LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 103
Midland, Texas 79705
432.704.5178

May 10, 2019

Mr. Bradford Billings
New Mexico Oil Conservation Division
1220 South St. Francis Drive, #3
Santa Fe, New Mexico 87505

RE: Deferral Request
Hat Mesa 31-32 Tank Battery
Remediation Permit Number 1RP-3143, 1RP-3726, and 1RP-4072
Lea County, New Mexico

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing excavation of impacted soil and confirmation soil sampling activities at the Hat Mesa 31-32 Tank Battery (Site) located in Unit Letter B, Section 31, Township 20 South, Range 33 East, in Lea County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impact to soil after three separate releases occurred in two locations on the same well pad.

On January 12, 2014, the air eliminator on the circulating pump failed to close properly causing a release of 10 barrels (bbls) of crude oil into the containment around the pump. The released liquid overflowed the containment and flowed onto the pad surface surrounding the containment. A total of 5 bbls of free-standing fluid was recovered and placed back into the tanks. The failed air eliminator was replaced. The release area measured approximately 580 square feet and remained on the pad surface. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on January 24, 2014, and was assigned Remediation Permit (RP) Number 1RP-3143 (Attachment 1).

On May 28, 2015, a release that occurred on an unknown date was discovered. A faulty connection on the circulating pump caused the release of approximately 5.25 bbls of oil. The pumper shut down the unit and closed the valves. Approximately 4 bbls of free-standing fluid were recovered from the ground and pump containment. The faulty connection was repaired. The release affected 56 square feet of the well pad surface within the containment. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on June 10, 2015 and was assigned RP Number 1RP-3726 (Attachment 1).

On December 20, 2015, the failure of a pipe clamp near the test vessel meter caused the release of 5.5 bbls of oil to pad surface. A vacuum truck was used to recover 5 bbls of free-standing fluid

and the clamp was repaired. The release affected 180 square feet of the well pad. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on December 22, 2015 and was assigned RP Number 1RP-4072 (Attachment 1).

Although the releases occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Since the three releases occurred within the process equipment containment berm, sampling and excavation activities were completed to address and close the releases simultaneously. The releases are included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 12, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. These releases are categorized as Tier III sites in the Compliance Agreement, meaning remediation of the releases began prior to August 14, 2018, the effective date of 19.15.29 NMAC, however remediation was ongoing. Based on the excavation activities and results of the soil sampling events, XTO is submitting this deferral report, describing remediation that has occurred, and requesting deferral of final remediation for these three release events.

BACKGROUND

According to Section 12 of 19.15.29 NMAC, LTE applied Table 1, *Closure Criteria for Soils Impacted by a Release*. Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 323202103425201, located approximately 1.35 miles west of the Site, with a depth to groundwater of 41 feet and a total depth of 65 feet. The water well is approximately 19 feet higher in elevation than the Site. The closest surface water to the Site is an unnamed dry wash located approximately 1.33 miles west 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. This Site is located in a low potential karst zone. Based on these criteria, the following NMOCD Table 1 closure criteria were applied: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

DELINEATION ACTIVITIES

During October 2018 and May 2019, LTE personnel was at the Site to oversee delineation activities via potholing using a backhoe and hand-auger. Potholes were advanced at nine locations (PH01 through PH09) within and around the release areas to assess the lateral and vertical extent of impacted soil. The pothole locations were selected based on field observations

and information provided on the initial NMOCD Form C-141s. Soil was field screened in each pothole using a PID and Hach® chloride QuanTab® test strips. Soil samples were collected from each pothole PH01 through PH09 from depths ranging from 1 foot to 4 feet bgs. The delineation soil sample locations and depths are presented on Figure 2 and soil sample logs are included as Attachment 4.

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

Laboratory analytical results for pothole soil samples PH04, PH04A, PH04B, PH04C, PH05, PH06, PH06B, PH06C, PH07A, and PH07C indicated that TPH and/or chloride concentrations exceeded the NMOCD Table 1 closure criteria. Laboratory analytical results for pothole soil samples PH01, PH01B, PH01C, PH02, PH02A, PH02B, PH02C, PH03, PH03A, PH03B, PH03C, PH05A, PH06A, PH07, PH07B, PH08, PH08A, PH09, and PH09A indicated that BTEX, TPH, and chloride concentrations were in compliance with the NMOCD Table 1 closure criteria. Laboratory analytical results are summarized in Table 1 and the laboratory analytical reports are included in Attachment 2. Based on the analytical results and visible hydrocarbon staining on the ground surface, excavation of impacted soil was required in the release area on the well pad.

EXCAVATION ACTIVITIES

During January and February 2019, LTE personnel returned to the Site to oversee the excavation of impacted soil as indicated by laboratory analytical results and visible surface hydrocarbon staining. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil using a PID and Hach® chloride QuanTab® test strips. Impacted soil was excavated in three locations on the well pad: One excavation in the area of potholes PH04 and PH07, one in the area of pothole PH06, and one in an area of heavy soil staining near pothole PH01. Excavation depths ranged from 2 feet bgs to 8 feet bgs. Excavation could not be completed in the area around pothole PH05 due to the proximity of active process equipment and pipelines; therefore, the impacted soil was delineated vertically to 3 feet bgs by delineation soil sample PH05A. Following removal of impacted soil to the extent possible, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floors of the excavations. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thorough mixing.

Composite soil samples SW01 through SW09 were collected from the sidewalls of the excavations and composite soil samples FS01 through FS06 were collected from the floors of the excavations.

The excavation soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. The soil sample locations and depths are depicted on Figure 3.

The western excavation measured approximately 965 square feet in area with a depth ranging from 4.5 feet bgs in the northern portion to 8 feet bgs in the southern portion. The northern excavation measured approximately 329 square feet in area with a depth of 4.5 feet bgs. The excavation located north of the tank battery measured 55 square feet in area with a depth of approximately 2 feet bgs. The horizontal extents of the three excavations are illustrated on Figure 3. A total of approximately 245 cubic yards of impacted soil were removed from the excavations. The impacted soil was transported and properly disposed of at Lea Land landfill facility in Hobbs, New Mexico.

Laboratory analytical results indicated that the excavation floor and sidewall samples collected from the final excavation extents were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride. Laboratory analytical results are presented on Figure 3 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples collected from potholes PH04, PH05, PH06, and PH07 indicated that TPH and/or chloride concentrations exceeded the NMOCD Table 1 closure criteria. The impacted soil was excavated to the extent possible and laboratory analytical results indicated that the excavation floor and sidewall samples collected from the final excavation extents were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride.

Laboratory analytical results for pothole soil sample PH05 indicated that TPH concentrations exceeded the NMOCD Table 1 closure criteria. Excavation of impacted soil in this area was limited by active process equipment and pipelines. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any on-site active process equipment and pipelines. This XTO safety policy is established to protect workers and to reduce the likelihood of compromising the foundation of the process equipment and pipelines. This policy was enforced where impacted soil was identified within two feet of active process equipment and pipelines in pothole PH05. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Attachment 2.

DEFERRAL REQUEST

A total of 245 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth-moving activities within 2-feet of active process equipment and pipelines. Laboratory analytical results

for pothole soil sample PH05 indicated that soil with TPH concentrations exceeding the NMOCD Table 1 closure criteria was left in place within two feet of active process equipment and pipelines. An estimated 300 cubic yards of impacted soil remains in place around and beneath the processing equipment, assuming a maximum 4.5-foot depth based on soil samples PH05A, PH08, PH09, and FS01 through FS06 that were compliant with the NMOCD Table 1 closure criteria. The impacted soil remaining in place is delineated vertically by excavation floor soil samples FS01 through FS06 and delineation soil samples PH05A, PH08, and PH09. The impacted soil remaining in place is delineated laterally by excavation sidewall soil samples SW02, SW03, SW04, SW05, SW06 and delineation soil samples from potholes PH01, PH02, PH03, PH08, and PH09.

XTO requests to backfill the existing excavations and complete remediation during any future major well pad 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 free-standing fluids were recovered during initial response activities and no saturated soil remains in place. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests deferral of final remediation for RP numbers 1RP-3143, 1RP-3726, and 1RP-4072. Upon approval of this deferral request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing conditions. An updated NMOCD Form C-141 for each release is included in Attachment 1. A photographic log of the Site is included as Attachment 3, and soil sample logs are included as Attachment 4.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Ashley L. Ager

Ashley L. Ager, M.S., P.G.
Senior Geologist

cc: Kyle Littrell, XTO Energy, Inc.
Robert Hamlet, NMOCD
Ryan Mann, SLO

Attachments:
Figure 1 Site Location Map
Figure 2 Delineation Soil Sample Locations

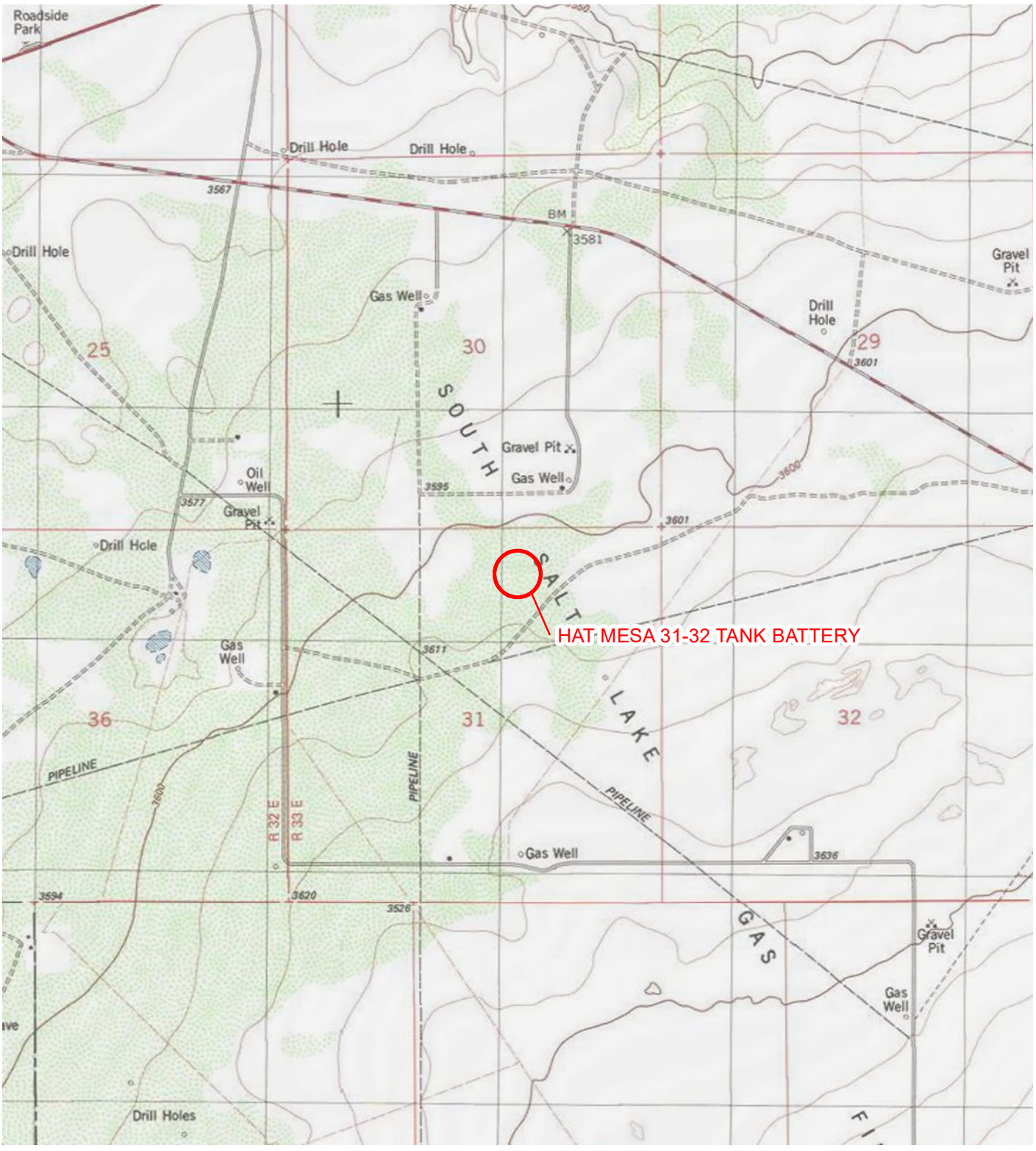

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

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Feet

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NOTE: REMEDIATION PERMIT NUMBERS 1RP-3143, 1RP-3726, & 1RP-4072

FIGURE 1
SITE LOCATION MAP
HAT MESA 31-32 TANK BATTERY
UNIT B SEC 31 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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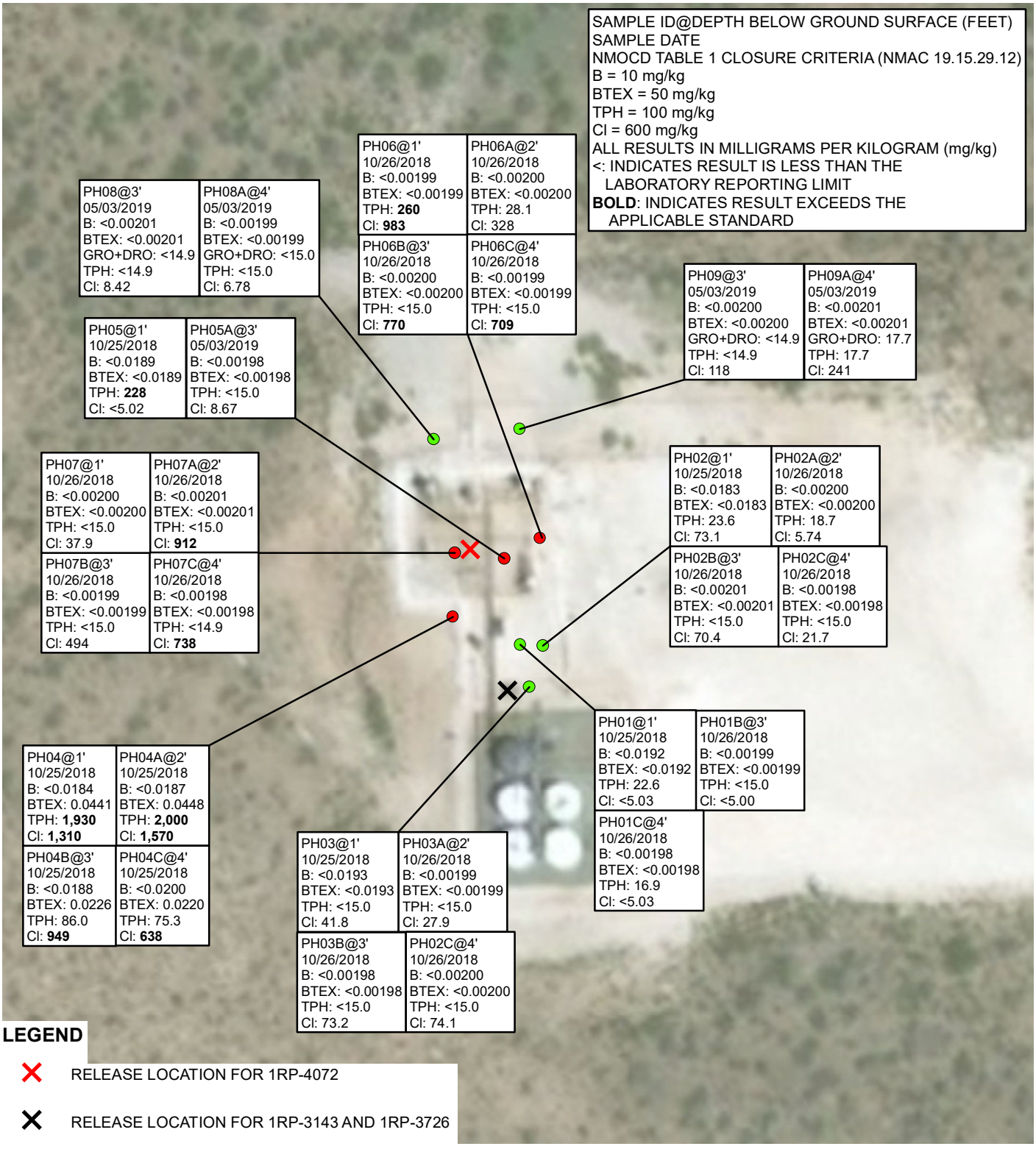

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
HAT MESA 31-32 TANK BATTERY
UNIT B SEC 31 T20S R33E
LEA COUNTY, NEW MEXICO
XTO ENERGY, INC.

