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

June 7, 2019

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
James Ranch Unit #111H
Remediation Permit Number 2RP-5331
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing the excavation of impacted soil and soil sampling activities at the James Ranch Unit #111H (Site) in Unit J, Section 8, Township 23 South, Range 31 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after a release of crude oil and produced water at the Site.

On March 9, 2019, a corroded flow line released approximately 2.4 barrels (bbls) of crude oil and 3.6 bbls of produced water onto the caliche well pad. A vacuum truck was dispatched to the Site to recover the free-standing fluid; approximately 0.4 bbls of crude oil and 0.6 bbls of produced water were recovered. The corroded section of flow line was replaced. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on March 22, 2019, and was assigned Remediation Permit (RP) Number 2RP-5331 (Attachment 1). Based on the excavation activities and results of the soil sampling events, XTO is submitting this closure report and requesting no further action for this release event.

BACKGROUND

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well is United States Geological Survey (USGS) well 321918103484302 23S.31E.07.21424A, located approximately 4,527 feet west-northwest of the Site, with a depth to groundwater of 82 feet bgs and a total depth of 160 feet bgs. The water well is 27 feet lower in elevation than the Site. The nearest continuously flowing water or significant watercourse to the Site is an unnamed dry wash located approximately 7,086 feet west-northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence,

school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is in a low potential karst area. 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); 2,500 mg/kg total petroleum hydrocarbons (TPH); 1,000 mg/kg TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO); and 10,000 mg/kg chloride.

PRELIMINARY SOIL SAMPLING ACTIVITIES

On March 21, 2019, LTE personnel inspected the Site to evaluate the release extent. Surface staining was observed in the release area on the well pad. The release extent was mapped using a handheld Global Positing System (GPS) unit and is depicted on Figure 2. LTE personnel collected three preliminary soil samples (SS01 through SS03) within the release area from a depth of 0.5 feet bgs to assess the lateral extent of soil impacts. The soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The soil samples were 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-GRO, TPH-DRO, and TPH-oil range organics (ORO) by USEPA Method 8015M/D, and chloride by USEPA Method 300.0.

Laboratory analytical results indicated that GRO/DRO and TPH concentrations exceeded the NMOCD Table 1 closure criteria in preliminary soil samples SS01 through SS03, and BTEX concentrations exceeded the NMOCD Table 1 closure criteria in preliminary soil sample SS02. Laboratory analytical results indicated that chloride concentrations exceeded the U.S. Bureau of Land Management (BLM) preferred chloride closure criteria of 600 mg/kg in the top 4 feet of the subsurface in preliminary soil samples SS02 and SS03.

Based on the laboratory analytical results, potholing was scheduled to delineate the lateral and vertical extent of impacted soil and direct excavation activities. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2.

DELINEATION SOIL SAMPLING ACTIVITIES

On May 15 and May 16, 2019, LTE personnel returned to the Site to oversee potholing and boreholing activities to delineate the lateral and vertical extent of impacted soil in the release area and direct excavation activities. PH01 and PH02 were advanced via backhoe to depths of 12 feet and 14 feet bgs, respectively. Boreholes BH01 and BH02 were advanced via hand auger to a depth of 4 feet bgs. Soil was field screened in the potholes and borehole using a PID and Hach®

chloride QuanTab® test strips. One delineation soil sample was collected for laboratory analysis from each pothole PH01 and PH02, from depths of 12 feet bgs and 14 feet bgs, respectively. Two delineation soil samples were collected for laboratory analysis from each borehole BH01 and BH02 beneath preliminary samples SS01 and SS03. Delineation soil samples BH01 and BH02 were collected from a depth of 1 foot bgs and delineation soil samples BH01A and BH02A were collected from a depth of 4 feet bgs. The delineation soil samples were collected, handled and analyzed as described above and submitted to Xenco in Midland, Texas. The delineation soil sample locations and depths are presented on Figure 3 and soil sample logs are included as Attachment 3.

Laboratory analytical results indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria in delineation soil samples PH01, PH02, BH01, BH01A, BH02, and BH02A. Laboratory analytical results indicated that chloride concentrations were compliant with the BLM preferred chloride closure criteria of 600 mg/kg in all delineation soil samples collected at or above 4 feet bgs. Laboratory analytical results are presented on Figure 3 and summarized in Table 1 and the laboratory analytical report is included in Attachment 2.

