.00625	<0.0102	0.0102
Toluene			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	0.361	0.00625	0.748	0.0102
Ethylbenzene			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	0.751	0.00625	1.49	0.0102
m,p-Xylenes			<0.00402	0.00402	<0.00395	0.00395	<0.00399	0.00399	13.4 D	0.399	19.2 D	0.398
o-Xylene			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	1.60 D	0.200	2.31 D	0.199
Total Xylenes			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	15.0	0.200	21.5	0.199
Total BTEX			<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	16.1	0.00625	23.7	0.0102
Chloride by EPA 300	Extracted:		Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:09		Mar-19-20 18:42		Mar-19-20 18:42	
	Analyzed:		Mar-19-20 20:28		Mar-19-20 20:34		Mar-19-20 20:40		Mar-19-20 21:16		Mar-19-20 21:35	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			22.3	9.88	215	9.90	352	10.0	260	9.96	206	9.92
TPH by SW8015 Mod	Extracted:		Mar-19-20 17:30		Mar-19-20 17:30		Mar-19-20 17:30		Mar-19-20 17:30		Mar-19-20 17:30	
	Analyzed:		Mar-20-20 03:20		Mar-20-20 03:41		Mar-20-20 02:40		Mar-20-20 03:00		Mar-20-20 11:39	
	Units/RL:		mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)			<50.0	50.0	<49.9	49.9	<50.2	50.2	714	49.8	3270	251
Diesel Range Organics (DRO)			<50.0	50.0	<49.9	49.9	<50.2	50.2	2440	49.8	8870	251
Motor Oil Range Hydrocarbons (MRO)			<50.0	50.0	<49.9	49.9	<50.2	50.2	105	49.8	334	251
Total GRO-DRO			<50.0	50.0	<49.9	49.9	<50.2	50.2	3150	49.8	12100	251
Total TPH			<50.0	50.0	<49.9	49.9	<50.2	50.2	3260	49.8	12500	251