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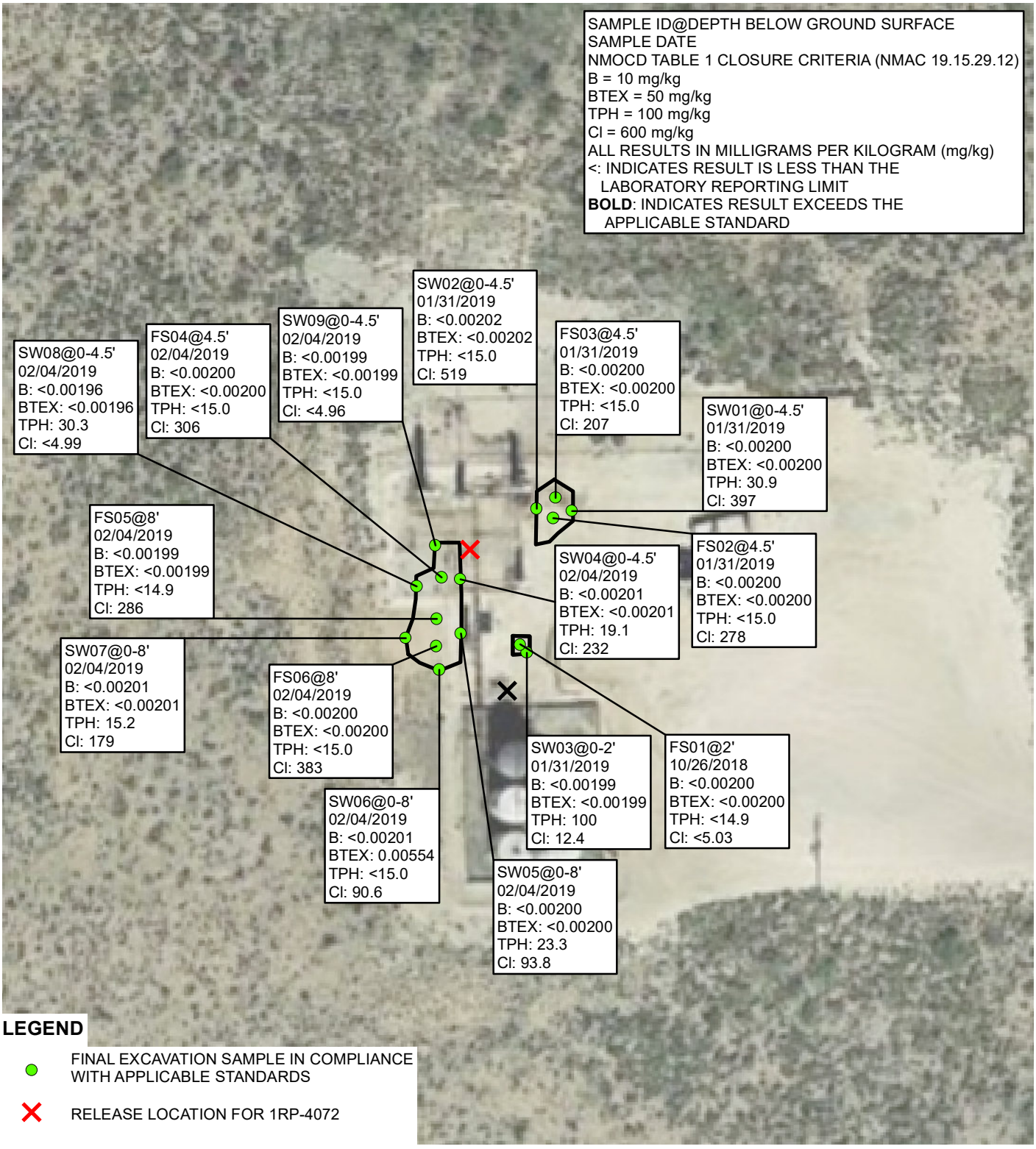

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBERS 1RP-3143, 1RP-3726, & 1RP-4072

FIGURE 3
FINAL SOIL SAMPLE LOCATIONS
HAT MESA 31-32 TANK BATTERY
UNIT B SEC 31 T20S R33E
LEA COUNTY, NEW MEXICO
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District I
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State of New Mexico
Energy Minerals and Natural Resources

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

HOBBS OCD

JAN 24 2014

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Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Hat Mesa 31-32 Tank Battery #1	Facility Type: Exploration and Production

Surface Owner: State of NM	Mineral Owner: State of NM	API No. 30-025-34575

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
B	31	20S	33E	660	North	1980	East	Lea

Latitude N 32.534993 **Longitude** W 103.700769

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 10 bbls.	Volume Recovered: 5 bbls.
Source of Release: Air eliminator on the circulating pump.	Date and Hour of Occurrence: Date 1/12/14 Time unknown	Date and Hour of Discovery: 1/13/~~13~~ at approximately 8:00 a.m. 14 ~~30~~
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The air eliminator on the circulating pump failed to close properly spilling crude oil into the containment around the pump then overflowing the containment onto the ground. The air eliminator was replaced.

Describe Area Affected and Cleanup Action Taken.*
The spill affected approximately 580 sq.ft. around the tank battery process equipment and lines. All of the free standing fluid was recovered and placed back into the tanks. The tanks are in 0 perm containment, the process area has earthen firewalls. The entire spill was contained with the bermed area. DFSI environmental group responded to the spill on 1/13/~~13~~ 14 ~~30~~ and started removing the impacted soil; the area was excavated and sampled. DFSI will be developing the final remediation plan or closure request.
The spill area will be cleaned in accordance to the NMOCD guidelines.

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

Signature: Tony Savoie

Printed Name: Tony Savoie

Title: Waste Management and Remediation Specialist

E-mail Address: tasavoie@basspet.com

Date: 1/24/14 Phone: 432-556-8730

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 7-7-14 Expiration Date: 9-10-14

Conditions of Approval: Site Supplies required Delineate & Remediate area 25 per NMOCD guides. Final C-141 due by 9-10-14

Attached ☐ 7-14-3143

JUL 09 2014

* Attach Additional Sheets If Necessary

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nto 1418 849318
pto 1418 849831

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Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Hat Mesa State 31 State #001	Facility Type: Exploration and Production

Surface Owner: State of New Mexico	Mineral Owner: State of New Mexico	API No. 30-025-34575

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	31	20S	33E	660	North	1980	East	Lea

Latitude 32.535014° Longitude -103.700780°

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 5.25 bbls	Volume Recovered: 4 bbls
Source of Release: Circulating Pump	Date and Hour of Occurrence: Date and Time unknown	Date and Hour of Discovery: 5/28/2015 approx. 4 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully *

Describe Cause of Problem and Remedial Action Taken.*
Rod connection on circulating pump caused oil to leak. Pumper shut down unit and closed valves. Standing fluids were recovered from ground and pump containment. Connection was repaired.

Describe Area Affected and Cleanup Action Taken.*
Leak affected 56 square feet of well pad within the earthen containment. Impacted area will be investigated and addressed.

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

Signature:
Printed Name: Amy Ruth
Title: Assistant Remediation Foreman
E-mail Address: ACRuth@basspet.com
Date: 6/10/2015 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 07/14/2015 Expiration Date: 10/14/2015

Conditions of Approval:
Discrete site samples required.
Delineate and remediate per NMOCD guides.
Geotagged photographs of remediation required.

Attached ☐
ogrid 260737 IRP-3726

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Hat Mesa 31-32 Tank Battery (located at Hat Mesa 31 State #1)	Facility Type: Exploration and Production

Surface Owner: State of NM	Mineral Owner: State of NM	API No. 30-025-34575

LOCATION OF RELEASE

SHOULD BE LEA COUNTY

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	31	20S	33E	660	North	1980	East	Eddy

Latitude 32.535058° Longitude -103.700742°

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 5.5 bbls	Volume Recovered 5 bbls
Source of Release Clamp leak	Date and Hour of Occurrence 12/20/2015 time unknown	Date and Hour of Discovery 12/20/2015 8 am
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

REVIEWED
By Kellie Jones at 8:22 am, Jan 05, 2016

Describe Cause of Problem and Remedial Action Taken.*
Vic clamp near the test vessel meter leaked onto the well pad. The clamp was repaired.

Describe Area Affected and Cleanup Action Taken.*
Leak affected 180 ft² of well pad and vacuum truck recovered standing fluid.

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

Signature:

Printed Name: Amy C. Ruth

Title: Remediation Specialist

E-mail Address: ACRuth@basspet.com

Date: 12/22/2015 Phone: 432-661-0571

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 01/05/2016 Expiration Date: 03/05/2016

Conditions of Approval:
Site samples required. Delineate and remediate as per NMOCD guides. Geotag photographs of remediation recommended.

Attached ☐
1RP-4072

* Attach Additional Sheets If Necessary

nKJ1600530262
pKJ1600530560

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State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	1RP-3143
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, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.534993 Longitude -103.700769
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hat Mesa 31-32 Tank Battery #1	Site Type Exploration and Production
Date Release Discovered 01/13/2014	API# *(if applicable)* 30-025-34575

Unit Letter	Section	Township	Range	County
B	31	20S	33E	Lea

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) 10 barrels	Volume Recovered (bbls) 5 barrels
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The air eliminator on the circulating pump failed to close properly spilling crude oil into the containment around the pump then overflowing the containment onto the ground. The air eliminator was replaced. The spill affected approximately 580 square feet around the tank battery process equipment and lines. All of the free standing fluid was recovered and placed back into the tanks. The tanks are in a zero perm containment, the process area has earthen firewalls. The entire spill was contained with the bermed area.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3143
Facility ID	
Application ID	

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

Initial Response

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

☒ 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:

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 Coordinator

Signature:
Date: 05/10/2019

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

OCD Only

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3143
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?	<50 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3143
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 Coordinator

Signature:

Date: 05/10/2019

email: Kyle_Littrell @xtoenergy.com

Telephone: 432-221-7331

OCD Only

Received by: _____

Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3143
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 Coordinator

Signature: Kyle Littrell Date: 5/10/2019

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: Ashley Maxwell Date: 3/27/2023

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	1RP-3726
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, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.535014 Longitude -103.700780
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hat Mesa 31-32 Tank Battery	Site Type Exploration and Production
Date Release Discovered 05/28/2015	API# *(if applicable)* 30-025-34575

Unit Letter	Section	Township	Range	County
B	31	20S	33E	Lea

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) 5.25 barrels	Volume Recovered (bbls) 4 barrels
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Bad connection on the circulating pump caused oil to leak. Pumper shut down unit and closed valves. Standing fluids were recovered from the ground and pump containment. The connection was repaired. The leak affected approximately 56 square feet of the well pad within the earthen containment.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3726
Facility ID	
Application ID	

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

Initial Response

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

☒ 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:

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 Coordinator

Signature: Date: 05/10/2019

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

OCD Only

Received by: Date:

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3726
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?	<50 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3726
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 Coordinator

Signature: Date: 05/10/2019

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

OCD Only

Received by: Date:

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-3726
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 Coordinator

Signature: Date: 5/10/2019

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: Ashley Maxwell Date: 3/27/2023

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	1RP-4072
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, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.535058 Longitude -103.700742
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hat Mesa 31-32 Tank Battery	Site Type Exploration and Production
Date Release Discovered 12/20/2015	API# *(if applicable)* 30-025-34575

Unit Letter	Section	Township	Range	County
B	31	20S	33E	Lea

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) 5.5 barrels	Volume Recovered (bbls) 5 barrels
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A vic clamp near the test vessel meter leaked onto the well pad. The clamp was repaired. The leak affected approximately 180 square feet of well pad and a vacuum truck recovered the standing fluid.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-4072
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped.
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☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
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Printed Name: Kyle Littrell
Title: SH&E Coordinator

Signature:
Date: 05/10/2019

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

OCD Only

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-4072
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.

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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
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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

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Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-4072
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Application ID	

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Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 05/10/2019

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

OCD Only

Received by: Date:

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-4072
Facility ID	
Application ID	

Remediation Plan

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

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

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☒ 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 Coordinator

Signature: Date: 5/10/2019

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: Ashley Maxwell Date: 3/27/2023

Analytical Report 603879

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Hat Mesa 31-32-TB

06-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

06-NOV-18

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

Reference: XENCO Report No(s): **603879**
Hat Mesa 31-32-TB
Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 603879. 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. 603879 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 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH03 A	S	10-26-18 10:15	2 ft	603879-001
PH03 B	S	10-26-18 10:20	3 ft	603879-002
PH03 C	S	10-26-18 10:25	4 ft	603879-003
PH01 A	S	10-26-18 10:55	2 ft	603879-004
PH01 B	S	10-26-18 11:00	3 ft	603879-005
PH01 C	S	10-26-18 11:05	4 ft	603879-006
PH02 A	S	10-26-18 11:15	2 ft	603879-007
PH02 B	S	10-26-18 11:20	3 ft	603879-008
PH02 C	S	10-26-18 11:25	4 ft	603879-009
PH06	S	10-26-18 12:30	1 ft	603879-010
PH06A	S	10-26-18 12:35	2 ft	603879-011
PH06B	S	10-26-18 12:40	3 ft	603879-012
PH06C	S	10-26-18 12:45	4 ft	603879-013
PH07	S	10-26-18 13:15	1 ft	603879-014
PH07A	S	10-26-18 13:20	2 ft	603879-015
PH07B	S	10-26-18 13:25	3 ft	603879-016
PH07C	S	10-26-18 13:30	4 ft	603879-017

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hat Mesa 31-32-TB

Project ID:
Work Order Number(s): *603879*

Report Date: *06-NOV-18*
Date Received: *10/30/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3068267 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3068470 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 603879

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32-TB

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-30-18 10:53 am
Report Date: 06-NOV-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	603879-001		603879-002		603879-003		603879-004		603879-005		603879-006	
	Field Id:	PH03 A		PH03 B		PH03 C		PH01 A		PH01 B		PH01 C	
	Depth:	2- ft		3- ft		4- ft		2- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-26-18 10:15		Oct-26-18 10:20		Oct-26-18 10:25		Oct-26-18 10:55		Oct-26-18 11:00		Oct-26-18 11:05	
BTEX by EPA 8021B	***Extracted:***	Oct-31-18 13:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00	
	Analyzed:	Nov-01-18 03:12		Nov-02-18 04:40		Nov-02-18 07:50		Nov-02-18 08:12		Nov-02-18 08:34		Nov-02-18 08:55	
	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	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Toluene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
m,p-Xylenes		<0.00398	0.00398	<0.00397	0.00397	<0.00401	0.00401	<0.00399	0.00399	<0.00398	0.00398	<0.00396	0.00396
o-Xylene		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Total BTEX		<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198
Inorganic Anions by EPA 300	***Extracted:***	Oct-31-18 08:30		Oct-31-18 08:30		Oct-31-18 08:30		Oct-31-18 08:30		Oct-31-18 08:30		Oct-31-18 08:30	
	Analyzed:	Oct-31-18 09:13		Oct-31-18 10:37		Oct-31-18 11:25		Oct-31-18 11:30		Oct-31-18 11:35		Oct-31-18 11:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		27.9	4.96	73.2	4.95	74.1	5.00	<5.03	5.03	<5.00	5.00	<5.03	5.03
TPH by SW8015 Mod	***Extracted:***	Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00	
	Analyzed:	Oct-30-18 21:23		Oct-30-18 22:20		Oct-30-18 22:39		Oct-30-18 22:57		Oct-30-18 23:16		Oct-31-18 06:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	16.9	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	16.9	15.0