EXCAVATION ACTIVITIES

During May, 2019, LTE personnel were at the Site to oversee excavation activities as indicated by potholing activities, laboratory analytical results, and the documented release area. 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 from the release area to a depth of 4.5 feet to 6 feet bgs in the southwest portion of the excavation, and to a depth of 6 feet to 12 feet bgs in the northeast portion of the excavation. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite soil samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW13 were collected from the sidewalls of the excavation from depths ranging from 0 to 12 feet bgs. Composite soil samples FS01 through FS06 were collected from the floor of the excavation from depths ranging from 4.5 feet bgs to 12 feet bgs. The excavation soil sample locations and depths are presented on Figure 4. The soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas.

The excavation measured approximately 2,011 square feet in area with a depth ranging from 4.5 feet to 12 feet bgs. The horizontal extent of the excavation is illustrated on Figure 4. Approximately 700 cubic yards of impacted soil were removed from the excavation via backhoe. The impacted soil was transported and properly disposed of at the Lea Land landfill facility located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated that BTEX and/or TPH and GRO/DRO concentrations exceeded the NMOCD Table 1 closure criteria in preliminary soil samples SS01 through SS03. Impacted soil was excavated from the release area to the extent possible. Laboratory analytical results for delineation soil samples PH01, PH02, BH01, BH01A, BH02, BH02A, and excavation soil samples SW01 through SW13 and FS01 through FS06, collected from the final excavation extent, indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. All excavation soil samples contained chloride concentrations less than 600 mg/kg in the top 4 feet of the subsurface except sidewall samples SW01 and SW03, collected from 0 to 5 feet bgs, which contained chloride concentrations of 2,230 mg/kg and 1,020 mg/kg, respectively.

Further excavation of impacted soil in the area of sidewall samples SW01 and SW03, collected from the southern sidewall of the final excavation extent, was limited by the proximity of an active roadway. XTO safety policy restricts soil disturbing activities to a 2-foot radius of any active roadway. This safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the roadway. This policy had to be enforced along the southern sidewall of the excavation where soil exceeding the BLM preferred closure criteria of 600 mg/kg for chloride in the top 4 feet of the subsurface was identified within 2 feet of the roadway. Laboratory analytical results are presented on Figure 2 through Figure 4 and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

A total of approximately 700 cubic yards of impacted soil were excavated from the SiteAlthought laboratory analytical results for all excavation samples were in compliance with NMOCD Table 1 closure criteria, excavation sidewall samples SW01 and SW03 indicated that soil exceeding the BLM preferred closure criteria of 600 mg/kg for chloride in the top 4 feet of the subsurface was left in place within 2 feet of the roadway. The excavation was advanced to within 2 feet from the roadway to remove as much impacted soil as possible. Soil with chloride concentrations exceeding 600 mg/kg in the top 4 feet of the subsurface is limited to the area adjacent to the roadway and is delineated vertically and laterally by delineation soil samples BH01, BH01A, BH02, BH02A, and excavation soil samples SW02, SW04, SW12, SW13, and FS01 through FS03.

Laboratory analytical results indicated that BTEX, TPH, GRO/DRO, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria in all delineation and excavation soil samples. Soil with chloride concentrations exceeding the BLM preferred chloride concentration of 600 mg/kg in the top 4 feet of the subsurface was left in-place in the roadway south of excavation sidewall samples SW01 and SW03. LTE and XTO do not believe that the soil with chloride concentrations ranging from 1,020 mg/kg to 2,230 mg/kg will result in imminent risk to human health, the environment, or groundwater. No saturated soil remains in place, no soil

exceeding 600 mg/kg chloride remains at the ground surface or in the root zone of an area to be reclaimed immediately.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for release number 2RP-5331. Upon approval of this closure request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1. A photographic log of the Site is included as Attachment 4.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Ashley L. Ager

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Jim Amos, BLM
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141 (2RP-5331)
Attachment 2	Laboratory Analytical Reports
Attachment 3	Soil Sample Logs
Attachment 4	Photographic Log