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

Version: 1.%

Jessica Kramer
Project Manager

Final 1.000

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-001	Date Collected:	03.19.20 09.29	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**54.9**	10.0	mg/kg	03.19.20 19.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.20	Basis:	Wet Weight
Seq Number:	3120382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.19.20 22.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	**120**	49.9	mg/kg	03.19.20 22.37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**62.7**	49.9	mg/kg	03.19.20 22.37		1
Total GRO-DRO	PHC628	**120**	49.9	mg/kg	03.19.20 22.37		1
Total TPH	PHC635	**183**	49.9	mg/kg	03.19.20 22.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	03.19.20 22.37	
o-Terphenyl	84-15-1	115	%	70-135	03.19.20 22.37	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-001	Date Collected:	03.19.20 09.29	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120334				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.20.20 01.24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.20.20 01.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.20.20 01.24	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.20.20 01.24	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-002	Date Collected:	03.19.20 09.35	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**821**	10.0	mg/kg	03.19.20 19.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.20	Basis:	Wet Weight
Seq Number:	3120382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.19.20 22.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	**77.4**	50.0	mg/kg	03.19.20 22.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.19.20 22.58	U	1
Total GRO-DRO	PHC628	**77.4**	50.0	mg/kg	03.19.20 22.58		1
Total TPH	PHC635	**77.4**	50.0	mg/kg	03.19.20 22.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.19.20 22.58	
o-Terphenyl	84-15-1	105	%	70-135	03.19.20 22.58	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-002	Date Collected:	03.19.20 09.35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120334				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.20.20 01.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.20.20 01.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.20.20 01.44	
1,4-Difluorobenzene	540-36-3	118	%	70-130	03.20.20 01.44	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-003	Date Collected:	03.19.20 09.57	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**284**	9.92	mg/kg	03.19.20 20.03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.20 01.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.20 01.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.20 01.40	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.20.20 01.40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.20 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.20.20 01.40	
o-Terphenyl	84-15-1	108	%	70-135	03.20.20 01.40	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-003	Date Collected:	03.19.20 09.57	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120334				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.20 02.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.20 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	03.20.20 02.05	
1,4-Difluorobenzene	540-36-3	118	%	70-130	03.20.20 02.05	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-004	Date Collected:	03.19.20 10.25	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	03.19.20 20.09	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.20 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.20 02.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.20 02.40	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.20.20 02.40	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.20 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.20.20 02.40	
o-Terphenyl	84-15-1	108	%	70-135	03.20.20 02.40	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-004	Date Collected:	03.19.20 10.25	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.20.20 00.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.20 00.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.20 00.35	
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.20.20 00.35	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-005	Date Collected:	03.19.20 10.36	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**202**	9.88	mg/kg	03.19.20 20.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.20.20 01.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	03.20.20 01.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.20.20 01.40	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	03.20.20 01.40	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	03.20.20 01.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.20.20 01.40	
o-Terphenyl	84-15-1	110	%	70-135	03.20.20 01.40	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-005	Date Collected:	03.19.20 10.36	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.20 01.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.20 01.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.20.20 01.15	
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.20.20 01.15	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-006	Date Collected:	03.19.20 10.54	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	10.1	mg/kg	03.19.20 20.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.20 03.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.20.20 03.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.20.20 03.00	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.20.20 03.00	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.20.20 03.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.20.20 03.00	
o-Terphenyl	84-15-1	109	%	70-135	03.20.20 03.00	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-006	Date Collected:	03.19.20 10.54	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.20.20 01.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.20 01.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.20.20 01.36	
1,4-Difluorobenzene	540-36-3	106	%	70-130	03.20.20 01.36	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-007	Date Collected:	03.19.20 11.43	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.3**	9.88	mg/kg	03.19.20 20.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.20 03.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	03.20.20 03.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.20.20 03.20	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	03.20.20 03.20	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	03.20.20 03.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.20.20 03.20	
o-Terphenyl	84-15-1	117	%	70-135	03.20.20 03.20	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-007	Date Collected:	03.19.20 11.43	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.20.20 01.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.20.20 01.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.20.20 01.56	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.20 01.56	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-008	Date Collected:	03.19.20 11.49	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**215**	9.90	mg/kg	03.19.20 20.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.20 03.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.20 03.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.20 03.41	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.20.20 03.41	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.20 03.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	03.20.20 03.41	
o-Terphenyl	84-15-1	113	%	70-135	03.20.20 03.41	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-008	Date Collected:	03.19.20 11.49	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	03.20.20 02.17	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.20.20 02.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.20.20 02.17	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.20 02.17	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-009	Date Collected:	03.19.20 12.05	Sample Depth:	7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.09	Basis:	Wet Weight
Seq Number:	3120337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**352**	10.0	mg/kg	03.19.20 20.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.20.20 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.20.20 02.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.20.20 02.40	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.20.20 02.40	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.20.20 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	03.20.20 02.40	
o-Terphenyl	84-15-1	125	%	70-135	03.20.20 02.40	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH03B**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-009	Date Collected:	03.19.20 12.05	Sample Depth:	7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.20 02.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.20 02.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.20.20 02.37	
1,4-Difluorobenzene	540-36-3	106	%	70-130	03.20.20 02.37	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-010	Date Collected:	03.19.20 11.30	Sample Depth:	0 - 4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**260**	9.96	mg/kg	03.19.20 21.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**714**	49.8	mg/kg	03.20.20 03.00		1
Diesel Range Organics (DRO)	C10C28DRO	**2440**	49.8	mg/kg	03.20.20 03.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**105**	49.8	mg/kg	03.20.20 03.00		1
Total GRO-DRO	PHC628	**3150**	49.8	mg/kg	03.20.20 03.00		1
Total TPH	PHC635	**3260**	49.8	mg/kg	03.20.20 03.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	03.20.20 03.00	
o-Terphenyl	84-15-1	108	%	70-135	03.20.20 03.00	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-010	Date Collected:	03.19.20 11.30	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0106**	0.00625	mg/kg	03.20.20 02.57		1
Toluene	108-88-3	**0.361**	0.00625	mg/kg	03.20.20 02.57		1
Ethylbenzene	100-41-4	**0.751**	0.00625	mg/kg	03.20.20 02.57		1
m,p-Xylenes	179601-23-1	**13.4**	0.399	mg/kg	03.20.20 09.34	D	100
o-Xylene	95-47-6	**1.60**	0.200	mg/kg	03.20.20 09.34	D	100
Total Xylenes	1330-20-7	**15.0**	0.200	mg/kg	03.20.20 09.34		100
Total BTEX		**16.1**	0.00625	mg/kg	03.20.20 09.34		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	03.20.20 02.57	
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.20.20 02.57	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-011	Date Collected:	03.19.20 11.33	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**206**	9.92	mg/kg	03.19.20 21.35		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.20 17.30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3270**	251	mg/kg	03.20.20 11.39		5
Diesel Range Organics (DRO)	C10C28DRO	**8870**	251	mg/kg	03.20.20 11.39		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**334**	251	mg/kg	03.20.20 11.39		5
Total GRO-DRO	PHC628	**12100**	251	mg/kg	03.20.20 11.39		5
Total TPH	PHC635	**12500**	251	mg/kg	03.20.20 11.39		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	03.20.20 11.39	
o-Terphenyl	84-15-1	92	%	70-135	03.20.20 11.39	

Certificate of Analytical Results 656335

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	03.19.20 16.30
Lab Sample Id:	656335-011	Date Collected:	03.19.20 11.33	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.20 18.00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0102	0.0102	mg/kg	03.20.20 03.18	U	1
Toluene	108-88-3	**0.748**	0.0102	mg/kg	03.20.20 03.18		1
Ethylbenzene	100-41-4	**1.49**	0.0102	mg/kg	03.20.20 03.18		1
m,p-Xylenes	179601-23-1	**19.2**	0.398	mg/kg	03.20.20 10.56	D	100
o-Xylene	95-47-6	**2.31**	0.199	mg/kg	03.20.20 10.56	D	100
Total Xylenes	1330-20-7	**21.5**	0.199	mg/kg	03.20.20 10.56		100
Total BTEX		**23.7**	0.0102	mg/kg	03.20.20 10.56		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.20.20 03.18	
4-Bromofluorobenzene	460-00-4	100	%	70-130	03.20.20 03.18	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 656335

LT Environmental, Inc.