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Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 603879

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32-TB

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-30-18 10:53 am
Report Date: 06-NOV-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	603879-007		603879-008		603879-009		603879-010		603879-011		603879-012	
	Field Id:	PH02 A		PH02 B		PH02 C		PH06		PH06A		PH06B	
	Depth:	2- ft		3- ft		4- ft		1- ft		2- ft		3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-26-18 11:15		Oct-26-18 11:20		Oct-26-18 11:25		Oct-26-18 12:30		Oct-26-18 12:35		Oct-26-18 12:40	
BTEX by EPA 8021B	***Extracted:***	Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00	
	Analyzed:	Nov-02-18 09:17		Nov-02-18 10:22		Nov-02-18 10:43		Nov-02-18 11:05		Nov-02-18 11:26		Nov-02-18 11:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	<0.00397	0.00397	<0.00398	0.00398	<0.00399	0.00399	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	Oct-31-18 08:30		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00	
	Analyzed:	Oct-31-18 11:54		Oct-31-18 12:25		Oct-31-18 12:41		Oct-31-18 12:47		Oct-31-18 12:52		Oct-31-18 12:57	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.74	4.96	70.4	4.99	21.7	4.95	983	4.95	328	5.00	770	4.95
TPH by SW8015 Mod	***Extracted:***	Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00	
	Analyzed:	Oct-30-18 23:54		Oct-31-18 00:13		Oct-31-18 00:32		Oct-31-18 00:51		Oct-31-18 01:47		Oct-31-18 02:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		18.7	15.0	<15.0	15.0	<15.0	15.0	235	15.0	28.1	14.9	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	24.5	15.0	<14.9	14.9	<15.0	15.0
Total TPH		18.7	15.0	<15.0	15.0	<15.0	15.0	260	15.0	28.1	14.9	<15.0	15.0

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 603879

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32-TB

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-30-18 10:53 am
Report Date: 06-NOV-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	603879-013		603879-014		603879-015		603879-016		603879-017	
	Field Id:	PH06C		PH07		PH07A		PH07B		PH07C	
	Depth:	4- ft		1- ft		2- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-26-18 12:45		Oct-26-18 13:15		Oct-26-18 13:20		Oct-26-18 13:25		Oct-26-18 13:30	
BTEX by EPA 8021B	***Extracted:***	Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00		Nov-01-18 17:00	
	Analyzed:	Nov-02-18 12:09		Nov-02-18 12:30		Nov-02-18 12:51		Nov-02-18 13:12		Nov-02-18 13:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00398	0.00398	<0.00397	0.00397
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
Total BTEX		<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198
Inorganic Anions by EPA 300	***Extracted:***	Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00	
	Analyzed:	Oct-31-18 13:13		Oct-31-18 13:18		Oct-31-18 13:24		Oct-31-18 13:29		Oct-31-18 13:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		709	4.95	37.9	4.98	912	5.00	494	25.0	738	4.95
TPH by SW8015 Mod	***Extracted:***	Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00		Oct-30-18 16:00	
	Analyzed:	Oct-31-18 02:25		Oct-31-18 02:43		Oct-31-18 03:02		Oct-31-18 03:21		Oct-31-18 03:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9

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Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-001	Date Collected:	10.26.18 10.15	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.9**	4.96	mg/kg	10.31.18 09.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.30.18 21.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.30.18 21.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.30.18 21.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.30.18 21.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.30.18 21.23	
o-Terphenyl	84-15-1	101	%	70-135	10.30.18 21.23	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-001	Date Collected:	10.26.18 10.15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.31.18 13.00	Basis:	Wet Weight
Seq Number:	3068267				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.01.18 03.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.01.18 03.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	86	%	70-130	11.01.18 03.12	
4-Bromofluorobenzene	460-00-4	130	%	70-130	11.01.18 03.12	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-002	Date Collected:	10.26.18 10.20	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.2**	4.95	mg/kg	10.31.18 10.37		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.30.18 22.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.30.18 22.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.30.18 22.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.30.18 22.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.30.18 22.20	
o-Terphenyl	84-15-1	101	%	70-135	10.30.18 22.20	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-002	Date Collected:	10.26.18 10.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.02.18 04.40	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.18 04.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.02.18 04.40	
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.02.18 04.40	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-003	Date Collected:	10.26.18 10.25	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**74.1**	5.00	mg/kg	10.31.18 11.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.30.18 22.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.30.18 22.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.30.18 22.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.30.18 22.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.30.18 22.39	
o-Terphenyl	84-15-1	100	%	70-135	10.30.18 22.39	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH03 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-003	Date Collected:	10.26.18 10.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.02.18 07.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 07.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.02.18 07.50	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.02.18 07.50	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-004	Date Collected:	10.26.18 10.55	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	10.31.18 11.30	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.30.18 22.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.30.18 22.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.30.18 22.57	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.30.18 22.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.30.18 22.57	
o-Terphenyl	84-15-1	103	%	70-135	10.30.18 22.57	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-004	Date Collected:	10.26.18 10.55	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.02.18 08.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 08.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.02.18 08.12	
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.02.18 08.12	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-005	Date Collected:	10.26.18 11.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.31.18 11.35	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.30.18 23.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.30.18 23.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.30.18 23.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.30.18 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.30.18 23.16	
o-Terphenyl	84-15-1	102	%	70-135	10.30.18 23.16	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-005	Date Collected:	10.26.18 11.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.02.18 08.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.02.18 08.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.02.18 08.34	
4-Bromofluorobenzene	460-00-4	103	%	70-130	11.02.18 08.34	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-006	Date Collected:	10.26.18 11.05	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	10.31.18 11.48	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 06.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**16.9**	15.0	mg/kg	10.31.18 06.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 06.03	U	1
Total TPH	PHC635	**16.9**	15.0	mg/kg	10.31.18 06.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.31.18 06.03	
o-Terphenyl	84-15-1	109	%	70-135	10.31.18 06.03	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH01 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-006	Date Collected:	10.26.18 11.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.02.18 08.55	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.18 08.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.02.18 08.55	
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.02.18 08.55	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-007	Date Collected:	10.26.18 11.15	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 08.30	Basis:	Wet Weight
Seq Number:	3068104				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.74**	4.96	mg/kg	10.31.18 11.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.30.18 23.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**18.7**	15.0	mg/kg	10.30.18 23.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.30.18 23.54	U	1
Total TPH	PHC635	**18.7**	15.0	mg/kg	10.30.18 23.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.30.18 23.54	
o-Terphenyl	84-15-1	105	%	70-135	10.30.18 23.54	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-007	Date Collected:	10.26.18 11.15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.02.18 09.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 09.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	11.02.18 09.17	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.02.18 09.17	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-008	Date Collected:	10.26.18 11.20	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.4**	4.99	mg/kg	10.31.18 12.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 00.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 00.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 00.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.31.18 00.13	
o-Terphenyl	84-15-1	101	%	70-135	10.31.18 00.13	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-008	Date Collected:	10.26.18 11.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.02.18 10.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.02.18 10.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.02.18 10.22	
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.02.18 10.22	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-009	Date Collected:	10.26.18 11.25	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.7**	4.95	mg/kg	10.31.18 12.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 00.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 00.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 00.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.31.18 00.32	
o-Terphenyl	84-15-1	107	%	70-135	10.31.18 00.32	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH02 C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-009	Date Collected:	10.26.18 11.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.02.18 10.43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.18 10.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.02.18 10.43	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.02.18 10.43	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-010	Date Collected:	10.26.18 12.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**983**	4.95	mg/kg	10.31.18 12.47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 00.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	**235**	15.0	mg/kg	10.31.18 00.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**24.5**	15.0	mg/kg	10.31.18 00.51		1
Total TPH	PHC635	**260**	15.0	mg/kg	10.31.18 00.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.31.18 00.51	
o-Terphenyl	84-15-1	108	%	70-135	10.31.18 00.51	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-010	Date Collected:	10.26.18 12.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.02.18 11.05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.02.18 11.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	124	%	70-130	11.02.18 11.05	
4-Bromofluorobenzene	460-00-4	98	%	70-130	11.02.18 11.05	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-011	Date Collected:	10.26.18 12.35	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**328**	5.00	mg/kg	10.31.18 12.52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.31.18 01.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**28.1**	14.9	mg/kg	10.31.18 01.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.31.18 01.47	U	1
Total TPH	PHC635	**28.1**	14.9	mg/kg	10.31.18 01.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	10.31.18 01.47	
o-Terphenyl	84-15-1	114	%	70-135	10.31.18 01.47	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-011	Date Collected:	10.26.18 12.35	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.02.18 11.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 11.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	119	%	70-130	11.02.18 11.26	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.02.18 11.26	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-012	Date Collected:	10.26.18 12.40	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**770**	4.95	mg/kg	10.31.18 12.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 02.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 02.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 02.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 02.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.31.18 02.06	
o-Terphenyl	84-15-1	103	%	70-135	10.31.18 02.06	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-012	Date Collected:	10.26.18 12.40	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.02.18 11.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 11.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	70-130	11.02.18 11.48	
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.02.18 11.48	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-013	Date Collected:	10.26.18 12.45	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**709**	4.95	mg/kg	10.31.18 13.13		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 02.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 02.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 02.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 02.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.31.18 02.25	
o-Terphenyl	84-15-1	103	%	70-135	10.31.18 02.25	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH06C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-013	Date Collected:	10.26.18 12.45	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.02.18 12.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.02.18 12.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.02.18 12.09	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.02.18 12.09	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-014	Date Collected:	10.26.18 13.15	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.9**	4.98	mg/kg	10.31.18 13.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 02.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 02.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 02.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 02.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.31.18 02.43	
o-Terphenyl	84-15-1	103	%	70-135	10.31.18 02.43	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-014	Date Collected:	10.26.18 13.15	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.02.18 12.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.02.18 12.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.02.18 12.30	
1,4-Difluorobenzene	540-36-3	115	%	70-130	11.02.18 12.30	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-015	Date Collected:	10.26.18 13.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**912**	5.00	mg/kg	10.31.18 13.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 03.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 03.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 03.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 03.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.31.18 03.02	
o-Terphenyl	84-15-1	101	%	70-135	10.31.18 03.02	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-015	Date Collected:	10.26.18 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.02.18 12.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.02.18 12.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.02.18 12.51	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.02.18 12.51	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-016	Date Collected:	10.26.18 13.25	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**494**	25.0	mg/kg	10.31.18 13.29		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 03.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 03.21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 03.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 03.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	10.31.18 03.21	
o-Terphenyl	84-15-1	108	%	70-135	10.31.18 03.21	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-016	Date Collected:	10.26.18 13.25	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.02.18 13.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.02.18 13.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.02.18 13.12	
1,4-Difluorobenzene	540-36-3	91	%	70-130	11.02.18 13.12	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-017	Date Collected:	10.26.18 13.30	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**738**	4.95	mg/kg	10.31.18 13.40		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 16.00	Basis:	Wet Weight
Seq Number:	3068064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.31.18 03.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	10.31.18 03.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	10.31.18 03.39	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	10.31.18 03.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.31.18 03.39	
o-Terphenyl	84-15-1	102	%	70-135	10.31.18 03.39	

Certificate of Analytical Results 603879

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32-TB

Sample Id:	**PH07C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603879-017	Date Collected:	10.26.18 13.30	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.01.18 17.00	Basis:	Wet Weight
Seq Number:	3068470				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	11.02.18 13.34	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.02.18 13.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.02.18 13.34	
1,4-Difluorobenzene	540-36-3	94	%	70-130	11.02.18 13.34	

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 603879

LT Environmental, Inc.

Hat Mesa 31-32-TB

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068104 Matrix: Solid Date Prep: 10.31.18
MB Sample Id: 7665180-1-BLK LCS Sample Id: 7665180-1-BKS LCSD Sample Id: 7665180-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	247	99	90-110	0	20	mg/kg	10.31.18 08:57	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Solid Date Prep: 10.31.18
MB Sample Id: 7665205-1-BLK LCS Sample Id: 7665205-1-BKS LCSD Sample Id: 7665205-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	246	98	90-110	0	20	mg/kg	10.31.18 12:15	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068104 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-001 MS Sample Id: 603879-001 S MSD Sample Id: 603879-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.9	248	281	102	282	102	90-110	0	20	mg/kg	10.31.18 09:18	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068104 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-002 MS Sample Id: 603879-002 S MSD Sample Id: 603879-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.2	248	327	102	330	104	90-110	1	20	mg/kg	10.31.18 10:42	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-008 MS Sample Id: 603879-008 S MSD Sample Id: 603879-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.4	250	328	103	329	103	90-110	0	20	mg/kg	10.31.18 12:31	

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

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

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

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

QC Summary 603879

LT Environmental, Inc.

Hat Mesa 31-32-TB

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-017 MS Sample Id: 603879-017 S MSD Sample Id: 603879-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	738	248	984	99	972	94	90-110	1	20	mg/kg	10.31.18 13:45	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068064 Matrix: Solid Date Prep: 10.30.18
MB Sample Id: 7665164-1-BLK LCS Sample Id: 7665164-1-BKS LCSD Sample Id: 7665164-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1030	103	1010	101	70-135	2	20	mg/kg	10.30.18 20:45	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1050	105	70-135	1	20	mg/kg	10.30.18 20:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		127		123		70-135	%	10.30.18 20:45
o-Terphenyl	107		116		122		70-135	%	10.30.18 20:45

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068064 Matrix: Soil Date Prep: 10.30.18
Parent Sample Id: 603879-001 MS Sample Id: 603879-001 S MSD Sample Id: 603879-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	990	99	994	100	70-135	0	20	mg/kg	10.30.18 21:42	
Diesel Range Organics (DRO)	<8.11	998	1020	102	1030	103	70-135	1	20	mg/kg	10.30.18 21:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		116		70-135	%	10.30.18 21:42
o-Terphenyl	106		106		70-135	%	10.30.18 21:42

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 603879

LT Environmental, Inc.