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

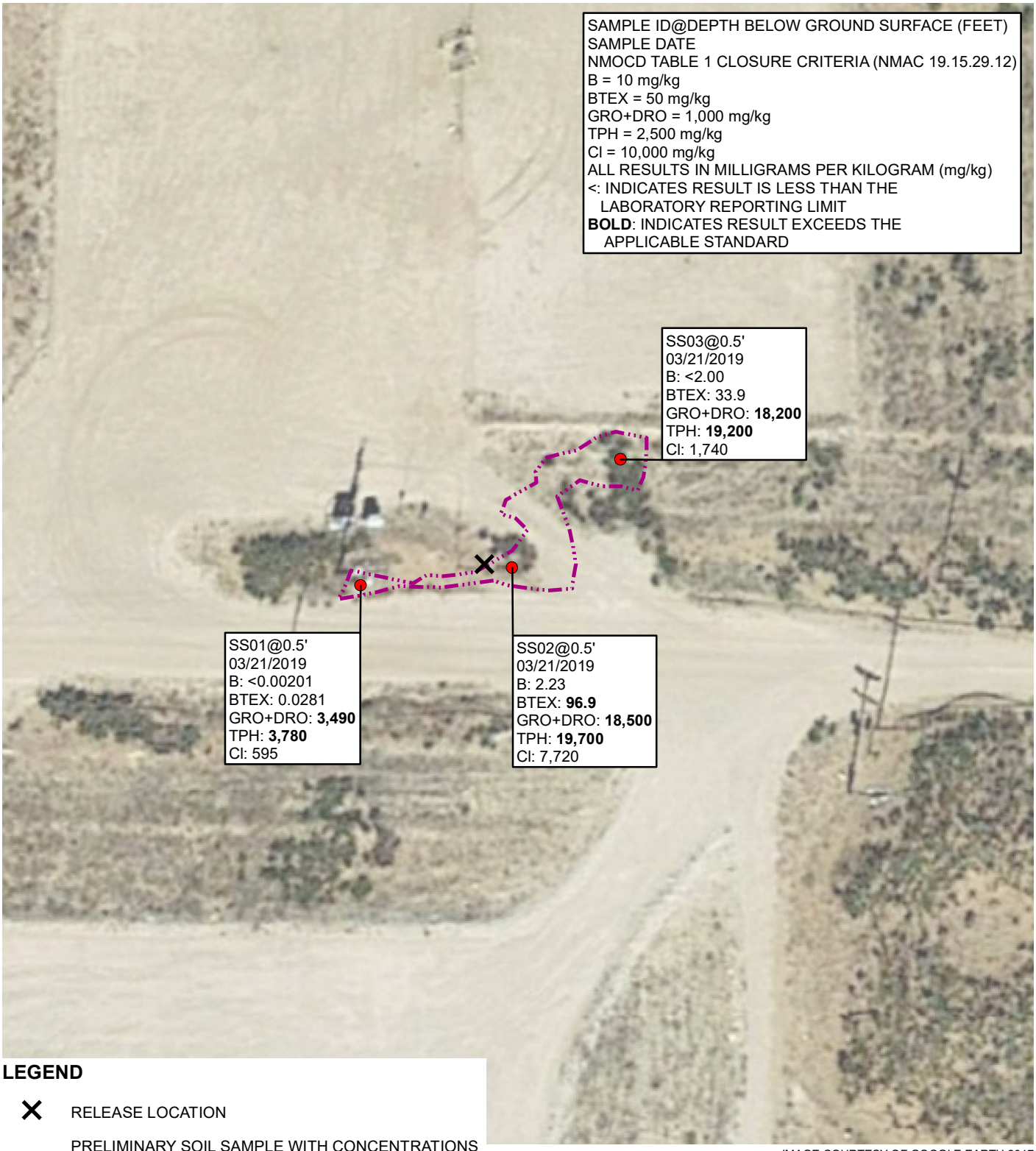
N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-5331

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT #111H
UNIT J SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919046_JAMES RANCH UNIT #111H\012919046_FIG01_SL_2019_5331.mxd



LEGEND

- RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE STANDARDS
- RELEASE EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5331

IMAGE COURTESY OF GOOGLE EARTH 2017

0 40 80
Feet

N

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #111H
UNIT J SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