PLU 147

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120337 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699316-1-BLK — LCS Sample Id: 7699316-1-BKS — LCSD Sample Id: 7699316-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	261	104	90-110	0	20	mg/kg	03.19.20 17:41	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120338 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699322-1-BLK — LCS Sample Id: 7699322-1-BKS — LCSD Sample Id: 7699322-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	261	104	90-110	0	20	mg/kg	03.19.20 21:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120337 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656277-013 — MS Sample Id: 656277-013 S — MSD Sample Id: 656277-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	200	354	107	352	106	90-110	1	20	mg/kg	03.19.20 18:00	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120337 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656301-002 — MS Sample Id: 656301-002 S — MSD Sample Id: 656301-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	295	200	508	107	507	106	90-110	0	20	mg/kg	03.19.20 19:26	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120338 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656335-010 — MS Sample Id: 656335-010 S — MSD Sample Id: 656335-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	260	200	476	108	476	108	90-110	0	20	mg/kg	03.19.20 21:23	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656335

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120382 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699380-1-BLK — LCS Sample Id: 7699380-1-BKS — LCSD Sample Id: 7699380-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	938	94	1050	105	70-135	11	35	mg/kg	03.19.20 14:52	
Diesel Range Organics (DRO)	<50.0	1000	1050	105	1160	116	70-135	10	35	mg/kg	03.19.20 14:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	88		111		126		70-135	%	03.19.20 14:52
o-Terphenyl	98		119		134		70-135	%	03.19.20 14:52

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699371-1-BLK — LCS Sample Id: 7699371-1-BKS — LCSD Sample Id: 7699371-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1030	103	959	96	70-135	7	35	mg/kg	03.20.20 00:59	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1070	107	70-135	6	35	mg/kg	03.20.20 00:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		122		118		70-135	%	03.20.20 00:59
o-Terphenyl	109		128		122		70-135	%	03.20.20 00:59

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120406 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699373-1-BLK — LCS Sample Id: 7699373-1-BKS — LCSD Sample Id: 7699373-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	936	94	868	87	70-135	8	35	mg/kg	03.20.20 00:59	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	983	98	70-135	6	35	mg/kg	03.20.20 00:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		111		105		70-135	%	03.20.20 00:59
o-Terphenyl	95		118		112		70-135	%	03.20.20 00:59

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120382 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699380-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.19.20 14:32	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656335

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699371-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.20 00:39	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120406 — Matrix: Solid — Date Prep: 03.19.20
MB Sample Id: 7699373-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.20 00:39	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120382 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656196-001 — MS Sample Id: 656196-001 S — MSD Sample Id: 656196-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	903	90	924	92	70-135	2	35	mg/kg	03.19.20 15:53	
Diesel Range Organics (DRO)	<50.1	1000	983	98	1020	102	70-135	4	35	mg/kg	03.19.20 15:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		111		70-135	%	03.19.20 15:53
o-Terphenyl	111		117		70-135	%	03.19.20 15:53

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Soil — Date Prep: 03.19.20
Parent Sample Id: 656335-005 — MS Sample Id: 656335-005 S — MSD Sample Id: 656335-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	882	88	974	98	70-135	10	35	mg/kg	03.20.20 02:00	
Diesel Range Organics (DRO)	<50.0	999	967	97	1070	107	70-135	10	35	mg/kg	03.20.20 02:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		121		70-135	%	03.20.20 02:00
o-Terphenyl	117		126		70-135	%	03.20.20 02:00

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656335

LT Environmental, Inc.

PLU 147

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3120406 | Matrix: Soil | Date Prep: 03.19.20
Parent Sample Id: 656335-003 | MS Sample Id: 656335-003 S | MSD Sample Id: 656335-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	880	88	985	99	70-135	11	35	mg/kg	03.20.20 02:00	
Diesel Range Organics (DRO)	<50.2	1000	990	99	1080	108	70-135	9	35	mg/kg	03.20.20 02:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		122		70-135	%	03.20.20 02:00
o-Terphenyl	116		128		70-135	%	03.20.20 02:00

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120334 | Matrix: Solid | Date Prep: 03.19.20
MB Sample Id: 7699317-1-BLK | LCS Sample Id: 7699317-1-BKS | LCSD Sample Id: 7699317-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.122	122	0.124	124	70-130	2	35	mg/kg	03.19.20 16:34	
Toluene	<0.00200	0.100	0.111	111	0.113	113	70-130	2	35	mg/kg	03.19.20 16:34	
Ethylbenzene	<0.00200	0.100	0.103	103	0.105	105	71-129	2	35	mg/kg	03.19.20 16:34	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.204	102	70-135	2	35	mg/kg	03.19.20 16:34	
o-Xylene	<0.00200	0.100	0.102	102	0.104	104	71-133	2	35	mg/kg	03.19.20 16:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		112		110		70-130	%	03.19.20 16:34
4-Bromofluorobenzene	92		87		88		70-130	%	03.19.20 16:34

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120335 | Matrix: Solid | Date Prep: 03.19.20
MB Sample Id: 7699325-1-BLK | LCS Sample Id: 7699325-1-BKS | LCSD Sample Id: 7699325-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.105	105	70-130	2	35	mg/kg	03.19.20 23:13	
Toluene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	35	mg/kg	03.19.20 23:13	
Ethylbenzene	<0.00200	0.100	0.0978	98	0.0955	96	71-129	2	35	mg/kg	03.19.20 23:13	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.197	99	70-135	2	35	mg/kg	03.19.20 23:13	
o-Xylene	<0.00200	0.100	0.102	102	0.0994	99	71-133	3	35	mg/kg	03.19.20 23:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		108		70-130	%	03.19.20 23:13
4-Bromofluorobenzene	93		93		94		70-130	%	03.19.20 23:13

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

Final 1.000

QC Summary 656335

LT Environmental, Inc.