Hat Mesa 31-32-TB

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3068267 — Matrix: Solid — Date Prep: 10.31.18
MB Sample Id: 7665292-1-BLK — LCS Sample Id: 7665292-1-BKS — LCSD Sample Id: 7665292-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.112	111	0.123	122	70-130	9	35	mg/kg	10.31.18 12:09	
Toluene	<0.00202	0.101	0.0926	92	0.102	101	70-130	10	35	mg/kg	10.31.18 12:09	
Ethylbenzene	<0.00202	0.101	0.115	114	0.117	116	70-130	2	35	mg/kg	10.31.18 12:09	
m,p-Xylenes	<0.00403	0.202	0.247	122	0.245	121	70-130	1	35	mg/kg	10.31.18 12:09	
o-Xylene	<0.00202	0.101	0.113	112	0.114	113	70-130	1	35	mg/kg	10.31.18 12:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		75		77		70-130	%	10.31.18 12:09
4-Bromofluorobenzene	124		112		111		70-130	%	10.31.18 12:09

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3068470 — Matrix: Solid — Date Prep: 11.01.18
MB Sample Id: 7665452-1-BLK — LCS Sample Id: 7665452-1-BKS — LCSD Sample Id: 7665452-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.112	111	0.103	103	70-130	8	35	mg/kg	11.02.18 02:32	
Toluene	<0.00201	0.101	0.0828	82	0.0833	83	70-130	1	35	mg/kg	11.02.18 02:32	
Ethylbenzene	<0.00201	0.101	0.109	108	0.0948	95	70-130	14	35	mg/kg	11.02.18 02:32	
m,p-Xylenes	<0.00402	0.201	0.219	109	0.189	95	70-130	15	35	mg/kg	11.02.18 02:32	
o-Xylene	<0.00201	0.101	0.105	104	0.0934	93	70-130	12	35	mg/kg	11.02.18 02:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		92		99		70-130	%	11.02.18 02:32
4-Bromofluorobenzene	97		123		119		70-130	%	11.02.18 02:32

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3068267 — Matrix: Soil — Date Prep: 10.31.18
Parent Sample Id: 603970-001 — MS Sample Id: 603970-001 S — MSD Sample Id: 603970-001 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	0.0994	0.0893	90	0.0768	77	70-130	15	35	mg/kg	10.31.18 12:52	
Toluene	<0.00199	0.0994	0.0797	80	0.0701	70	70-130	13	35	mg/kg	10.31.18 12:52	
Ethylbenzene	<0.00199	0.0994	0.0849	85	0.0783	78	70-130	8	35	mg/kg	10.31.18 12:52	
m,p-Xylenes	<0.00398	0.199	0.175	88	0.160	80	70-130	9	35	mg/kg	10.31.18 12:52	
o-Xylene	<0.00199	0.0994	0.0844	85	0.0776	78	70-130	8	35	mg/kg	10.31.18 12:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		90		70-130	%	10.31.18 12:52
4-Bromofluorobenzene	128		129		70-130	%	10.31.18 12:52

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

QC Summary 603879

LT Environmental, Inc.

Hat Mesa 31-32-TB

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3068470 Matrix: Soil Date Prep: 11.01.18

Parent Sample Id: 603879-002 MS Sample Id: 603879-002 S MSD Sample Id: 603879-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0870	87	0.0858	86	70-130	1	35	mg/kg	11.02.18 03:15	
Toluene	<0.00200	0.100	0.0712	71	0.0697	70	70-130	2	35	mg/kg	11.02.18 03:15	
Ethylbenzene	<0.00200	0.100	0.0817	82	0.0801	80	70-130	2	35	mg/kg	11.02.18 03:15	
m,p-Xylenes	<0.00400	0.200	0.165	83	0.158	79	70-130	4	35	mg/kg	11.02.18 03:15	
o-Xylene	<0.00200	0.100	0.0844	84	0.0822	83	70-130	3	35	mg/kg	11.02.18 03:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		97		70-130	%	11.02.18 03:15
4-Bromofluorobenzene	129		129		70-130	%	11.02.18 03:15

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	

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Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 2

Xenco Quote # | Xenco Job # 603674

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@ltenv.com | Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Ben Belk

Project Information

Project Name/Number: Hat Mesa 31-32 TB
Project Location: Carlsbad, NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: (JRP-3143, JRP-3726, JRP-4072)

Analytical Information

BTEX EPA 8021
TPH EPA 8015
Chlorides 300.0

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	PH03A	2'	10/26/18	1015	S	1								X	Discrete
2	PH03B	3'		1020										X	
3	PH03C	4'		1025										X	
4	PH01A	2'		1055										X	Composite
5	PH01B	3'		1100										X	Discrete
6	PH01C	4'		1105										X	
7	PH02A	2'		1115										X	
8	PH02B	3'		1120										X	
9	PH02C	4'		1125										X	
10	PH06	1'	↓	1230	↓	↓								X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 773951606440

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Ben T. Belk	10/26/18 1725	1	2	10/29/18 15:36	2 10/30/18
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4 1053
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: Cooler Temp. 0.3 +0.0 Thermo. Corr. Factor

Notice: 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 loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
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CHAIN OF CUSTODY

Page 2 Of 2

Xenco Quote # | Xenco Job # 600529

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. Permian Office
Company Address: 3300 N "A" St. Building 1 Unit 103 Midland, TX 79705
Email: abaker@ltenv.com Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Ben Belill

Project Information

Project Name/Number: Hat Mesa 31-32 TB
Project Location: Carlsbad, NM
Invoice To: XTO Energy – Kyle Littrell
PO Number: (1RP-3143, 1RP-3726, 1RP-4072)

Analytical Information

BTEX (only BTEX) 8021
TPH (DRO GRO MRO) 8015
Chloride (300.00)

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW = Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW = Ocean/Sea Water
WI = Wipe
O = Oil
WW = Waste Water
A = Air

No.	Field ID / Point of Collection	Sample Depth	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	PH06A	2'	10/26/18	1235	S	1								X	X	X	X	Discrete Type
2	PH06B	3'		1240										X	X	X	X	
3	PH06C	4'		1245										X	X	X	X	
4	PH07 ~~PH06D~~ BB	1'		1315										X	X	X	X	
5	PH07A	2'		1320										X	X	X	X	
6	PH07B	3'		1325										X	X	X	X	
7	PH07C	4'		1330										X	X	X	X	
8																		
9					BSB			10/26/18										
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 773595160000

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1	Date Time: 10/26/18@1725	Received By: 1	Relinquished By: 2	Date Time: 10/29/18 15:30	Received By: 2 10/30/18
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4 1053
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: ND Cooler Temp: 0.3 Thermo. Corr. Factor: 0.0

Notice: 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 loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/30/2018 10:53:00 AM

Work Order #: 603879

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/30/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/31/2018
Jessica Kramer

Analytical Report 603880

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Hat Mesa 31-32 TB

12-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

12-NOV-18

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

Reference: XENCO Report No(s): **603880**
Hat Mesa 31-32 TB
Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 603880. 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. 603880 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.
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH02	S	10-25-18 12:00	1 ft	603880-001
PH01	S	10-25-18 12:10	1 ft	603880-002
PH03	S	10-25-18 12:15	1 ft	603880-003
PH05	S	10-25-18 12:20	1 ft	603880-004
PH04	S	10-25-18 12:25	1 ft	603880-005
PH04A	S	10-25-18 13:20	2 ft	603880-006
PH04B	S	10-25-18 13:25	3 ft	603880-007
PH04C	S	10-25-18 13:35	4 ft	603880-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hat Mesa 31-32 TB

Project ID:
Work Order Number(s): *603880*

Report Date: *12-NOV-18*
Date Received: *10/30/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3068802 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate a,a,a-Trifluorotoluene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7665624-1-BKS,7665624-1-BLK,7665624-1-BSD,603882-001 S,603882-001 SD,603880-001,603880-002,603880-003,603880-004.
Surrogate 4-Bromofluorobenzene recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7665624-1-BLK,7665624-1-BSD,603882-001 S,603882-001 SD,603880-001,603880-002,603880-003,603880-004.
Samples non-detect, therefore data was accepted.

Batch: LBA-3068978 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3069249 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 603880

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32 TB

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-30-18 10:53 am
Report Date: 12-NOV-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	603880-001		603880-002		603880-003		603880-004		603880-005		603880-006	
	Field Id:	PH02		PH01		PH03		PH05		PH04		PH04A	
	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-25-18 12:00		Oct-25-18 12:10		Oct-25-18 12:15		Oct-25-18 12:20		Oct-25-18 12:25		Oct-25-18 13:20	
BTEX by EPA 8021B SUB: T104704219-18-18	***Extracted:***	Nov-05-18 14:12		Nov-05-18 14:12		Nov-05-18 14:12		Nov-05-18 14:12		Nov-07-18 11:00		Nov-07-18 11:00	
	Analyzed:	Nov-05-18 18:09		Nov-05-18 18:33		Nov-05-18 18:57		Nov-05-18 19:21		Nov-07-18 20:56		Nov-07-18 21:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	<0.0184	0.0184	<0.0187	0.0187
Toluene		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	<0.0184	0.0184	<0.0187	0.0187
Ethylbenzene		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	0.0202	0.0184	0.0187	0.0187
m,p-Xylenes		<0.0366	0.0366	<0.0383	0.0383	<0.0387	0.0387	<0.0378	0.0378	<0.0368	0.0368	<0.0373	0.0373
o-Xylene		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	0.0239	0.0184	0.0261	0.0187
Total Xylenes		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	0.0239	0.0184	0.0261	0.0187
Total BTEX		<0.0183	0.0183	<0.0192	0.0192	<0.0193	0.0193	<0.0189	0.0189	0.0441	0.0184	0.0448	0.0187
Inorganic Anions by EPA 300	***Extracted:***	Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00		Oct-31-18 11:00	
	Analyzed:	Oct-31-18 13:34		Oct-31-18 13:56		Oct-31-18 14:01		Oct-31-18 14:17		Oct-31-18 14:22		Oct-31-18 14:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		73.1	4.95	<5.03	5.03	41.8	4.95	<5.02	5.02	1310	25.1	1570	25.0
TPH by SW8015 Mod	***Extracted:***	Oct-30-18 15:00		Oct-30-18 15:00		Oct-30-18 15:00		Oct-30-18 15:00		Oct-30-18 15:00		Oct-30-18 15:00	
	Analyzed:	Oct-31-18 03:32		Oct-31-18 03:51		Oct-31-18 04:10		Oct-31-18 07:19		Oct-31-18 07:39		Oct-31-18 07:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		23.6	15.0	22.6	15.0	<15.0	15.0	164	15.0	1580	15.0	1720	14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	63.7	15.0	347	15.0	279	14.9
Total TPH		23.6	15.0	22.6	15.0	<15.0	15.0	228	15.0	1930	15.0	2000	14.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 603880

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32 TB

Project Id:
Contact: Adrian Baker
Project Location: Carlsbad, NM

Date Received in Lab: Tue Oct-30-18 10:53 am
Report Date: 12-NOV-18
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	603880-007		603880-008				
	Field Id:	PH04B		PH04C				
	Depth:	3- ft		4- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Oct-25-18 13:25		Oct-25-18 13:35				
BTEX by EPA 8021B SUB: T104704219-18-18	***Extracted:***	Nov-07-18 11:00		Nov-08-18 15:20				
	Analyzed:	Nov-07-18 19:21		Nov-09-18 02:12				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.0188	0.0188	<0.0200	0.0200			
Toluene		<0.0188	0.0188	<0.0200	0.0200			
Ethylbenzene		<0.0188	0.0188	<0.0200	0.0200			
m,p-Xylenes		<0.0376	0.0376	<0.0399	0.0399			
o-Xylene		0.0226	0.0188	0.0220 K	0.0200			
Total Xylenes		0.0226	0.0188	0.0220 K	0.0200			
Total BTEX		0.0226	0.0188	0.0220 K	0.0200			
Inorganic Anions by EPA 300	***Extracted:***	Oct-31-18 11:00		Nov-09-18 09:00				
	Analyzed:	Oct-31-18 14:33		Nov-09-18 09:32				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		949	4.95	638	5.01			
TPH by SW8015 Mod	***Extracted:***	Oct-30-18 15:00		Nov-07-18 14:00				
	Analyzed:	Oct-31-18 05:26		Nov-09-18 09:10				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		86.0	15.0	59.1	15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	16.2	15.0			
Total TPH		86.0	15.0	75.3	15.0			

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-001	Date Collected:	10.25.18 12.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**73.1**	4.95	mg/kg	10.31.18 13.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 03.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**23.6**	15.0	mg/kg	10.31.18 03.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 03.32	U	1
Total TPH	PHC635	**23.6**	15.0	mg/kg	10.31.18 03.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	10.31.18 03.32	
o-Terphenyl	84-15-1	99	%	70-135	10.31.18 03.32	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-001	Date Collected:	10.25.18 12.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.05.18 14.12	Basis:	Wet Weight
Seq Number:	3068802			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1
Toluene	108-88-3	<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1
Ethylbenzene	100-41-4	<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1
m,p-Xylenes	179601-23-1	<0.0366	0.0366	mg/kg	11.05.18 18.09	U	1
o-Xylene	95-47-6	<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1
Total Xylenes	1330-20-7	<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1
Total BTEX		<0.0183	0.0183	mg/kg	11.05.18 18.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	68-120	11.05.18 18.09	**
a,a,a-Trifluorotoluene	98-08-8	147	%	71-121	11.05.18 18.09	**

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-002	Date Collected:	10.25.18 12.10	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.03	5.03	mg/kg	10.31.18 13.56	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 03.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	**22.6**	15.0	mg/kg	10.31.18 03.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 03.51	U	1
Total TPH	PHC635	**22.6**	15.0	mg/kg	10.31.18 03.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.31.18 03.51	
o-Terphenyl	84-15-1	100	%	70-135	10.31.18 03.51	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-002	Date Collected:	10.25.18 12.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.05.18 14.12	Basis:	Wet Weight
Seq Number:	3068802			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1
m,p-Xylenes	179601-23-1	<0.0383	0.0383	mg/kg	11.05.18 18.33	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1
Total BTEX		<0.0192	0.0192	mg/kg	11.05.18 18.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	144	%	68-120	11.05.18 18.33	**
a,a,a-Trifluorotoluene	98-08-8	150	%	71-121	11.05.18 18.33	**

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-003	Date Collected:	10.25.18 12.15	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**41.8**	4.95	mg/kg	10.31.18 14.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 04.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	10.31.18 04.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 04.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	10.31.18 04.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.31.18 04.10	
o-Terphenyl	84-15-1	101	%	70-135	10.31.18 04.10	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-003	Date Collected:	10.25.18 12.15	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.05.18 14.12	Basis:	Wet Weight
Seq Number:	3068802			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1
Toluene	108-88-3	<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1
Ethylbenzene	100-41-4	<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1
m,p-Xylenes	179601-23-1	<0.0387	0.0387	mg/kg	11.05.18 18.57	U	1
o-Xylene	95-47-6	<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1
Total Xylenes	1330-20-7	<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1
Total BTEX		<0.0193	0.0193	mg/kg	11.05.18 18.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	134	%	68-120	11.05.18 18.57	**
a,a,a-Trifluorotoluene	98-08-8	146	%	71-121	11.05.18 18.57	**

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-004	Date Collected:	10.25.18 12.20	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.02	5.02	mg/kg	10.31.18 14.17	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 07.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	**164**	15.0	mg/kg	10.31.18 07.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**63.7**	15.0	mg/kg	10.31.18 07.19		1
Total TPH	PHC635	**228**	15.0	mg/kg	10.31.18 07.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.31.18 07.19	
o-Terphenyl	84-15-1	104	%	70-135	10.31.18 07.19	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-004	Date Collected:	10.25.18 12.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.05.18 14.12	Basis:	Wet Weight
Seq Number:	3068802			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1
Toluene	108-88-3	<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1
Ethylbenzene	100-41-4	<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1
m,p-Xylenes	179601-23-1	<0.0378	0.0378	mg/kg	11.05.18 19.21	U	1
o-Xylene	95-47-6	<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1
Total Xylenes	1330-20-7	<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1
Total BTEX		<0.0189	0.0189	mg/kg	11.05.18 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	137	%	68-120	11.05.18 19.21	**
a,a,a-Trifluorotoluene	98-08-8	145	%	71-121	11.05.18 19.21	**