C:\Users\RRudolph\Desktop\012919046_FIG02_PRELIMINARY SS_2019_5331.mxd

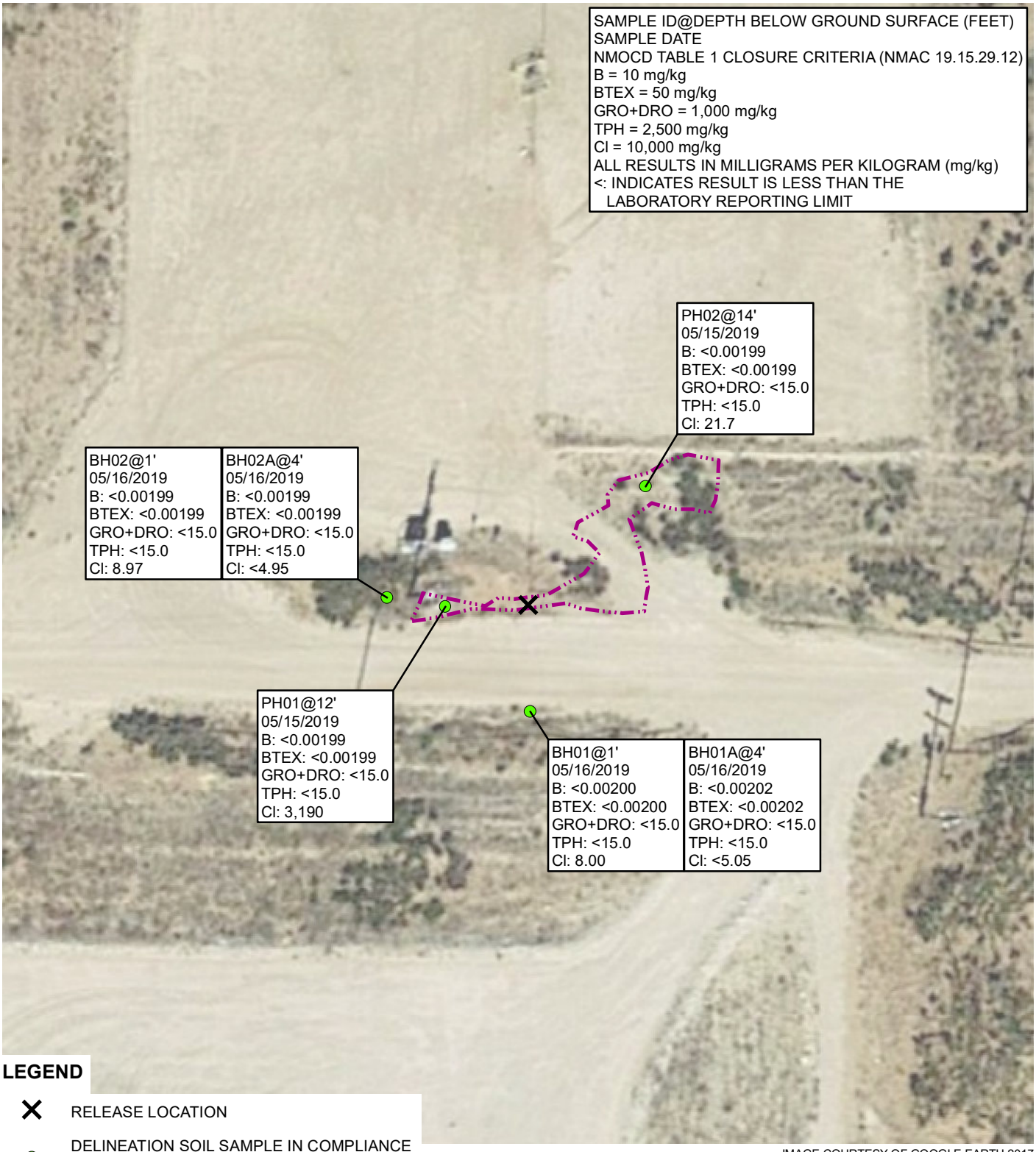


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- RELEASE EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5331

0 40 80
Feet

N

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #111H
UNIT J SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919046_JAMES RANCH UNIT #111H\012919046_FIG04_DELINEATION_2019_5331.mxd