PLU 147

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120334 | Matrix: Soil | Date Prep: 03.19.20
Parent Sample Id: 656277-007 | MS Sample Id: 656277-007 S | MSD Sample Id: 656277-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.121	121	0.124	124	70-130	2	35	mg/kg	03.19.20 17:15	
Toluene	<0.00200	0.100	0.110	110	0.113	113	70-130	3	35	mg/kg	03.19.20 17:15	
Ethylbenzene	<0.00200	0.100	0.102	102	0.106	106	71-129	4	35	mg/kg	03.19.20 17:15	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.206	102	70-135	2	35	mg/kg	03.19.20 17:15	
o-Xylene	<0.00200	0.100	0.101	101	0.103	103	71-133	2	35	mg/kg	03.19.20 17:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		111		70-130	%	03.19.20 17:15
4-Bromofluorobenzene	88		86		70-130	%	03.19.20 17:15

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3120335 | Matrix: Soil | Date Prep: 03.19.20
Parent Sample Id: 656335-004 | MS Sample Id: 656335-004 S | MSD Sample Id: 656335-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.114	114	0.110	110	70-130	4	35	mg/kg	03.19.20 23:54	
Toluene	<0.00200	0.0998	0.110	110	0.105	105	70-130	5	35	mg/kg	03.19.20 23:54	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.0998	100	71-129	6	35	mg/kg	03.19.20 23:54	
m,p-Xylenes	<0.00399	0.200	0.219	110	0.206	104	70-135	6	35	mg/kg	03.19.20 23:54	
o-Xylene	<0.00200	0.0998	0.109	109	0.103	103	71-133	6	35	mg/kg	03.19.20 23:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	03.19.20 23:54
4-Bromofluorobenzene	94		94		70-130	%	03.19.20 23:54

MS/MSD Percent Recovery | [D] = 100*(C-A) / B | LCS = Laboratory Control Sample | MS = Matrix Spike
Relative Percent Difference | RPD = 200* | (C-E) / (C+E) | | A = Parent Result | B = Spike Added
LCS/LCSD Recovery | [D] = 100 * (C) / [B] | C = MS/LCS Result | D = MSD/LCSD % Rec
Log Difference | Log Diff. = Log(Sample Duplicate) - Log(Original Sample) | E = MSD/LCSD Result

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Order No: 651335

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 147	Turn Around	
Project Number:	012920024	Routine: ☐	
PO #:	1/28/20 spill date	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.4	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	11

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH01	S	3/19/20	0929	1'	1	X	X	X
PH01A			0935	4'				
PH01B			0957	7'				
PH02			1025	1'				
PH02A			1036	4'				
PH02B			1054	7'				
PH03			1143	1'				
PH03A			1149	4'				
PH03B			1205	7'				
SW04	↓	↓	1130	0-4'	↓	↓	↓	↓

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Fatima		3/19/20 10:30			
3				4		
5				6		

Revised Date 101419 Rev. 2019.1

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440, EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900
Tampa, FL (813) 620-2000, Tallahassee, FL (850) 756-0747, Delray Beach, FL (561) 689-6701
Atlanta, GA (770) 449-8800

Work Order No: le5e335

www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian Office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849 Email:		fsmith@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU 147	Turn Around	
Project Number:	012920024	Routine: ☐	
PO #:	1/28/20 spill date	Rush: 24 hrs	
Sampler's Name:	Fatima Smith	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS04	S	3/19/20	1133	4'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3/19/20 16:30	2		
3			4		
5			6		

Revised Date101419 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/19/2020 04:30:00 PM

Work Order #: 656335

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 03/19/2020

Checklist reviewed by: Jessica Kramer Date: 03/20/2020

Jessica Kramer

Analytical Report 658519

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 147

04.13.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.13.2020

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

Reference: XENCO Report No(s): **658519**
PLU 147
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658519. 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. 658519 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,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 658519

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH04	S	04.08.2020 13:27	2 ft	658519-001
PH04A	S	04.08.2020 13:29	4 ft	658519-002

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 147

Project ID:
Work Order Number(s): *658519*

Report Date: *04.13.2020*
Date Received: *04.09.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122755 BTEX by EPA 8021B