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-005	Date Collected:	10.25.18 12.25	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1310**	25.1	mg/kg	10.31.18 14.22		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 07.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1580**	15.0	mg/kg	10.31.18 07.39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**347**	15.0	mg/kg	10.31.18 07.39		1
Total TPH	PHC635	**1930**	15.0	mg/kg	10.31.18 07.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.31.18 07.39	
o-Terphenyl	84-15-1	102	%	70-135	10.31.18 07.39	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-005	Date Collected:	10.25.18 12.25	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.07.18 11.00	Basis:	Wet Weight
Seq Number:	3068978			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0184	0.0184	mg/kg	11.07.18 20.56	U	1
Toluene	108-88-3	<0.0184	0.0184	mg/kg	11.07.18 20.56	U	1
Ethylbenzene	100-41-4	**0.0202**	0.0184	mg/kg	11.07.18 20.56		1
m,p-Xylenes	179601-23-1	<0.0368	0.0368	mg/kg	11.07.18 20.56	U	1
o-Xylene	95-47-6	**0.0239**	0.0184	mg/kg	11.07.18 20.56		1
Total Xylenes	1330-20-7	**0.0239**	0.0184	mg/kg	11.07.18 20.56		1
Total BTEX		**0.0441**	0.0184	mg/kg	11.07.18 20.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	83	%	68-120	11.07.18 20.56	
a,a,a-Trifluorotoluene	98-08-8	90	%	71-121	11.07.18 20.56	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-006	Date Collected:	10.25.18 13.20	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1570**	25.0	mg/kg	10.31.18 14.27		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	10.31.18 07.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1720**	14.9	mg/kg	10.31.18 07.58		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**279**	14.9	mg/kg	10.31.18 07.58		1
Total TPH	PHC635	**2000**	14.9	mg/kg	10.31.18 07.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	10.31.18 07.58	
o-Terphenyl	84-15-1	110	%	70-135	10.31.18 07.58	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-006	Date Collected:	10.25.18 13.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.07.18 11.00	Basis:	Wet Weight
Seq Number:	3068978			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0187	0.0187	mg/kg	11.07.18 21.19	U	1
Toluene	108-88-3	<0.0187	0.0187	mg/kg	11.07.18 21.19	U	1
Ethylbenzene	100-41-4	**0.0187**	0.0187	mg/kg	11.07.18 21.19		1
m,p-Xylenes	179601-23-1	<0.0373	0.0373	mg/kg	11.07.18 21.19	U	1
o-Xylene	95-47-6	**0.0261**	0.0187	mg/kg	11.07.18 21.19		1
Total Xylenes	1330-20-7	**0.0261**	0.0187	mg/kg	11.07.18 21.19		1
Total BTEX		**0.0448**	0.0187	mg/kg	11.07.18 21.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	11.07.18 21.19	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	11.07.18 21.19	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-007	Date Collected:	10.25.18 13.25	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.31.18 11.00	Basis:	Wet Weight
Seq Number:	3068221				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**949**	4.95	mg/kg	10.31.18 14.33		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068061				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	10.31.18 05.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**86.0**	15.0	mg/kg	10.31.18 05.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.31.18 05.26	U	1
Total TPH	PHC635	**86.0**	15.0	mg/kg	10.31.18 05.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.31.18 05.26	
o-Terphenyl	84-15-1	103	%	70-135	10.31.18 05.26	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04B**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-007	Date Collected:	10.25.18 13.25	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.07.18 11.00	Basis:	Wet Weight
Seq Number:	3068978			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0188	0.0188	mg/kg	11.07.18 19.21	U	1
Toluene	108-88-3	<0.0188	0.0188	mg/kg	11.07.18 19.21	U	1
Ethylbenzene	100-41-4	<0.0188	0.0188	mg/kg	11.07.18 19.21	U	1
m,p-Xylenes	179601-23-1	<0.0376	0.0376	mg/kg	11.07.18 19.21	U	1
o-Xylene	95-47-6	**0.0226**	0.0188	mg/kg	11.07.18 19.21		1
Total Xylenes	1330-20-7	**0.0226**	0.0188	mg/kg	11.07.18 19.21		1
Total BTEX		**0.0226**	0.0188	mg/kg	11.07.18 19.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	68-120	11.07.18 19.21	
a,a,a-Trifluorotoluene	98-08-8	93	%	71-121	11.07.18 19.21	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-008	Date Collected:	10.25.18 13.35	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	11.09.18 09.00	Basis:	Wet Weight
Seq Number:	3069172				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**638**	5.01	mg/kg	11.09.18 09.32		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	11.07.18 14.00	Basis:	Wet Weight
Seq Number:	3068984				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.09.18 09.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	**59.1**	15.0	mg/kg	11.09.18 09.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**16.2**	15.0	mg/kg	11.09.18 09.10		1
Total TPH	PHC635	**75.3**	15.0	mg/kg	11.09.18 09.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	11.09.18 09.10	
o-Terphenyl	84-15-1	97	%	70-135	11.09.18 09.10	

Certificate of Analytical Results 603880

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**PH04C**	Matrix:	Soil	Date Received:	10.30.18 10.53
Lab Sample Id:	603880-008	Date Collected:	10.25.18 13.35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MIT			% Moisture:	
Analyst:	MIT	Date Prep:	11.08.18 15.20	Basis:	Wet Weight
Seq Number:	3069249			SUB:	T104704219-18-18

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	11.09.18 02.12	UK	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	11.09.18 02.12	UK	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	11.09.18 02.12	UK	1
m,p-Xylenes	179601-23-1	<0.0399	0.0399	mg/kg	11.09.18 02.12	UK	1
o-Xylene	95-47-6	**0.0220**	0.0200	mg/kg	11.09.18 02.12	K	1
Total Xylenes	1330-20-7	**0.0220**	0.0200	mg/kg	11.09.18 02.12	K	1
Total BTEX		**0.0220**	0.0200	mg/kg	11.09.18 02.12	K	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	68-120	11.09.18 02.12	
a,a,a-Trifluorotoluene	98-08-8	95	%	71-121	11.09.18 02.12	

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 603880

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Solid Date Prep: 10.31.18
MB Sample Id: 7665205-1-BLK LCS Sample Id: 7665205-1-BKS LCSD Sample Id: 7665205-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	246	98	90-110	0	20	mg/kg	10.31.18 12:15	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3069172 Matrix: Solid Date Prep: 11.09.18
MB Sample Id: 7665824-1-BLK LCS Sample Id: 7665824-1-BKS LCSD Sample Id: 7665824-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	255	102	254	102	90-110	0	20	mg/kg	11.09.18 09:22	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-008 MS Sample Id: 603879-008 S MSD Sample Id: 603879-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.4	250	328	103	329	103	90-110	0	20	mg/kg	10.31.18 12:31	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3068221 Matrix: Soil Date Prep: 10.31.18
Parent Sample Id: 603879-017 MS Sample Id: 603879-017 S MSD Sample Id: 603879-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	738	248	984	99	972	94	90-110	1	20	mg/kg	10.31.18 13:45	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3069172 Matrix: Soil Date Prep: 11.09.18
Parent Sample Id: 603880-008 MS Sample Id: 603880-008 S MSD Sample Id: 603880-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	638	251	869	92	871	93	90-110	0	20	mg/kg	11.09.18 09:38	

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

QC Summary 603880

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3069172 Matrix: Soil Date Prep: 11.09.18
Parent Sample Id: 604414-001 MS Sample Id: 604414-001 S MSD Sample Id: 604414-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	262	106	261	105	90-110	0	20	mg/kg	11.09.18 13:57	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068061 Matrix: Solid Date Prep: 10.30.18
MB Sample Id: 7665162-1-BLK LCS Sample Id: 7665162-1-BKS LCSD Sample Id: 7665162-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1150	115	1140	114	70-135	1	20	mg/kg	10.30.18 22:28	
Diesel Range Organics (DRO)	<8.13	1000	1150	115	1150	115	70-135	0	20	mg/kg	10.30.18 22:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		118		125		70-135	%	10.30.18 22:28
o-Terphenyl	106		125		123		70-135	%	10.30.18 22:28

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068984 Matrix: Solid Date Prep: 11.07.18
MB Sample Id: 7665710-1-BLK LCS Sample Id: 7665710-1-BKS LCSD Sample Id: 7665710-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	998	100	1010	101	70-135	1	20	mg/kg	11.07.18 20:55	
Diesel Range Organics (DRO)	<8.13	1000	1090	109	1100	110	70-135	1	20	mg/kg	11.07.18 20:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		123		117		70-135	%	11.07.18 20:55
o-Terphenyl	100		97		96		70-135	%	11.07.18 20:55

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3068061 Matrix: Soil Date Prep: 10.30.18
Parent Sample Id: 603881-001 MS Sample Id: 603881-001 S MSD Sample Id: 603881-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	987	99	994	100	70-135	1	20	mg/kg	10.30.18 23:25	
Diesel Range Organics (DRO)	9.08	999	1060	105	1070	106	70-135	1	20	mg/kg	10.30.18 23:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		119		70-135	%	10.30.18 23:25
o-Terphenyl	105		104		70-135	%	10.30.18 23:25

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 603880

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3068984 | Matrix: Soil | Date Prep: 11.07.18
Parent Sample Id: 604544-001 | MS Sample Id: 604544-001 S | MSD Sample Id: 604544-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	889	89	907	91	70-135	2	20	mg/kg	11.07.18 21:51	
Diesel Range Organics (DRO)	56.7	999	947	89	973	92	70-135	3	20	mg/kg	11.07.18 21:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		106		70-135	%	11.07.18 21:51
o-Terphenyl	85		85		70-135	%	11.07.18 21:51

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3068802 | Matrix: Solid | Date Prep: 11.05.18
MB Sample Id: 7665624-1-BLK | LCS Sample Id: 7665624-1-BKS | LCSD Sample Id: 7665624-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.15	108	2.21	111	55-120	3	20	mg/kg	11.05.18 15:19	
Toluene	<0.0200	2.00	2.10	105	2.13	107	77-120	1	20	mg/kg	11.05.18 15:19	
Ethylbenzene	<0.0200	2.00	2.05	103	2.14	107	77-120	4	20	mg/kg	11.05.18 15:19	
m,p-Xylenes	<0.0400	4.00	4.07	102	4.27	107	78-120	5	20	mg/kg	11.05.18 15:19	
o-Xylene	<0.0200	2.00	2.09	105	2.21	111	78-120	6	20	mg/kg	11.05.18 15:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	136	**	119		134	**	68-120	%	11.05.18 15:19
a,a,a-Trifluorotoluene	136	**	128	**	129	**	71-121	%	11.05.18 15:19

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3068978 | Matrix: Solid | Date Prep: 11.07.18
MB Sample Id: 7665731-1-BLK | LCS Sample Id: 7665731-1-BKS | LCSD Sample Id: 7665731-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	1.97	99	1.97	99	55-120	0	20	mg/kg	11.07.18 17:20	
Toluene	<0.0200	2.00	1.90	95	1.91	96	77-120	1	20	mg/kg	11.07.18 17:20	
Ethylbenzene	<0.0200	2.00	1.95	98	1.95	98	77-120	0	20	mg/kg	11.07.18 17:20	
m,p-Xylenes	<0.0400	4.00	3.91	98	3.91	98	78-120	0	20	mg/kg	11.07.18 17:20	
o-Xylene	<0.0200	2.00	1.96	98	1.97	99	78-120	1	20	mg/kg	11.07.18 17:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	88		105		82		68-120	%	11.07.18 17:20
a,a,a-Trifluorotoluene	86		107		82		71-121	%	11.07.18 17:20

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

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

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

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

QC Summary 603880

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3069249 — Matrix: Solid — Date Prep: 11.08.18
MB Sample Id: 7665916-1-BLK — LCS Sample Id: 7665916-1-BKS — LCSD Sample Id: 7665916-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0200	2.00	2.07	104	2.07	104	55-120	0	20	mg/kg	11.08.18 23:57	
Toluene	<0.0200	2.00	2.06	103	2.06	103	77-120	0	20	mg/kg	11.08.18 23:57	
Ethylbenzene	<0.0200	2.00	2.09	105	2.10	105	77-120	0	20	mg/kg	11.08.18 23:57	
m,p-Xylenes	<0.00682	4.00	4.16	104	4.19	105	78-120	1	20	mg/kg	11.08.18 23:57	
o-Xylene	<0.0200	2.00	2.06	103	2.13	107	78-120	3	20	mg/kg	11.08.18 23:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	93		99		99		68-120	%	11.08.18 23:57
a,a,a-Trifluorotoluene	90		100		101		71-121	%	11.08.18 23:57

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3068802 — Matrix: Soil — Date Prep: 11.05.18
Parent Sample Id: 603882-001 — MS Sample Id: 603882-001 S — MSD Sample Id: 603882-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.89	95	2.14	113	54-120	12	25	mg/kg	11.05.18 20:58	
Toluene	0.00794	1.98	1.95	98	2.18	114	57-120	11	25	mg/kg	11.05.18 20:58	
Ethylbenzene	0.0238	1.98	1.88	94	2.11	110	58-131	12	25	mg/kg	11.05.18 20:58	
m,p-Xylenes	0.0298	3.97	3.66	91	4.15	108	62-124	13	25	mg/kg	11.05.18 20:58	
o-Xylene	0.0337	1.98	1.94	96	2.22	115	62-124	13	25	mg/kg	11.05.18 20:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	140	**	137	**	68-120	%	11.05.18 20:58
a,a,a-Trifluorotoluene	148	**	147	**	71-121	%	11.05.18 20:58

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3068978 — Matrix: Soil — Date Prep: 11.07.18
Parent Sample Id: 603880-007 — MS Sample Id: 603880-007 S — MSD Sample Id: 603880-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0198	1.98	1.88	95	1.81	93	54-120	4	25	mg/kg	11.07.18 19:45	
Toluene	<0.0198	1.98	1.88	95	1.82	93	57-120	3	25	mg/kg	11.07.18 19:45	
Ethylbenzene	0.0169	1.98	1.92	96	1.89	96	58-131	2	25	mg/kg	11.07.18 19:45	
m,p-Xylenes	0.0226	3.95	3.75	94	3.77	96	62-124	1	25	mg/kg	11.07.18 19:45	
o-Xylene	0.0226	1.98	1.94	97	1.88	95	62-124	3	25	mg/kg	11.07.18 19:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		107		68-120	%	11.07.18 19:45
a,a,a-Trifluorotoluene	113		115		71-121	%	11.07.18 19:45

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 603880

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3069249 Matrix: Soil Date Prep: 11.08.18

Parent Sample Id: 603880-008 MS Sample Id: 603880-008 S MSD Sample Id: 603880-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	1.96	1.88	96	1.85	93	54-120	2	25	mg/kg	11.09.18 02:39	
Toluene	<0.00459	1.96	2.03	104	1.96	99	57-120	4	25	mg/kg	11.09.18 02:39	
Ethylbenzene	0.0180	1.96	2.14	108	2.07	104	58-131	3	25	mg/kg	11.09.18 02:39	
m,p-Xylenes	0.0220	3.92	4.34	110	4.18	105	62-124	4	25	mg/kg	11.09.18 02:39	
o-Xylene	0.0220	1.96	2.19	111	2.11	105	62-124	4	25	mg/kg	11.09.18 02:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		100		68-120	%	11.09.18 02:39
a,a,a-Trifluorotoluene	106		104		71-121	%	11.09.18 02:39

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	

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Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote # | Xenco Job # 603880

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@ltenv.com | Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Ben Belill

Project Information

Project Name/Number: Hat Mesa 31-32 TB
Project Location: Carlsbad, NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: (1RP-3413, 1RP-3726, 1RP-4072)

Analytical Information

BTEX EPA 8021
TPH EPA 8015
Chlorides 300.0

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Preserved: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	PH02	1'	10/25/18	1200	S	1								X	Discrete Type
2	PH01	1'		1210										X	
3	PH03	1'		1215										X	
4	PH05	1'		1220										X	
5	PH04	1'		1225										X	
6	PH04A	2'		1320										X	
7	PH04B	3'		1325										X	
8	PH04C	4'		1335										X	
9															
10															

BCTB 10/25/18

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 773595106440

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Ben Belill	10/26/18@1625				
2					10/29/18 15:30	
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						10/30/18 1053
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						0.5 / 0.0