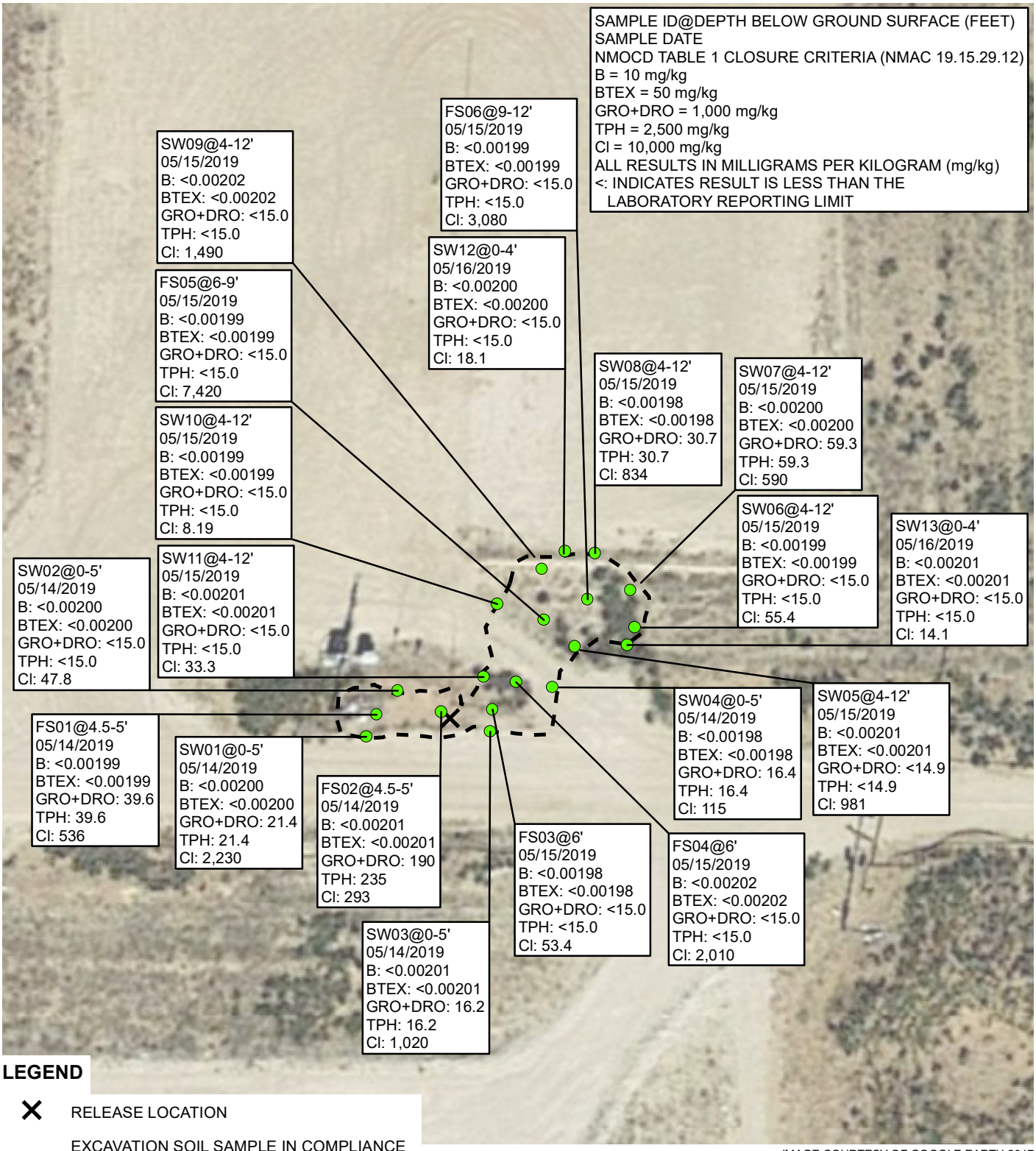


IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- RELEASE LOCATION
- EXCAVATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE STANDARDS
- EXCAVATION EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO – GASOLINE RANGE ORGANICS
DRO – DIESEL RANGE ORGANICS
TPH – TOTAL PETROLEUM HYDROCARBONS
Cl - CHLORIDE
NMAC – NEW MEXICO ADMINISTRATIVE CODE
NMOCD – NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5331

0 40 80
Feet

N

FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #111H
UNIT J SEC 8 T23S R31E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919046_JAMES RANCH UNIT #111H\012919046_FIG03_EXCAVATION_2019_5331.mxd

TABLE 1
SOIL ANALYTICAL RESULTS

JAMES RANCH UNIT #111H
REMEDIATION PERMIT NUMBER 2RP-5331
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	03/21/2019	<0.00201	0.0102	0.00440	0.0135	0.0281	173	3,320	283	**3,490**	**3,780**	595
SS02	0.5	03/21/2019	2.23	20.8	13.4	60.5	**96.9**	5,320	13,200	1,210	**18,500**	**19,700**	7,270
SS03	0.5	03/21/2019	<2.00	2.29	4.18	27.5	33.9	2,910	15,300	1,020	**18,200**	**19,200**	1,740
PH01	12	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	3,190
PH02	14	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	21.7
BH01	1	05/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	8.00
BH01A	4	05/16/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	<5.05
BH02	1	05/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	8.97
BH02A	4	05/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.95
FS01	4.5-5	05/14/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	39.6	<15.0	39.6	39.6	536
FS02	4.5-5	05/14/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	190	45.4	190	235	293
FS03	6	05/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	53.4
FS04	6	05/15/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	2,010
FS05	6-9	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	7,420
FS06	9-12	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	3,080
SW01	0-5	05/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	21.4	<15.0	21.4	21.4	2,230
SW02	0-5	05/14/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	47.8
SW03	0-5	05/15/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	16.2	<15.0	16.2	16.2	1,020
SW04	0-5	05/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	16.4	<15.0	<15.0	16.4	16.4	115
SW05	4-12	05/15/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	981
SW06	4-12	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	55.4
SW07	4-12	05/15/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	59.3	<15.0	59.3	59.3	590
SW08	4-12	05/15/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	30.7	<14.9	30.7	30.7	834
SW09	4-12	05/15/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	1,490
SW10	4-12	05/15/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	8.19
SW11	4-12	05/15/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	33.3
SW12	0-4	05/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	18.1
SW13	0-4	05/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	14.1
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**10,000**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
Bold - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018
TPH - total petroleum hydrocarbons