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

Certificate of Analysis Summary 658519

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id:
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 04.09.2020 16:13
Report Date: 04.13.2020 11:28
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	658519-001		658519-002					
	Field Id:	PH04		PH04A					
	Depth:	2- ft		4- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	04.08.2020 13:27		04.08.2020 13:29					
BTEX by EPA 8021B	***Extracted:***	04.09.2020 16:49		04.09.2020 16:49					
	Analyzed:	04.10.2020 12:13		04.10.2020 12:33					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00400	0.00400	<0.00399	0.00399				
o-Xylene		0.0326	0.00200	<0.00200	0.00200				
Total Xylenes		0.0326	0.00200	<0.00200	0.00200				
Total BTEX		0.0326	0.00200	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	04.09.2020 16:19		04.09.2020 16:19					
	Analyzed:	04.09.2020 19:00		04.09.2020 19:17					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		19.3	9.94	437	9.92				
TPH by SW8015 Mod	***Extracted:***	04.09.2020 17:00		04.09.2020 17:00					
	Analyzed:	04.09.2020 19:13		04.09.2020 19:33					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.8	49.8				
Diesel Range Organics (DRO)		<49.8	49.8	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<49.8	49.8				
Total GRO-DRO		<49.8	49.8	<49.8	49.8				
Total TPH		<49.8	49.8	<49.8	49.8				

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 658519

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658519-001	Date Collected:	04.08.2020 13:27	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.3**	9.94	mg/kg	04.09.2020 19:00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.09.2020 19:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.09.2020 19:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.09.2020 19:13	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.09.2020 19:13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.09.2020 19:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	04.09.2020 19:13	
o-Terphenyl	84-15-1	131	%	70-135	04.09.2020 19:13	

Certificate of Analytical Results 658519

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658519-001	Date Collected:	04.08.2020 13:27	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 12:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 12:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 12:13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.10.2020 12:13	U	1
o-Xylene	95-47-6	**0.0326**	0.00200	mg/kg	04.10.2020 12:13		1
Total Xylenes	1330-20-7	**0.0326**	0.00200	mg/kg	04.10.2020 12:13		1
Total BTEX		**0.0326**	0.00200	mg/kg	04.10.2020 12:13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 12:13	
4-Bromofluorobenzene	460-00-4	118	%	70-130	04.10.2020 12:13	

Certificate of Analytical Results 658519

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658519-002	Date Collected:	04.08.2020 13:29	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**437**	9.92	mg/kg	04.09.2020 19:17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.09.2020 19:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.09.2020 19:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.09.2020 19:33	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.09.2020 19:33	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.09.2020 19:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	04.09.2020 19:33	
o-Terphenyl	84-15-1	116	%	70-135	04.09.2020 19:33	

Certificate of Analytical Results 658519

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658519-002	Date Collected:	04.08.2020 13:29	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.10.2020 12:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 12:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.10.2020 12:33	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.10.2020 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. **ND** Not Detected.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 658519

LT Environmental, Inc.

PLU 147

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7701005-1-BLK — LCS Sample Id: 7701005-1-BKS — LCSD Sample Id: 7701005-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	256	102	90-110	0	20	mg/kg	04.09.2020 18:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Soil — Date Prep: 04.09.2020
Parent Sample Id: 658518-001 — MS Sample Id: 658518-001 S — MSD Sample Id: 658518-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	235	200	444	105	444	105	90-110	0	20	mg/kg	04.09.2020 18:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Soil — Date Prep: 04.09.2020
Parent Sample Id: 658520-005 — MS Sample Id: 658520-005 S — MSD Sample Id: 658520-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	367	401	776	102	774	102	90-110	0	20	mg/kg	04.09.2020 19:50	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122635 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7700958-1-BLK — LCS Sample Id: 7700958-1-BKS — LCSD Sample Id: 7700958-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	877	88	971	97	70-135	10	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	952	95	1070	107	70-135	12	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		126		119		70-135	%	04.09.2020 13:25
o-Terphenyl	113		112		122		70-135	%	04.09.2020 13:25

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122635 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7700958-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.09.2020 13:04	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 658519

LT Environmental, Inc.

PLU 147

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122635 Matrix: Soil Date Prep: 04.09.2020
Parent Sample Id: 658383-006 MS Sample Id: 658383-006 S MSD Sample Id: 658383-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1010	101	1020	102	70-135	1	35	mg/kg	04.09.2020 14:26	
Diesel Range Organics (DRO)	<50.0	999	1100	110	1130	113	70-135	3	35	mg/kg	04.09.2020 14:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		126		70-135	%	04.09.2020 14:26
o-Terphenyl	128		129		70-135	%	04.09.2020 14:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122755 Matrix: Solid Date Prep: 04.09.2020
MB Sample Id: 7700968-1-BLK LCS Sample Id: 7700968-1-BKS LCSD Sample Id: 7700968-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.107	107	70-130	3	35	mg/kg	04.10.2020 08:49	
Toluene	<0.00200	0.100	0.0983	98	0.101	101	70-130	3	35	mg/kg	04.10.2020 08:49	
Ethylbenzene	<0.00200	0.100	0.0921	92	0.0943	94	71-129	2	35	mg/kg	04.10.2020 08:49	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.194	97	70-135	3	35	mg/kg	04.10.2020 08:49	
o-Xylene	<0.00200	0.100	0.0965	97	0.0990	99	71-133	3	35	mg/kg	04.10.2020 08:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.10.2020 08:49
4-Bromofluorobenzene	94		93		93		70-130	%	04.10.2020 08:49