Notice: 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 loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

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

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Inter-Office Shipment

IOS Number **116450**

Date/Time: 10/30/18 12:42
Created by: Brianna Teel
Please send report to: Jessica Kramer

Lab# From: **Midland**
Delivery Priority:
Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Lubbock**
Air Bill No.: FED
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
603880-001	S	PH02	10/25/18 12:00	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 12:00	JKR	BR4FBZ BZ BZME EBZ X	
603880-002	S	PH01	10/25/18 12:10	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 12:10	JKR	BR4FBZ BZ BZME EBZ X	
603880-003	S	PH03	10/25/18 12:15	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 12:15	JKR	BR4FBZ BZ BZME EBZ X	
603880-004	S	PH05	10/25/18 12:20	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 12:20	JKR	BR4FBZ BZ BZME EBZ X	
603880-005	S	PH04	10/25/18 12:25	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 12:25	JKR	BR4FBZ BZ BZME EBZ X	
603880-006	S	PH04A	10/25/18 13:20	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 13:20	JKR	BR4FBZ BZ BZME EBZ X	
603880-007	S	PH04B	10/25/18 13:25	SW8021B	BTEX by EPA 8021B	11/05/18	11/08/18 13:25	JKR	BR4FBZ BZ BZME EBZ X	
603880-008	S	PH04C	10/25/18 13:35	SW8021B	BTEX by EPA 8021B	11/14/18	11/08/18 13:35	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By: Jessica Kramer
Jessica Kramer

Received By:
Ashley Derstine

Date Relinquished: 11/08/2018

Date Received: 10/31/2018 09:00

Cooler Temperature: 2.3

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Lubbock

IOS #: 116450

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

Sent By: Brianna Teel **Date Sent:** 10/30/2018 12:42 PM

Received By: Ashley Derstine **Date Received:** 10/31/2018 09:00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.3	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**Yes**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: _____ Date: 10/31/2018

Ashley Derstine

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/30/2018 10:53:00 AM

Work Order #: 603880

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/30/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/31/2018
Jessica Kramer

Analytical Report 613311

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Hat Mesa 31-32 TB

05-FEB-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

05-FEB-19

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

Reference: XENCO Report No(s): **613311**
Hat Mesa 31-32 TB
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 613311. 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. 613311 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

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

Sample Cross Reference 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	01-31-19 10:30	4.5 ft	613311-001
FS03	S	01-31-19 11:15	4.5 ft	613311-002
SW01	S	01-31-19 11:45	0 - 4.5 ft	613311-003
SW02	S	01-31-19 12:10	0 - 4.5 ft	613311-004
SW03	S	01-31-19 14:50	0 - 2 ft	613311-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hat Mesa 31-32 TB

Project ID:
Work Order Number(s): *613311*

Report Date: *05-FEB-19*
Date Received: *02/04/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3078044 BTEX by EPA 8021B

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

Certificate of Analysis Summary 613311

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32 TB

Project Id:
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Mon Feb-04-19 08:00 am
Report Date: 05-FEB-19
Project Manager: Jessica Kramer

Analysis Requested																	
	Lab Id:	613311-001		613311-002		613311-003		613311-004		613311-005							
	Field Id:	FS02		FS03		SW01		SW02		SW03							
	Depth:	4.5- ft		4.5- ft		0-4.5 ft		0-4.5 ft		0-2 ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL							
	Sampled:	Jan-31-19 10:30		Jan-31-19 11:15		Jan-31-19 11:45		Jan-31-19 12:10		Jan-31-19 14:50							
BTEX by EPA 8021B	***Extracted:***	Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00							
	Analyzed:	Feb-04-19 14:27		Feb-04-19 14:49		Feb-04-19 15:10		Feb-04-19 15:32		Feb-04-19 23:21							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398						
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199						
Inorganic Anions by EPA 300	***Extracted:***	Feb-04-19 15:00		Feb-04-19 15:00		Feb-04-19 15:00		Feb-04-19 15:00		Feb-04-19 15:00							
	Analyzed:	Feb-04-19 19:20		Feb-04-19 19:39		Feb-04-19 19:45		Feb-04-19 19:51		Feb-04-19 19:57							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		278	4.98	207	4.97	397	4.96	519	5.02	12.4	5.02						
TPH by SW8015 Mod	***Extracted:***	Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00		Feb-04-19 11:00							
	Analyzed:	Feb-04-19 13:43		Feb-04-19 14:43		Feb-04-19 15:03		Feb-04-19 15:23		Feb-04-19 15:43							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0						
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	30.9	15.0	<15.0	15.0	66.6	15.0						
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	33.5	15.0						
Total TPH		<15.0	15.0	<15.0	15.0	30.9	15.0	<15.0	15.0	100	15.0						

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-001	Date Collected:	01.31.19 10.30	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 15.00	Basis:	Wet Weight
Seq Number:	3078004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**278**	4.98	mg/kg	02.04.19 19.20		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078102				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.04.19 13.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.04.19 13.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.04.19 13.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.04.19 13.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.04.19 13.43	
o-Terphenyl	84-15-1	96	%	70-135	02.04.19 13.43	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-001	Date Collected:	01.31.19 10.30	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.04.19 14.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 14.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.04.19 14.27	
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.04.19 14.27	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-002	Date Collected:	01.31.19 11.15	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 15.00	Basis:	Wet Weight
Seq Number:	3078004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**207**	4.97	mg/kg	02.04.19 19.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078102				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.04.19 14.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.04.19 14.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.04.19 14.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.04.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.04.19 14.43	
o-Terphenyl	84-15-1	93	%	70-135	02.04.19 14.43	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-002	Date Collected:	01.31.19 11.15	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.04.19 14.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 14.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.04.19 14.49	
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.04.19 14.49	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-003	Date Collected:	01.31.19 11.45	Sample Depth:	0 - 4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 15.00	Basis:	Wet Weight
Seq Number:	3078004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**397**	4.96	mg/kg	02.04.19 19.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078102				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.04.19 15.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	**30.9**	15.0	mg/kg	02.04.19 15.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.04.19 15.03	U	1
Total TPH	PHC635	**30.9**	15.0	mg/kg	02.04.19 15.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	02.04.19 15.03	
o-Terphenyl	84-15-1	91	%	70-135	02.04.19 15.03	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-003	Date Collected:	01.31.19 11.45	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.04.19 15.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.04.19 15.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.04.19 15.10	
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.04.19 15.10	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-004	Date Collected:	01.31.19 12.10	Sample Depth:	0 - 4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 15.00	Basis:	Wet Weight
Seq Number:	3078004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**519**	5.02	mg/kg	02.04.19 19.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078102				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.04.19 15.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.04.19 15.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.04.19 15.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.04.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	02.04.19 15.23	
o-Terphenyl	84-15-1	90	%	70-135	02.04.19 15.23	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-004	Date Collected:	01.31.19 12.10	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.04.19 15.32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.04.19 15.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.04.19 15.32	
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.04.19 15.32	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-005	Date Collected:	01.31.19 14.50	Sample Depth:	0 - 2 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.04.19 15.00	Basis:	Wet Weight
Seq Number:	3078004				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.4**	5.02	mg/kg	02.04.19 19.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078102				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.04.19 15.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	**66.6**	15.0	mg/kg	02.04.19 15.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**33.5**	15.0	mg/kg	02.04.19 15.43		1
Total TPH	PHC635	**100**	15.0	mg/kg	02.04.19 15.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.04.19 15.43	
o-Terphenyl	84-15-1	104	%	70-135	02.04.19 15.43	

Certificate of Analytical Results 613311

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	02.04.19 08.00
Lab Sample Id:	613311-005	Date Collected:	01.31.19 14.50	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.04.19 11.00	Basis:	Wet Weight
Seq Number:	3078044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.04.19 23.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.04.19 23.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	02.04.19 23.21	
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.04.19 23.21	

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 613311

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3078004 — Matrix: Solid — Date Prep: 02.04.19
MB Sample Id: 7671027-1-BLK — LCS Sample Id: 7671027-1-BKS — LCSD Sample Id: 7671027-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	256	102	262	105	90-110	2	20	mg/kg	02.04.19 19:08	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3078004 — Matrix: Soil — Date Prep: 02.04.19
Parent Sample Id: 613311-001 — MS Sample Id: 613311-001 S — MSD Sample Id: 613311-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	278	249	513	94	531	102	90-110	3	20	mg/kg	02.04.19 19:26	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3078004 — Matrix: Soil — Date Prep: 02.04.19
Parent Sample Id: 613312-004 — MS Sample Id: 613312-004 S — MSD Sample Id: 613312-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	664	250	943	112	927	105	90-110	2	20	mg/kg	02.04.19 20:56	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3078102 — Matrix: Solid — Date Prep: 02.04.19
MB Sample Id: 7671081-1-BLK — LCS Sample Id: 7671081-1-BKS — LCSD Sample Id: 7671081-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	826	83	951	95	70-135	14	20	mg/kg	02.04.19 13:04	
Diesel Range Organics (DRO)	<8.13	1000	918	92	1070	107	70-135	15	20	mg/kg	02.04.19 13:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		119		125		70-135	%	02.04.19 13:04
o-Terphenyl	104		115		127		70-135	%	02.04.19 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 613311

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3078102 | Matrix: Soil | Date Prep: 02.04.19
Parent Sample Id: 613311-001 | MS Sample Id: 613311-001 S | MSD Sample Id: 613311-001 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)	13.6	999	827	81	849	84	70-135	3	20	mg/kg	02.04.19 14:03	
Diesel Range Organics (DRO)	<8.12	999	867	87	885	89	70-135	2	20	mg/kg	02.04.19 14:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		115		70-135	%	02.04.19 14:03
o-Terphenyl	110		111		70-135	%	02.04.19 14:03

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3078044 | Matrix: Solid | Date Prep: 02.04.19
MB Sample Id: 7671062-1-BLK | LCS Sample Id: 7671062-1-BKS | LCSD Sample Id: 7671062-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.107	107	0.111	111	70-130	4	35	mg/kg	02.04.19 09:33	
Toluene	<0.00199	0.0996	0.0879	88	0.0880	88	70-130	0	35	mg/kg	02.04.19 09:33	
Ethylbenzene	<0.00199	0.0996	0.101	101	0.108	108	70-130	7	35	mg/kg	02.04.19 09:33	
m,p-Xylenes	<0.00398	0.199	0.201	101	0.223	112	70-130	10	35	mg/kg	02.04.19 09:33	
o-Xylene	<0.00199	0.0996	0.0886	89	0.0964	96	70-130	8	35	mg/kg	02.04.19 09:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		109		112		70-130	%	02.04.19 09:33
4-Bromofluorobenzene	93		99		107		70-130	%	02.04.19 09:33

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3078044 | Matrix: Soil | Date Prep: 02.04.19
Parent Sample Id: 613340-001 | MS Sample Id: 613340-001 S | MSD Sample Id: 613340-001 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	0.0994	0.0676	68	0.0744	75	70-130	10	35	mg/kg	02.04.19 12:39	X
Toluene	<0.00199	0.0994	0.0546	55	0.0622	62	70-130	13	35	mg/kg	02.04.19 12:39	X
Ethylbenzene	<0.00199	0.0994	0.0672	68	0.0762	76	70-130	13	35	mg/kg	02.04.19 12:39	X
m,p-Xylenes	<0.00398	0.199	0.130	65	0.141	71	70-130	8	35	mg/kg	02.04.19 12:39	X
o-Xylene	<0.00199	0.0994	0.0588	59	0.0676	68	70-130	14	35	mg/kg	02.04.19 12:39	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	127		119		70-130	%	02.04.19 12:39
4-Bromofluorobenzene	98		103		70-130	%	02.04.19 12:39

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

Work Order No: 613311

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 Page _____ of _____

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178 Email:		bbelill@ltenv.com

Work Order Comments

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

Project Name:	Wet Mesa 31-32 TB	Turn Around	
Project Number:	~~1 RP RB~~	Routine ☐	
P.O. Number:	1RP-3145, 1RP-3726, 1RP-4072	Rush: 24hr	
Sampler's Name:	Benjamin Belill	Due Date: 2/4/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.1/2.0	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
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)	Sample Comments
FS02	S	1/31/19	1030	4.5'	1	X	X	X	composite
FS03			1115	4.5'		X	X	X	
SW01			1145	0'-4.5'		X	X	X	
SW02			1210	0'-4.5'		X	X	X	
SW03			1450	0-2'		X	X	X	

ANALYSIS REQUEST

Work Order Notes

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

RT B 1/31/19

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			2/1/19 @ 1350	2		2/1/19 15:30
3			2/4/19 0800	4		
5				6		

Revised Date 051418 Rev. 2018.1

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/04/2019 08:00:00 AM

Work Order #: 613311

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 02/04/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 02/04/2019
Jessica Kramer

Analytical Report 613645

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Hat Mesa 31-32 TB

1RP-3143, 1RP-3726, 1RP-4072

11-FEB-19

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

11-FEB-19

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

Reference: XENCO Report No(s): **613645**
Hat Mesa 31-32 TB
Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 613645. 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. 613645 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.
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS04	S	02-04-19 12:10	4.5 ft	613645-001
FS05	S	02-04-19 12:30	8 ft	613645-002
FS06	S	02-04-19 13:00	8 ft	613645-003
SW07	S	02-04-19 13:10	0 - 8 ft	613645-004
SW09	S	02-04-19 13:15	0 - 4.5 ft	613645-005
SW08	S	02-04-19 13:20	0 - 4.5 ft	613645-006
SW04	S	02-04-19 13:25	0 - 4.5 ft	613645-007
SW05	S	02-04-19 14:00	0 - 8 ft	613645-008
SW06	S	02-04-19 15:35	0 - 8 ft	613645-009

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hat Mesa 31-32 TB

Project ID:	*1RP-3143, 1RP-3726, 1Rl*	Report Date:	*11-FEB-19*
Work Order Number(s):	*613645*	Date Received:	*02/06/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3078319 BTEX by EPA 8021B

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

Batch: LBA-3078364 Inorganic Anions by EPA 300

Lab Sample ID 613645-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 613645-001, -002, -003, -004, -005, -006, -007, -008, -009.