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	NAB1909530725
District RP	2RP-5331
Facility ID	
Application ID	pAB1909529908

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)* NAB1909530725
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.317103° Longitude -103.797016°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit #111H	Site Type Production Well Facility
Date Release Discovered 3/9/2019	API# *(if applicable)* 30-015-38120

Unit Letter	Section	Township	Range	County
J	8	23S	31E	Eddy

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

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) 2.4	Volume Recovered (bbls) 0.4
☒ Produced Water	Volume Released (bbls) 3.6	Volume Recovered (bbls) 0.6
	Is the concentration of total dissolved solids (TDS) 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 release of fluid occurred from the flow line due to corrosion. A vacuum truck recovered standing fluid. The section of flow line was replaced. Additional third party resources have been retained to assist with remediation.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1909530725
District RP	2RP-5331
Facility ID	
Application ID	pAB1909529908

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

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: [signature] Date: 3-22-19

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

OCD Only

Received by: [signature] Date: 4/4/2019

Location:	JRU 111H (30-015-38120)	
Spill Date:	3/9/2019	

Length of Spill=	85.00	feet
Width of Spill=	65.00	feet
Saturation (or depth) of Spill=	2.00	inches
Approximate Oil %	40	
Porosity Factor=	0.03	
Volume Recovered=	1.00	bbls

VOLUME OF LEAK		
Total Oil=	2.4	barrels
Total Produced Water=	3.6	barrels

VOLUME RECOVERED

Total Oil=	0.4	barrels
Total Produced Water=	0.6	barrels

State of New Mexico
Oil Conservation Division

Incident ID	NAB1909530725
District RP	2RP-5331
Facility ID	
Application ID	pAB1909529908

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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1909530725
District RP	2RP-5331
Facility ID	
Application ID	pAB1909529908

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

Printed Name: _____Kyle Littrell_____ Title: _____SH&E Supervisor_____

Signature:_____ Date: _____6/7/2019_____

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAB1909530725
District RP	2RP-5331
Facility ID	
Application ID	pAB1909529908

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

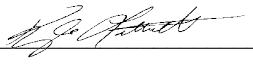
☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 6/7/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Analytical Report 618902

for

LT Environmental, Inc.

Project Manager: Adrian Baker

JRU 111 H

--

02-APR-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), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

02-APR-19

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

Reference: XENCO Report No(s): **618902**
JRU 111 H
Project Address: --

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) 618902. 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. 618902 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
Midland Laboratory Director

Sample Cross Reference 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	03-21-19 12:00	.5 ft	618902-001
SS02	S	03-21-19 12:15	.5 ft	618902-002
SS03	S	03-21-19 12:25	.5 ft	618902-003

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3084047 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 618902-003,618902-002.

Batch: LBA-3084064 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3084266 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 618902

LT Environmental, Inc., Arvada, CO

Project Name: JRU 111 H

Project Id: --
Contact: Adrian Baker
Project Location: --

Date Received in Lab: Tue Mar-26-19 11:30 am
Report Date: 02-APR-19
Project Manager: Kalei Stout