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122755 Matrix: Soil Date Prep: 04.09.2020
Parent Sample Id: 658383-004 MS Sample Id: 658383-004 S MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0834	83	0.0890	89	70-130	6	35	mg/kg	04.10.2020 09:30	
Toluene	<0.00201	0.100	0.0766	77	0.0811	81	70-130	6	35	mg/kg	04.10.2020 09:30	
Ethylbenzene	<0.00201	0.100	0.0740	74	0.0780	78	71-129	5	35	mg/kg	04.10.2020 09:30	
m,p-Xylenes	<0.00402	0.201	0.155	77	0.164	82	70-135	6	35	mg/kg	04.10.2020 09:30	
o-Xylene	<0.00201	0.100	0.0788	79	0.0837	84	71-133	6	35	mg/kg	04.10.2020 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.10.2020 09:30
4-Bromofluorobenzene	95		94		70-130	%	04.10.2020 09:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

XENCO LABORATORIES

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

www.xenco.com

Work Order No: 695919

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 St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU 147	Turn Around	
Project Number:		Routine	☐
P.O. Number:	NRM2004445859	Rush:	3day
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.6	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
PH04	S	04/08/20	1327	2'	1	X	X	X
PH04A	S	04/08/20	1329	4'	1	X	X	X

Work Order Notes

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

Sample Comments

discrete
discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **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
Rachel Murphy		4/9/20 10:13	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.09.2020 04.13.00 PM

Work Order #: 658519

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 04.09.2020

Checklist reviewed by: Jessica Kramer Date: 04.10.2020

Jessica Kramer

Analytical Report 658520

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU 147

04.13.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.13.2020

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

Reference: XENCO Report No(s): **658520**
PLU 147
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658520. 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. 658520 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,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

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

Sample Cross Reference 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS03A	S	04.08.2020 12:30	7.5 ft	658520-001
SW05	S	04.08.2020 11:30	0 - 7 ft	658520-002
FS05	S	04.09.2020 13:53	3 ft	658520-003
SW06	S	04.09.2020 13:57	0 - 3 ft	658520-004
SW07	S	04.09.2020 13:51	0 - 3 ft	658520-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 147

Project ID:
Work Order Number(s): *658520*

Report Date: *04.13.2020*
Date Received: *04.09.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122755 BTEX by EPA 8021B

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

Certificate of Analysis Summary 658520

LT Environmental, Inc., Arvada, CO

Project Name: PLU 147

Project Id:
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 04.09.2020 16:13
Report Date: 04.13.2020 11:29
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	658520-001		658520-002		658520-003		658520-004		658520-005	
	Field Id:	FS03A		SW05		FS05		SW06		SW07	
	Depth:	7.5- ft		0-7 ft		3- ft		0-3 ft		0-3 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.08.2020 12:30		04.08.2020 11:30		04.09.2020 13:53		04.09.2020 13:57		04.09.2020 13:51	
BTEX by EPA 8021B	***Extracted:***	04.09.2020 16:49		04.09.2020 16:49		04.09.2020 16:49		04.09.2020 16:49		04.09.2020 16:49	
	Analyzed:	04.10.2020 12:54		04.10.2020 13:14		04.10.2020 18:46		04.10.2020 19:07		04.10.2020 19:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.0278	0.0278	<0.0278	0.0278	<0.0278	0.0278
Toluene		<0.00200	0.00200	<0.00201	0.00201	3.25	0.111	1.25	0.111	1.30	0.111
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	2.54	0.111	1.25	0.111	1.49	0.111
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402	37.6	0.222	18.3	0.222	20.6	0.222
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	18.4	0.111	7.21	0.111	7.53	0.111
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	56.0	0.111	25.5	0.111	28.1	0.111
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	61.8	0.0278	28.0	0.0278	30.9	0.0278
Chloride by EPA 300	***Extracted:***	04.09.2020 16:19		04.09.2020 16:19		04.09.2020 16:19		04.09.2020 16:19		04.09.2020 16:19	
	Analyzed:	04.09.2020 19:22		04.09.2020 19:28		04.09.2020 19:33		04.09.2020 19:39		04.09.2020 19:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		412	9.98	39.6	9.94	605	9.92	313	9.98	367	10.1
TPH by SW8015 Mod	***Extracted:***	04.09.2020 17:00		04.09.2020 17:00		04.09.2020 17:00		04.09.2020 17:00		04.09.2020 17:00	
	Analyzed:	04.09.2020 19:54		04.09.2020 20:14		04.09.2020 20:34		04.09.2020 20:55		04.10.2020 10:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.2	50.2	1590	50.3	949	49.9	2050	251
Diesel Range Organics (DRO)		231	50.0	<50.2	50.2	4750	50.3	4540	49.9	8820	251
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.2	50.2	192	50.3	227	49.9	416	251
Total GRO-DRO		231	50.0	<50.2	50.2	6340	50.3	5490	49.9	10900	251
Total TPH		231	50.0	<50.2	50.2	6530	50.3	5720	49.9	11300	251

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

Jessica Kramer
Project Manager

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS03A**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-001	Date Collected:	04.08.2020 12:30	Sample Depth:	7.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**412**	9.98	mg/kg	04.09.2020 19:22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.09.2020 19:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**231**	50.0	mg/kg	04.09.2020 19:54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.09.2020 19:54	U	1
Total GRO-DRO	PHC628	**231**	50.0	mg/kg	04.09.2020 19:54		1
Total TPH	PHC635	**231**	50.0	mg/kg	04.09.2020 19:54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	04.09.2020 19:54	
o-Terphenyl	84-15-1	133	%	70-135	04.09.2020 19:54	