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

Certificate of Analysis Summary 613645

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32 TB

Project Id: 1RP-3143, 1RP-3726, 1RP-4072
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Feb-06-19 12:00 pm
Report Date: 11-FEB-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	613645-001		613645-002		613645-003		613645-004		613645-005		613645-006	
	Field Id:	FS04		FS05		FS06		SW07		SW09		SW08	
	Depth:	4.5- ft		8- ft		8- ft		0-8 ft		0-4.5 ft		0-4.5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-04-19 12:10		Feb-04-19 12:30		Feb-04-19 13:00		Feb-04-19 13:10		Feb-04-19 13:15		Feb-04-19 13:20	
BTEX by EPA 8021B	***Extracted:***	Feb-06-19 12:15		Feb-06-19 12:15		Feb-06-19 12:15		Feb-06-19 12:15		Feb-06-19 12:15		Feb-06-19 12:15	
	Analyzed:	Feb-06-19 17:29		Feb-06-19 17:55		Feb-06-19 18:40		Feb-06-19 19:02		Feb-06-19 19:30		Feb-06-19 19:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
m,p-Xylenes		<0.00400	0.00400	<0.00398	0.00398	<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398	<0.00392	0.00392
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00196	0.00196
Inorganic Anions by EPA 300	***Extracted:***	Feb-06-19 13:00		Feb-06-19 13:00		Feb-06-19 13:00		Feb-06-19 13:00		Feb-06-19 13:00		Feb-06-19 13:00	
	Analyzed:	Feb-06-19 21:11		Feb-06-19 21:17		Feb-06-19 21:29		Feb-06-19 21:23		Feb-06-19 21:48		Feb-06-19 21:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		306	4.98	286	24.9	383	5.00	179	25.0	<4.96	4.96	<4.99	4.99
TPH by SW8015 Mod	***Extracted:***	Feb-06-19 17:00		Feb-06-19 17:00		Feb-06-19 17:00		Feb-06-19 17:00		Feb-06-19 17:00		Feb-06-19 17:00	
	Analyzed:	Feb-07-19 00:09		Feb-07-19 00:30		Feb-07-19 00:50		Feb-07-19 01:11		Feb-07-19 02:11		Feb-07-19 02:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	15.2	15.0	<15.0	15.0	30.3	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	15.2	15.0	<15.0	15.0	30.3	15.0

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 613645

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32 TB

Project Id: 1RP-3143, 1RP-3726, 1RP-4072
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Wed Feb-06-19 12:00 pm
Report Date: 11-FEB-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	613645-007		613645-008		613645-009			
	Field Id:	SW04		SW05		SW06			
	Depth:	0-4.5 ft		0-8 ft		0-8 ft			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Feb-04-19 13:25		Feb-04-19 14:00		Feb-04-19 15:35			
BTEX by EPA 8021B	***Extracted:***	Feb-06-19 12:15		Feb-06-19 12:15		Feb-06-19 12:15			
	Analyzed:	Feb-06-19 20:18		Feb-06-19 20:43		Feb-06-19 21:05			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00201	0.00201		
Toluene		<0.00201	0.00201	<0.00200	0.00200	<0.00201	0.00201		
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200	<0.00201	0.00201		
m,p-Xylenes		<0.00402	0.00402	<0.00400	0.00400	0.00554	0.00402		
o-Xylene		<0.00201	0.00201	<0.00200	0.00200	<0.00201	0.00201		
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200	0.00554	0.00201		
Total BTEX		<0.00201	0.00201	<0.00200	0.00200	0.00554	0.00201		
Inorganic Anions by EPA 300	***Extracted:***	Feb-06-19 13:00		Feb-06-19 13:00		Feb-06-19 13:00			
	Analyzed:	Feb-06-19 22:15		Feb-06-19 22:22		Feb-06-19 22:28			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		232	4.97	93.8	5.00	90.6	4.98		
TPH by SW8015 Mod	***Extracted:***	Feb-06-19 17:00		Feb-06-19 17:00		Feb-06-19 17:00			
	Analyzed:	Feb-07-19 02:52		Feb-07-19 03:12		Feb-07-19 03:32			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		19.1	14.9	23.3	15.0	<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0		
Total TPH		19.1	14.9	23.3	15.0	<15.0	15.0		

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-001	Date Collected:	02.04.19 12.10	Sample Depth:	4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**306**	4.98	mg/kg	02.06.19 21.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 00.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.07.19 00.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 00.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.07.19 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.07.19 00.09	
o-Terphenyl	84-15-1	94	%	70-135	02.07.19 00.09	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-001	Date Collected:	02.04.19 12.10	Sample Depth:	4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.06.19 17.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.06.19 17.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.06.19 17.29	
1,4-Difluorobenzene	540-36-3	77	%	70-130	02.06.19 17.29	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-002	Date Collected:	02.04.19 12.30	Sample Depth:	8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**286**	24.9	mg/kg	02.06.19 21.17		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.07.19 00.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.07.19 00.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.07.19 00.30	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.07.19 00.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.07.19 00.30	
o-Terphenyl	84-15-1	97	%	70-135	02.07.19 00.30	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-002	Date Collected:	02.04.19 12.30	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.06.19 17.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.06.19 17.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	89	%	70-130	02.06.19 17.55	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.06.19 17.55	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-003	Date Collected:	02.04.19 13.00	Sample Depth:	8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**383**	5.00	mg/kg	02.06.19 21.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 00.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.07.19 00.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 00.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.07.19 00.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	02.07.19 00.50	
o-Terphenyl	84-15-1	85	%	70-135	02.07.19 00.50	

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LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-003	Date Collected:	02.04.19 13.00	Sample Depth:	8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.06.19 18.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.06.19 18.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	02.06.19 18.40	
1,4-Difluorobenzene	540-36-3	76	%	70-130	02.06.19 18.40	

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LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-004	Date Collected:	02.04.19 13.10	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**179**	25.0	mg/kg	02.06.19 21.23		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 01.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	**15.2**	15.0	mg/kg	02.07.19 01.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 01.11	U	1
Total TPH	PHC635	**15.2**	15.0	mg/kg	02.07.19 01.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.07.19 01.11	
o-Terphenyl	84-15-1	100	%	70-135	02.07.19 01.11	

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LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-004	Date Collected:	02.04.19 13.10	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.06.19 19.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.06.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.06.19 19.02	
1,4-Difluorobenzene	540-36-3	93	%	70-130	02.06.19 19.02	

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LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-005	Date Collected:	02.04.19 13.15	Sample Depth:	0 - 4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	02.06.19 21.48	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 02.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.07.19 02.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 02.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.07.19 02.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.07.19 02.11	
o-Terphenyl	84-15-1	110	%	70-135	02.07.19 02.11	

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LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-005	Date Collected:	02.04.19 13.15	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.06.19 19.30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.06.19 19.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	02.06.19 19.30	
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.06.19 19.30	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-006	Date Collected:	02.04.19 13.20	Sample Depth:	0 - 4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	02.06.19 21.54	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 02.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**30.3**	15.0	mg/kg	02.07.19 02.32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 02.32	U	1
Total TPH	PHC635	**30.3**	15.0	mg/kg	02.07.19 02.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.07.19 02.32	
o-Terphenyl	84-15-1	97	%	70-135	02.07.19 02.32	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-006	Date Collected:	02.04.19 13.20	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1
m,p-Xylenes	179601-23-1	<0.00392	0.00392	mg/kg	02.06.19 19.54	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1
Total BTEX		<0.00196	0.00196	mg/kg	02.06.19 19.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	02.06.19 19.54	
1,4-Difluorobenzene	540-36-3	86	%	70-130	02.06.19 19.54	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-007	Date Collected:	02.04.19 13.25	Sample Depth:	0 - 4.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**232**	4.97	mg/kg	02.06.19 22.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.07.19 02.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	**19.1**	14.9	mg/kg	02.07.19 02.52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	02.07.19 02.52	U	1
Total TPH	PHC635	**19.1**	14.9	mg/kg	02.07.19 02.52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.07.19 02.52	
o-Terphenyl	84-15-1	97	%	70-135	02.07.19 02.52	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-007	Date Collected:	02.04.19 13.25	Sample Depth:	0 - 4.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.06.19 20.18	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.06.19 20.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	02.06.19 20.18	
1,4-Difluorobenzene	540-36-3	85	%	70-130	02.06.19 20.18	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-008	Date Collected:	02.04.19 14.00	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**93.8**	5.00	mg/kg	02.06.19 22.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 03.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	**23.3**	15.0	mg/kg	02.07.19 03.12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 03.12	U	1
Total TPH	PHC635	**23.3**	15.0	mg/kg	02.07.19 03.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.07.19 03.12	
o-Terphenyl	84-15-1	95	%	70-135	02.07.19 03.12	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-008	Date Collected:	02.04.19 14.00	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.06.19 20.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.06.19 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	02.06.19 20.43	
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.06.19 20.43	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-009	Date Collected:	02.04.19 15.35	Sample Depth:	0 - 8 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	02.06.19 13.00	Basis:	Wet Weight
Seq Number:	3078364				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**90.6**	4.98	mg/kg	02.06.19 22.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.06.19 17.00	Basis:	Wet Weight
Seq Number:	3078382				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.07.19 03.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.07.19 03.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	02.07.19 03.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.07.19 03.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.07.19 03.32	
o-Terphenyl	84-15-1	94	%	70-135	02.07.19 03.32	

Certificate of Analytical Results 613645

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32 TB

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	02.06.19 12.00
Lab Sample Id:	613645-009	Date Collected:	02.04.19 15.35	Sample Depth:	0 - 8 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	02.06.19 12.15	Basis:	Wet Weight
Seq Number:	3078319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.06.19 21.05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.06.19 21.05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.06.19 21.05	U	1
m,p-Xylenes	179601-23-1	**0.00554**	0.00402	mg/kg	02.06.19 21.05		1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.06.19 21.05	U	1
Total Xylenes	1330-20-7	**0.00554**	0.00201	mg/kg	02.06.19 21.05		1
Total BTEX		**0.00554**	0.00201	mg/kg	02.06.19 21.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.06.19 21.05	
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.06.19 21.05	

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 613645

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078364 Matrix: Solid Date Prep: 02.06.19
MB Sample Id: 7671231-1-BLK LCS Sample Id: 7671231-1-BKS LCSD Sample Id: 7671231-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	244	98	228	91	90-110	7	20	mg/kg	02.06.19 19:47	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078364 Matrix: Soil Date Prep: 02.06.19
Parent Sample Id: 613604-001 MS Sample Id: 613604-001 S MSD Sample Id: 613604-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	260	104	247	99	90-110	5	20	mg/kg	02.06.19 20:06	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3078364 Matrix: Soil Date Prep: 02.06.19
Parent Sample Id: 613645-003 MS Sample Id: 613645-003 S MSD Sample Id: 613645-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	383	250	591	83	606	89	90-110	3	20	mg/kg	02.06.19 21:35	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3078382 Matrix: Solid Date Prep: 02.06.19
MB Sample Id: 7671259-1-BLK LCS Sample Id: 7671259-1-BKS LCSD Sample Id: 7671259-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	880	88	1040	104	70-135	17	20	mg/kg	02.06.19 20:43	
Diesel Range Organics (DRO)	<8.13	1000	998	100	1170	117	70-135	16	20	mg/kg	02.06.19 20:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	93		115		129		70-135	%	02.06.19 20:43
o-Terphenyl	95		101		121		70-135	%	02.06.19 20:43

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 613645

LT Environmental, Inc.

Hat Mesa 31-32 TB

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3078382 | Matrix: Soil | Date Prep: 02.06.19
Parent Sample Id: 613149-004 | MS Sample Id: 613149-004 S | MSD Sample Id: 613149-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	866	87	858	86	70-135	1	20	mg/kg	02.06.19 22:06	
Diesel Range Organics (DRO)	14.4	998	961	95	953	94	70-135	1	20	mg/kg	02.06.19 22:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		126		70-135	%	02.06.19 22:06
o-Terphenyl	105		103		70-135	%	02.06.19 22:06

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3078319 | Matrix: Solid | Date Prep: 02.06.19
MB Sample Id: 7671233-1-BLK | LCS Sample Id: 7671233-1-BKS | LCSD Sample Id: 7671233-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.123	122	0.108	108	70-130	13	35	mg/kg	02.06.19 14:53	
Toluene	<0.00202	0.101	0.0966	96	0.0830	83	70-130	15	35	mg/kg	02.06.19 14:53	
Ethylbenzene	<0.00202	0.101	0.119	118	0.105	105	70-130	13	35	mg/kg	02.06.19 14:53	
m,p-Xylenes	<0.00403	0.202	0.243	120	0.216	109	70-130	12	35	mg/kg	02.06.19 14:53	
o-Xylene	<0.00202	0.101	0.113	112	0.100	100	70-130	12	35	mg/kg	02.06.19 14:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		97		127		70-130	%	02.06.19 14:53
4-Bromofluorobenzene	93		100		103		70-130	%	02.06.19 14:53

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3078319 | Matrix: Soil | Date Prep: 02.06.19
Parent Sample Id: 613645-001 | MS Sample Id: 613645-001 S | MSD Sample Id: 613645-001 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	0.0998	0.112	112	0.0950	95	70-130	16	35	mg/kg	02.06.19 15:39	
Toluene	<0.00200	0.0998	0.0849	85	0.0818	82	70-130	4	35	mg/kg	02.06.19 15:39	
Ethylbenzene	<0.00200	0.0998	0.111	111	0.0908	91	70-130	20	35	mg/kg	02.06.19 15:39	
m,p-Xylenes	<0.00399	0.200	0.233	117	0.185	92	70-130	23	35	mg/kg	02.06.19 15:39	
o-Xylene	<0.00200	0.0998	0.106	106	0.0859	86	70-130	21	35	mg/kg	02.06.19 15:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		107		70-130	%	02.06.19 15:39
4-Bromofluorobenzene	99		81		70-130	%	02.06.19 15:39

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

Work Order No: 613645

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:	Adrian Baker	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E. Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	bbellil@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:	Hat Mesa 31-32 TB	Turn Around	
Project Number:	1RP-3143, 1RP-3726, 1RP-4072	Routine ☐	
P.O. Number:		Rush: 24hr	
Sampler's Name:	Benjamin Belill	Due Date: 2/6/19	

SAMPLE RECEIPT

Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4.1/4.0	Thermometer ID	R8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.1
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 8021)	Chloride (EPA 300.0)	Sample Comments
FS04	S	2/4/19	1210	4.5'	1	X	X	X	Composite Type
FS05			1230	8'		X	X	X	
FS06			1300	8'		X	X	X	
SW07			1310	0-8'		X	X	X	
SW09			1315	0-4.5'		X	X	X	
SW08			1320	0-4.5'		X	X	X	
SW04			1325	0-4.5'		X	X	X	
SW05			1400	0-8'		X	X	X	
SW06	↓	↓	1535	0-8'	↓	X	X	X	↓

Work Order Notes

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

ANALYSIS REQUEST

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
1			02/05/19 14:33	2		2/5/19 15:30
3			2/6/19 1200	4		
5				6		

Revised Date 051418 Rev. 2018.1

7742 9905 0947

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/06/2019 12:00:00 PM

Work Order #: 613645

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Katie Lowe Date: 02/06/2019

Checklist reviewed by: Jessica Kramer Date: 02/06/2019

Jessica Kramer

Analytical Report 623516

for

LT Environmental, Inc.