Analysis Requested									
	Lab Id:	618902-001		618902-002		618902-003				
	Field Id:	SS01		SS02		SS03				
	Depth:	.5- ft		.5- ft		.5- ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Mar-21-19 12:00		Mar-21-19 12:15		Mar-21-19 12:25				
BTEX by EPA 8021B	***Extracted:***	Mar-29-19 16:30		Apr-01-19 17:00		Apr-01-19 17:00				
	Analyzed:	Mar-30-19 08:34		Apr-02-19 12:51		Apr-02-19 13:10				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00201	0.00201	2.23	2.02	<2.00	2.00			
Toluene		0.0102	0.00201	20.8	2.02	2.29	2.00			
Ethylbenzene		0.00440	0.00201	13.4	2.02	4.18	2.00			
m,p-Xylenes		0.00818	0.00402	43.1	4.03	18.6	4.00			
o-Xylene		0.00532	0.00201	17.4	2.02	8.86	2.00			
Total Xylenes		0.0135	0.00201	60.5	2.02	27.5	2.00			
Total BTEX		0.0281	0.00201	96.9	2.02	33.9	2.00			
Inorganic Anions by EPA 300	***Extracted:***	Mar-27-19 16:15		Mar-27-19 16:15		Mar-27-19 16:15				
	Analyzed:	Mar-28-19 04:08		Mar-28-19 04:35		Mar-28-19 04:41				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		595	5.00	7270	49.6	1740	25.2			
TPH by SW8015 Mod	***Extracted:***	Mar-29-19 10:00		Mar-29-19 10:00		Mar-29-19 10:00				
	Analyzed:	Mar-30-19 03:28		Mar-30-19 06:52		Mar-30-19 07:11				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		173	15.0	5320	74.9	2910	74.9			
Diesel Range Organics (DRO)		3320	15.0	13200	74.9	15300	74.9			
Motor Oil Range Hydrocarbons (MRO)		283	15.0	1210	74.9	1020	74.9			
Total TPH		3780	15.0	19700	74.9	19200	74.9			

Kalei Stout
Midland Laboratory Director

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-001	Date Collected:	03.21.19 12.00	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 16.15	Basis:	Wet Weight
Seq Number:	3083709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**595**	5.00	mg/kg	03.28.19 04.08		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.29.19 10.00	Basis:	Wet Weight
Seq Number:	3084047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**173**	15.0	mg/kg	03.30.19 03.28		1
Diesel Range Organics (DRO)	C10C28DRO	**3320**	15.0	mg/kg	03.30.19 03.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**283**	15.0	mg/kg	03.30.19 03.28		1
Total TPH	PHC635	**3780**	15.0	mg/kg	03.30.19 03.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	03.30.19 03.28	
o-Terphenyl	84-15-1	126	%	70-135	03.30.19 03.28	

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-001	Date Collected:	03.21.19 12.00	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	03.29.19 16.30	Basis:	Wet Weight
Seq Number:	3084064				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.30.19 08.34	U	1
Toluene	108-88-3	**0.0102**	0.00201	mg/kg	03.30.19 08.34		1
Ethylbenzene	100-41-4	**0.00440**	0.00201	mg/kg	03.30.19 08.34		1
m,p-Xylenes	179601-23-1	**0.00818**	0.00402	mg/kg	03.30.19 08.34		1
o-Xylene	95-47-6	**0.00532**	0.00201	mg/kg	03.30.19 08.34		1
Total Xylenes	1330-20-7	**0.0135**	0.00201	mg/kg	03.30.19 08.34		1
Total BTEX		**0.0281**	0.00201	mg/kg	03.30.19 08.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	03.30.19 08.34	
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.30.19 08.34	

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-002	Date Collected:	03.21.19 12.15	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 16.15	Basis:	Wet Weight
Seq Number:	3083709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7270**	49.6	mg/kg	03.28.19 04.35		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.29.19 10.00	Basis:	Wet Weight
Seq Number:	3084047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**5320**	74.9	mg/kg	03.30.19 06.52		5
Diesel Range Organics (DRO)	C10C28DRO	**13200**	74.9	mg/kg	03.30.19 06.52		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1210**	74.9	mg/kg	03.30.19 06.52		5
Total TPH	PHC635	**19700**	74.9	mg/kg	03.30.19 06.52		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	03.30.19 06.52	
o-Terphenyl	84-15-1	156	%	70-135	03.30.19 06.52	**

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-002	Date Collected:	03.21.19 12.15	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.01.19 17.00	Basis:	Wet Weight
Seq Number:	3084266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**2.23**	2.02	mg/kg	04.02.19 12.51		1000
Toluene	108-88-3	**20.8**	2.02	mg/kg	04.02.19 12.51		1000
Ethylbenzene	100-41-4	**13.4**	2.02	mg/kg	04.02.19 12.51		1000
m,p-Xylenes	179601-23-1	**43.1**	4.03	mg/kg	04.02.19 12.51		1000
o-Xylene	95-47-6	**17.4**	2.02	mg/kg	04.02.19 12.51		1000
Total Xylenes	1330-20-7	**60.5**	2.02	mg/kg	04.02.19 12.51		1000
Total BTEX		**96.9**	2.02	mg/kg	04.02.19 12.51		1000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.02.19 12.51	
1,4-Difluorobenzene	540-36-3	93	%	70-130	04.02.19 12.51	