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS03A**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-001	Date Collected:	04.08.2020 12:30	Sample Depth:	7.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.10.2020 12:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.10.2020 12:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.10.2020 12:54	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.10.2020 12:54	

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-002	Date Collected:	04.08.2020 11:30	Sample Depth:	0 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.6**	9.94	mg/kg	04.09.2020 19:28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.09.2020 20:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.09.2020 20:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.09.2020 20:14	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.09.2020 20:14	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.09.2020 20:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	04.09.2020 20:14	
o-Terphenyl	84-15-1	124	%	70-135	04.09.2020 20:14	

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-002	Date Collected:	04.08.2020 11:30	Sample Depth:	0 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.10.2020 13:14	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.10.2020 13:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.10.2020 13:14	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.10.2020 13:14	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-003	Date Collected:	04.09.2020 13:53	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**605**	9.92	mg/kg	04.09.2020 19:33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1590**	50.3	mg/kg	04.09.2020 20:34		1
Diesel Range Organics (DRO)	C10C28DRO	**4750**	50.3	mg/kg	04.09.2020 20:34		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**192**	50.3	mg/kg	04.09.2020 20:34		1
Total GRO-DRO	PHC628	**6340**	50.3	mg/kg	04.09.2020 20:34		1
Total TPH	PHC635	**6530**	50.3	mg/kg	04.09.2020 20:34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	04.09.2020 20:34	
o-Terphenyl	84-15-1	125	%	70-135	04.09.2020 20:34	

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-003	Date Collected:	04.09.2020 13:53	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0278	0.0278	mg/kg	04.10.2020 18:46	U	1
Toluene	108-88-3	**3.25**	0.111	mg/kg	04.10.2020 18:46		1
Ethylbenzene	100-41-4	**2.54**	0.111	mg/kg	04.10.2020 18:46		1
m,p-Xylenes	179601-23-1	**37.6**	0.222	mg/kg	04.10.2020 18:46		1
o-Xylene	95-47-6	**18.4**	0.111	mg/kg	04.10.2020 18:46		1
Total Xylenes	1330-20-7	**56.0**	0.111	mg/kg	04.10.2020 18:46		1
Total BTEX		**61.8**	0.0278	mg/kg	04.10.2020 18:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	04.10.2020 18:46	
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.10.2020 18:46	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-004	Date Collected:	04.09.2020 13:57	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**313**	9.98	mg/kg	04.09.2020 19:39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**949**	49.9	mg/kg	04.09.2020 20:55		1
Diesel Range Organics (DRO)	C10C28DRO	**4540**	49.9	mg/kg	04.09.2020 20:55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**227**	49.9	mg/kg	04.09.2020 20:55		1
Total GRO-DRO	PHC628	**5490**	49.9	mg/kg	04.09.2020 20:55		1
Total TPH	PHC635	**5720**	49.9	mg/kg	04.09.2020 20:55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	04.09.2020 20:55	
o-Terphenyl	84-15-1	112	%	70-135	04.09.2020 20:55	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-004	Date Collected:	04.09.2020 13:57	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0278	0.0278	mg/kg	04.10.2020 19:07	U	1
Toluene	108-88-3	**1.25**	0.111	mg/kg	04.10.2020 19:07		1
Ethylbenzene	100-41-4	**1.25**	0.111	mg/kg	04.10.2020 19:07		1
m,p-Xylenes	179601-23-1	**18.3**	0.222	mg/kg	04.10.2020 19:07		1
o-Xylene	95-47-6	**7.21**	0.111	mg/kg	04.10.2020 19:07		1
Total Xylenes	1330-20-7	**25.5**	0.111	mg/kg	04.10.2020 19:07		1
Total BTEX		**28.0**	0.0278	mg/kg	04.10.2020 19:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	04.10.2020 19:07	
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.10.2020 19:07	

Certificate of Analytical Results 658520

LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-005	Date Collected:	04.09.2020 13:51	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:19	Basis:	Wet Weight
Seq Number:	3122585				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**367**	10.1	mg/kg	04.09.2020 19:44		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.09.2020 17:00	Basis:	Wet Weight
Seq Number:	3122635				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2050**	251	mg/kg	04.10.2020 10:57		5
Diesel Range Organics (DRO)	C10C28DRO	**8820**	251	mg/kg	04.10.2020 10:57		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**416**	251	mg/kg	04.10.2020 10:57		5
Total GRO-DRO	PHC628	**10900**	251	mg/kg	04.10.2020 10:57		5
Total TPH	PHC635	**11300**	251	mg/kg	04.10.2020 10:57		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	04.10.2020 10:57	
o-Terphenyl	84-15-1	84	%	70-135	04.10.2020 10:57	

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LT Environmental, Inc., Arvada, CO

PLU 147

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	04.09.2020 16:13
Lab Sample Id:	658520-005	Date Collected:	04.09.2020 13:51	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.09.2020 16:49	Basis:	Wet Weight
Seq Number:	3122755				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0278	0.0278	mg/kg	04.10.2020 19:27	U	1
Toluene	108-88-3	**1.30**	0.111	mg/kg	04.10.2020 19:27		1
Ethylbenzene	100-41-4	**1.49**	0.111	mg/kg	04.10.2020 19:27		1
m,p-Xylenes	179601-23-1	**20.6**	0.222	mg/kg	04.10.2020 19:27		1
o-Xylene	95-47-6	**7.53**	0.111	mg/kg	04.10.2020 19:27		1
Total Xylenes	1330-20-7	**28.1**	0.111	mg/kg	04.10.2020 19:27		1
Total BTEX		**30.9**	0.0278	mg/kg	04.10.2020 19:27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.10.2020 19:27	
4-Bromofluorobenzene	460-00-4	109	%	70-130	04.10.2020 19:27	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 658520

LT Environmental, Inc.