Project Manager: Ashley Ager

Hat Mesa 31-32

09-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

09-MAY-19

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

Reference: XENCO Report No(s): **623516**
Hat Mesa 31-32
Project Address: Delaware Basin

Ashley Ager:

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) 623516. 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. 623516 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,

Kalei Stout

Kalei Stout
Midland Laboratory Director

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH05A	S	05-03-19 13:30	3 ft	623516-001
PH08	S	05-03-19 10:00	3 ft	623516-002
PH08A	S	05-03-19 10:05	4 ft	623516-003
PH09	S	05-03-19 10:54	3 ft	623516-004
PH09A	S	05-03-19 10:56	4 ft	623516-005

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Hat Mesa 31-32

Project ID:
Work Order Number(s): *623516*

Report Date: *09-MAY-19*
Date Received: *05/08/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3088450 BTEX by EPA 8021B

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

Certificate of Analysis Summary 623516

LT Environmental, Inc., Arvada, CO

Project Name: Hat Mesa 31-32

Project Id:
Contact: Ashley Ager
Project Location: Delaware Basin

Date Received in Lab: Wed May-08-19 01:23 pm
Report Date: 09-MAY-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	623516-001		623516-002		623516-003		623516-004		623516-005	
	Field Id:	PH05A		PH08		PH08A		PH09		PH09A	
	Depth:	3- ft		3- ft		4- ft		3- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-03-19 13:30		May-03-19 10:00		May-03-19 10:05		May-03-19 10:54		May-03-19 10:56	
BTEX by EPA 8021B	*Extracted:*	May-08-19 14:00		May-08-19 14:00		May-08-19 14:00		May-08-19 14:00		May-08-19 14:00	
	Analyzed:	May-08-19 23:54		May-09-19 00:13		May-09-19 00:32		May-09-19 00:51		May-09-19 02:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00397	0.00397	<0.00402	0.00402	<0.00398	0.00398	<0.00400	0.00400	<0.00402	0.00402
o-Xylene		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201
Chloride by EPA 300	*Extracted:*	May-08-19 16:00		May-08-19 16:00		May-08-19 16:00		May-08-19 16:30		May-08-19 16:30	
	Analyzed:	May-09-19 00:15		May-09-19 00:22		May-09-19 00:29		May-09-19 01:14		May-09-19 01:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.67	5.03	8.42	5.00	6.78	5.00	118	5.02	241	4.98
TPH by SW8015 Mod	*Extracted:*	May-08-19 14:00		May-08-19 14:00		May-08-19 14:00		May-08-19 14:00		May-08-19 14:00	
	Analyzed:	May-09-19 07:30		May-09-19 08:29		May-09-19 08:48		May-09-19 09:08		May-09-19 09:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	17.7	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	17.7	15.0
Total GRO-DRO		<15.0	15.0	<14.9	14.9	<15.0	15.0	<14.9	14.9	17.7	15.0

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

Kalei Stout
Midland Laboratory Director

Final 1.000

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-001	Date Collected:	05.03.19 13.30	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 16.00	Basis:	Wet Weight
Seq Number:	3088395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.67**	5.03	mg/kg	05.09.19 00.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088488				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.09.19 07.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.09.19 07.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.09.19 07.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.19 07.30	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.09.19 07.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.09.19 07.30	
o-Terphenyl	84-15-1	107	%	70-135	05.09.19 07.30	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-001	Date Collected:	05.03.19 13.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.08.19 23.54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.08.19 23.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	73	%	70-130	05.08.19 23.54	
1,4-Difluorobenzene	540-36-3	90	%	70-130	05.08.19 23.54	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH08**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-002	Date Collected:	05.03.19 10.00	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 16.00	Basis:	Wet Weight
Seq Number:	3088395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.42**	5.00	mg/kg	05.09.19 00.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088488				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.09.19 08.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.09.19 08.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.09.19 08.29	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.09.19 08.29	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	05.09.19 08.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.09.19 08.29	
o-Terphenyl	84-15-1	107	%	70-135	05.09.19 08.29	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH08**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-002	Date Collected:	05.03.19 10.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.09.19 00.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.09.19 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.09.19 00.13	
4-Bromofluorobenzene	460-00-4	90	%	70-130	05.09.19 00.13	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-003	Date Collected:	05.03.19 10.05	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 16.00	Basis:	Wet Weight
Seq Number:	3088395				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.78**	5.00	mg/kg	05.09.19 00.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088488				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.09.19 08.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.09.19 08.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.09.19 08.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.19 08.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.09.19 08.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	05.09.19 08.48	
o-Terphenyl	84-15-1	108	%	70-135	05.09.19 08.48	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-003	Date Collected:	05.03.19 10.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.09.19 00.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.09.19 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.09.19 00.32	
4-Bromofluorobenzene	460-00-4	86	%	70-130	05.09.19 00.32	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-004	Date Collected:	05.03.19 10.54	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 16.30	Basis:	Wet Weight
Seq Number:	3088402				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**118**	5.02	mg/kg	05.09.19 01.14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088488				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.09.19 09.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.09.19 09.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.09.19 09.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.09.19 09.08	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	05.09.19 09.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	05.09.19 09.08	
o-Terphenyl	84-15-1	118	%	70-135	05.09.19 09.08	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH09**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-004	Date Collected:	05.03.19 10.54	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.09.19 00.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.19 00.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.09.19 00.51	
4-Bromofluorobenzene	460-00-4	77	%	70-130	05.09.19 00.51	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-005	Date Collected:	05.03.19 10.56	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.08.19 16.30	Basis:	Wet Weight
Seq Number:	3088402				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**241**	4.98	mg/kg	05.09.19 01.36		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088488				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.09.19 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**17.7**	15.0	mg/kg	05.09.19 09.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.09.19 09.28	U	1
Total TPH	PHC635	**17.7**	15.0	mg/kg	05.09.19 09.28		1
Total GRO-DRO	PHC628	**17.7**	15.0	mg/kg	05.09.19 09.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	05.09.19 09.28	
o-Terphenyl	84-15-1	110	%	70-135	05.09.19 09.28	

Certificate of Analytical Results 623516

LT Environmental, Inc., Arvada, CO

Hat Mesa 31-32

Sample Id:	**PH09A**	Matrix:	Soil	Date Received:	05.08.19 13.23
Lab Sample Id:	623516-005	Date Collected:	05.03.19 10.56	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.08.19 14.00	Basis:	Wet Weight
Seq Number:	3088450				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.09.19 02.05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.09.19 02.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	05.09.19 02.05	
1,4-Difluorobenzene	540-36-3	94	%	70-130	05.09.19 02.05	

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 623516

LT Environmental, Inc.

Hat Mesa 31-32

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088395 Matrix: Solid Date Prep: 05.08.19
MB Sample Id: 7677453-1-BLK LCS Sample Id: 7677453-1-BKS LCSD Sample Id: 7677453-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	253	101	90-110	0	20	mg/kg	05.08.19 20:57	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088402 Matrix: Solid Date Prep: 05.08.19
MB Sample Id: 7677454-1-BLK LCS Sample Id: 7677454-1-BKS LCSD Sample Id: 7677454-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	256	102	256	102	90-110	0	20	mg/kg	05.09.19 00:59	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088395 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623514-001 MS Sample Id: 623514-001 S MSD Sample Id: 623514-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.74	249	261	103	262	103	90-110	0	20	mg/kg	05.08.19 21:18	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088395 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623514-011 MS Sample Id: 623514-011 S MSD Sample Id: 623514-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.37	248	264	104	262	103	90-110	1	20	mg/kg	05.08.19 23:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088402 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623516-004 MS Sample Id: 623516-004 S MSD Sample Id: 623516-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	118	251	393	110	381	105	90-110	3	20	mg/kg	05.09.19 01:21	

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 623516

LT Environmental, Inc.

Hat Mesa 31-32

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088402 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623602-004 MS Sample Id: 623602-004 S MSD Sample Id: 623602-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1230	263	1450	84	1460	87	90-110	1	20	mg/kg	05.09.19 03:04	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088488 Matrix: Solid Date Prep: 05.08.19
MB Sample Id: 7677517-1-BLK LCS Sample Id: 7677517-1-BKS LCSD Sample Id: 7677517-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1180	118	1170	117	70-135	1	20	mg/kg	05.09.19 06:50	
Diesel Range Organics (DRO)	<8.13	1000	1170	117	1160	116	70-135	1	20	mg/kg	05.09.19 06:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		130		129		70-135	%	05.09.19 06:50
o-Terphenyl	94		129		126		70-135	%	05.09.19 06:50

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088488 Matrix: Soil Date Prep: 05.08.19
Parent Sample Id: 623516-001 MS Sample Id: 623516-001 S MSD Sample Id: 623516-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	1030	103	1040	104	70-135	1	20	mg/kg	05.09.19 07:49	
Diesel Range Organics (DRO)	11.0	999	1040	103	1060	105	70-135	2	20	mg/kg	05.09.19 07:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		125		70-135	%	05.09.19 07:49
o-Terphenyl	112		120		70-135	%	05.09.19 07:49

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 623516

LT Environmental, Inc.

Hat Mesa 31-32

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3088450 Matrix: Solid Date Prep: 05.08.19

MB Sample Id: 7677504-1-BLK LCS Sample Id: 7677504-1-BKS LCSD Sample Id: 7677504-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.0880	88	0.0896	90	70-130	2	35	mg/kg	05.08.19 20:04	
Toluene	<0.000455	0.0998	0.0841	84	0.0858	86	70-130	2	35	mg/kg	05.08.19 20:04	
Ethylbenzene	<0.000564	0.0998	0.0923	92	0.0941	94	70-130	2	35	mg/kg	05.08.19 20:04	
m,p-Xylenes	<0.00101	0.200	0.190	95	0.195	97	70-130	3	35	mg/kg	05.08.19 20:04	
o-Xylene	<0.000344	0.0998	0.0954	96	0.0991	99	70-130	4	35	mg/kg	05.08.19 20:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		100		104		70-130	%	05.08.19 20:04
4-Bromofluorobenzene	77		79		81		70-130	%	05.08.19 20:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3088450 Matrix: Soil Date Prep: 05.08.19

Parent Sample Id: 623515-001 MS Sample Id: 623515-001 S MSD Sample Id: 623515-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000387	0.101	0.0824	82	0.0858	86	70-130	4	35	mg/kg	05.08.19 20:43	
Toluene	<0.000458	0.101	0.0771	76	0.0786	79	70-130	2	35	mg/kg	05.08.19 20:43	
Ethylbenzene	<0.000568	0.101	0.0844	84	0.0870	87	70-130	3	35	mg/kg	05.08.19 20:43	
m,p-Xylenes	<0.00102	0.201	0.174	87	0.179	90	70-130	3	35	mg/kg	05.08.19 20:43	
o-Xylene	<0.000346	0.101	0.0889	88	0.0921	92	70-130	4	35	mg/kg	05.08.19 20:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		70-130	%	05.08.19 20:43
4-Bromofluorobenzene	82		86		70-130	%	05.08.19 20:43

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

Work Order No: 1bz3516

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

Page 1 of 1

Project Manager:	Ashley Ager	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:	aager@ltenv.com rmcafee@ltenv.com

Work Order Comments

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

Project Name:	Hat Mesa 31-32	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	IRP - 3143	Rush: 24hr	
Sampler's Name:	Robert McAfee	Due Date: 5/8/19	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	0.3/0.2	Thermometer ID:	
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.1
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)
PH05A	S	05/03/19	1330	3'	1	X	X	X
PH08			1000	3'		X	X	X
PH08A			1005	4'		X	X	X
PH09			1054	3'		X	X	X
PH09A			1056	4'		X	X	X

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Robert McAfee		5/7/19@0920	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/08/2019 01:23:00 PM

Work Order #: 623516

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/08/2019

Brianna Teel

Checklist reviewed by: Date:

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LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH01	Date: 10/26/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.534993,-103.700769	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.	Logged By: BEN BELILL	Method: Backhoe
		Hole Diameter: NA	Total Depth: 4'

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			OPEN EXCAVATION
					1			
M	<112	4.3	N	FS01	2	2'		
							Caliche	CALICHE, moist, light brown - tan, moderately consolidated, no odor
M	<112	2.0	N	PH01B	3	3'		
M	<112	3.3	N	PH01C	4	4'		
					5			End of Pothole @ 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier: PH02	Date: 10/26/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072
Logged By: BEN BELILL	Method: Backhoe
Hole Diameter: N/A	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.534993,-103.700769

Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		(SM)	Silty SAND, brown - dark brown, m.-f., poorly graded, moist, no odor
M	<112	0.2	N	PH02	1	1'		
M	<112	3.3	N	PH02A	2	2'	Caliche	CALICHE, moderately consolidated, light Brown - tan, moist, no odor
M	<112	1.4	N	PH02B	3	3'		
M	<112	3.4	N	PH02C	4	4'		
					5			End of pothole @ 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Carlsbad, New Mexico 88220
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Identifier:	Date:
PH03	10/26/18
Project Name: HAT MESA 31-32 TB	**RP Number:** 1RP-3143, 1RP-3726, 1RP-4072

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: BEN BELILL	Method: Backhoe
Lat/Long: 32.534993,-103.700769	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: N/A	Total Depth: 4'

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		(SM)	silty SAND, brown - dark brown, m. - f., poorly graded, moist, trace clay
M	<112	2.5	N	PH03	1	1'		
					2		Caliche	CALICHE, moderately consolidated, light brown - tan, moist, no odor
M	<112	2.7	N	PH03A		2'		
M	<112	1.2	N	PH03B	3	3'		
M	<112	2.4	N	PH03C	4	4'		
					5			↑ End of pothole @ 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier: PH04	Date: 10/25/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072
Logged By: BEN BELILL	Method: BACKHOE
Hole Diameter: N/A	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.534993, -103.700769

Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		(SM)	silty SAND, dark brown - brown, m. - f., poorly graded, moist, no odor
M	396	7.6	N	PH04	1	1'		
M	550	22.1	N	PH04A	2	2'	Caliche	CALICHE, light brown - tan, moderately consolidated, moist, trace odor.
M	1056	27.1	N	PH04B	3	3'		
M	876	27.0	N	PH04C	4	4'		
					5			↑ End of Pothole @ 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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Identifier:	Date:
PH05	10/26/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072
Logged By: BEN BELILL	Method: ~~BACKHOE~~ Hand Auger
Lat/Long: 32.534993, -103.700769	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: N/A	Total Depth: 1'

LITHOLOGIC / SOIL SAMPLING LOG

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		(SM)	Silty SAND, dark brown - brown, m.-f., poorly graded, moist, no odor
M	<112	3.2	N	PH05	1	1'		
					2			↑ Auger refusal @ 1', caliche (Backhoe could not access)
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
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Identifier:	Date:
PH06	10/26/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072
Logged By: BEN BELILL	Method: BACKHOE
Lat/Long: 32.534993, -103.700769	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.
Hole Diameter: N/A	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comment: All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		Caliche	CALICHE, moist, poorly consolidated, light brown, no odor, fill.
m	876	3.5	N	PH06	1	1'	(SP-SM)	SAND, dark brown, m.-f., poorly graded, trace silt, moist, no odor.
m	396	3.6	N	PH06A	2	2'	Caliche	CALICHE, moist, moderately - well consolidated, light brown - tan, no odor
m	473	3.2	N	PH06B	3	3'		
m	473	2.3	N	PH06C	4	4'		End of pothole @ 4'
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
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Identifier: PH07	Date: 10/26/18
Project Name: HAT MESA 31-32 TB	RP Number: 1RP-3143, 1RP-3726, 1RP-4072

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: 32.534993,-103.700769	Field Screening: CHLORIDES, TPH, BTEX, GRO, DRO, and MRO.	Logged By: BEN BELILL	Method: Backhoe
		Hole Diameter: N/A	Total Depth: 4'

Comment All Chloride test include a 60% error factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
M	<112	0.7	N	PH07	1	1'	(SM)	silty SAND, dark brown – brown, me – f., poorly graded, moist, no odor.
M	876	1.2	N	PH07A	2	2'		
M	396	1.6	N	PH07B	3	3'		CALICHE, poorly consolidated, light brown – ~~brown~~ tan, moist, no odor.
M	876	1.6	N	PH07C	4	4'		End of Bthole @ 4'
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH08	Date: 05/03/19
Project Name: Hat Mesa	RP Number:
Logged By: Robert M.	Method: Pot hole
Lat/Long:	Field Screening:
Hole Diameter: 2ft	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0950 dry	<124	0.5	N		0–1	1'	S	Caliche trace sand white tan PG
0955 dry	<124	0.7	N		2	2'	S	Caliche white PG
1000 dry	<124	1.4	N		3	3'	S	Caliche white PG
1005 dry	<124	0.7	N		4	4'	S	Caliche white PG

5 6 7 8 9 10 11 12

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Identifier: BH09	Date: 05/03/19
Project Name: Hat Mesa	RP Number:
Logged By: Robert M.	Method: Pot hole
Hole Diameter:	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: Field Screening:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1050 dry	<124	0.1	N		0–1	1'	S	silty sand trace Caliche PG Brown
1054 dry	<124	0.2	N		1–2	2'	S	silty sand trace Caliche PG Brown
1056 dry	<124	0.7	N		2–3	3'	S	Caliche trace Clay PG Brown tan
1057 dry	200	0.4	N		3–4	4'	S	Caliche white HG

4 5 6 7 8 9 10 11 12

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
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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 200127

CONDITIONS

Operator: BOPCO, L.P. 6401 Holiday Hill Rd Midland, TX 79707	OGRID: 260737
	Action Number: 200127
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Deferral approved. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	3/27/2023