PLU 147

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7701005-1-BLK — LCS Sample Id: 7701005-1-BKS — LCSD Sample Id: 7701005-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	256	102	90-110	0	20	mg/kg	04.09.2020 18:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Soil — Date Prep: 04.09.2020
Parent Sample Id: 658518-001 — MS Sample Id: 658518-001 S — MSD Sample Id: 658518-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	235	200	444	105	444	105	90-110	0	20	mg/kg	04.09.2020 18:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122585 — Matrix: Soil — Date Prep: 04.09.2020
Parent Sample Id: 658520-005 — MS Sample Id: 658520-005 S — MSD Sample Id: 658520-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	367	401	776	102	774	102	90-110	0	20	mg/kg	04.09.2020 19:50	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122635 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7700958-1-BLK — LCS Sample Id: 7700958-1-BKS — LCSD Sample Id: 7700958-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	877	88	971	97	70-135	10	35	mg/kg	04.09.2020 13:25	
Diesel Range Organics (DRO)	<50.0	1000	952	95	1070	107	70-135	12	35	mg/kg	04.09.2020 13:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		126		119		70-135	%	04.09.2020 13:25
o-Terphenyl	113		112		122		70-135	%	04.09.2020 13:25

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122635 — Matrix: Solid — Date Prep: 04.09.2020
MB Sample Id: 7700958-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.09.2020 13:04	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 658520

LT Environmental, Inc.

PLU 147

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122635 Matrix: Soil Date Prep: 04.09.2020
Parent Sample Id: 658383-006 MS Sample Id: 658383-006 S MSD Sample Id: 658383-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1010	101	1020	102	70-135	1	35	mg/kg	04.09.2020 14:26	
Diesel Range Organics (DRO)	<50.0	999	1100	110	1130	113	70-135	3	35	mg/kg	04.09.2020 14:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		126		70-135	%	04.09.2020 14:26
o-Terphenyl	128		129		70-135	%	04.09.2020 14:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122755 Matrix: Solid Date Prep: 04.09.2020
MB Sample Id: 7700968-1-BLK LCS Sample Id: 7700968-1-BKS LCSD Sample Id: 7700968-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.107	107	70-130	3	35	mg/kg	04.10.2020 08:49	
Toluene	<0.00200	0.100	0.0983	98	0.101	101	70-130	3	35	mg/kg	04.10.2020 08:49	
Ethylbenzene	<0.00200	0.100	0.0921	92	0.0943	94	71-129	2	35	mg/kg	04.10.2020 08:49	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.194	97	70-135	3	35	mg/kg	04.10.2020 08:49	
o-Xylene	<0.00200	0.100	0.0965	97	0.0990	99	71-133	3	35	mg/kg	04.10.2020 08:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.10.2020 08:49
4-Bromofluorobenzene	94		93		93		70-130	%	04.10.2020 08:49

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122755 Matrix: Soil Date Prep: 04.09.2020
Parent Sample Id: 658383-004 MS Sample Id: 658383-004 S MSD Sample Id: 658383-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0834	83	0.0890	89	70-130	6	35	mg/kg	04.10.2020 09:30	
Toluene	<0.00201	0.100	0.0766	77	0.0811	81	70-130	6	35	mg/kg	04.10.2020 09:30	
Ethylbenzene	<0.00201	0.100	0.0740	74	0.0780	78	71-129	5	35	mg/kg	04.10.2020 09:30	
m,p-Xylenes	<0.00402	0.201	0.155	77	0.164	82	70-135	6	35	mg/kg	04.10.2020 09:30	
o-Xylene	<0.00201	0.100	0.0788	79	0.0837	84	71-133	6	35	mg/kg	04.10.2020 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	04.10.2020 09:30
4-Bromofluorobenzene	95		94		70-130	%	04.10.2020 09:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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: 658520

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

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 701-2610	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	PLU 147	Turn Around	
Project Number:		Routine	☐
P.O. Number:	NRM 2004445859	Rush:	3day
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	1.4	Thermometer ID	T-NM-007	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:	5	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
FS03A	S	04/08/20	1230	7.5'	1	X	X	X
SW05		04/08/20	1130	0-7'		X	X	X
FS05		04/09/20	1353	3'		X	X	X
SW06			1357	0-3'		X	X	X
SW07			1351	0-3'		X	X	X

Work Order Notes

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

Sample Comments

Composite

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		4/9/20 10:13	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.09.2020 04.13.00 PM

Work Order #: 658520

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 04.09.2020

Checklist reviewed by: Jessica Kramer Date: 04.10.2020

Jessica Kramer

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 66030

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 66030
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Request Approved.	3/4/2022