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-003	Date Collected:	03.21.19 12.25	Sample Depth:	.5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	03.27.19 16.15	Basis:	Wet Weight
Seq Number:	3083709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1740**	25.2	mg/kg	03.28.19 04.41		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.29.19 10.00	Basis:	Wet Weight
Seq Number:	3084047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**2910**	74.9	mg/kg	03.30.19 07.11		5
Diesel Range Organics (DRO)	C10C28DRO	**15300**	74.9	mg/kg	03.30.19 07.11		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1020**	74.9	mg/kg	03.30.19 07.11		5
Total TPH	PHC635	**19200**	74.9	mg/kg	03.30.19 07.11		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	03.30.19 07.11	
o-Terphenyl	84-15-1	168	%	70-135	03.30.19 07.11	**

Certificate of Analytical Results 618902

LT Environmental, Inc., Arvada, CO

JRU 111 H

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	03.26.19 11.30
Lab Sample Id:	618902-003	Date Collected:	03.21.19 12.25	Sample Depth:	.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	04.01.19 17.00	Basis:	Wet Weight
Seq Number:	3084266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<2.00	2.00	mg/kg	04.02.19 13.10	U	1000
Toluene	108-88-3	**2.29**	2.00	mg/kg	04.02.19 13.10		1000
Ethylbenzene	100-41-4	**4.18**	2.00	mg/kg	04.02.19 13.10		1000
m,p-Xylenes	179601-23-1	**18.6**	4.00	mg/kg	04.02.19 13.10		1000
o-Xylene	95-47-6	**8.86**	2.00	mg/kg	04.02.19 13.10		1000
Total Xylenes	1330-20-7	**27.5**	2.00	mg/kg	04.02.19 13.10		1000
Total BTEX		**33.9**	2.00	mg/kg	04.02.19 13.10		1000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	70-130	04.02.19 13.10	
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.02.19 13.10	

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 618902

LT Environmental, Inc.

JRU 111 H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083709 Matrix: Solid Date Prep: 03.27.19
MB Sample Id: 7674516-1-BLK LCS Sample Id: 7674516-1-BKS LCSD Sample Id: 7674516-1-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	252	101	259	104	90-110	3	20	mg/kg	03.28.19 02:29	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083709 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 618897-007 MS Sample Id: 618897-007 S MSD Sample Id: 618897-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	202	248	448	99	451	100	90-110	1	20	mg/kg	03.28.19 02:49	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3083709 Matrix: Soil Date Prep: 03.27.19
Parent Sample Id: 618903-001 MS Sample Id: 618903-001 S MSD Sample Id: 618903-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	204	250	454	100	472	107	90-110	4	20	mg/kg	03.28.19 04:22	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084047 Matrix: Solid Date Prep: 03.29.19
MB Sample Id: 7674698-1-BLK LCS Sample Id: 7674698-1-BKS LCSD Sample Id: 7674698-1-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	958	96	924	92	70-135	4	20	mg/kg	03.29.19 21:42	
Diesel Range Organics (DRO)	<8.13	1000	1050	105	1020	102	70-135	3	20	mg/kg	03.29.19 21:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		122		122		70-135	%	03.29.19 21:42
o-Terphenyl	97		117		104		70-135	%	03.29.19 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 618902

LT Environmental, Inc.

JRU 111 H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3084047 Matrix: Soil Date Prep: 03.29.19
Parent Sample Id: 618899-001 MS Sample Id: 618899-001 S MSD Sample Id: 618899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.95	998	972	96	969	96	70-135	0	20	mg/kg	03.29.19 22:39	
Diesel Range Organics (DRO)	<8.11	998	988	99	982	98	70-135	1	20	mg/kg	03.29.19 22:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		122		70-135	%	03.29.19 22:39
o-Terphenyl	100		99		70-135	%	03.29.19 22:39

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3084064 Matrix: Solid Date Prep: 03.29.19
MB Sample Id: 7674758-1-BLK LCS Sample Id: 7674758-1-BKS LCSD Sample Id: 7674758-1-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	0.0927	93	0.0981	99	70-130	6	35	mg/kg	03.30.19 05:07	
Toluene	<0.000455	0.0998	0.0952	95	0.100	101	70-130	5	35	mg/kg	03.30.19 05:07	
Ethylbenzene	<0.000564	0.0998	0.0890	89	0.0935	94	70-130	5	35	mg/kg	03.30.19 05:07	
m,p-Xylenes	<0.00101	0.200	0.179	90	0.189	95	70-130	5	35	mg/kg	03.30.19 05:07	
o-Xylene	<0.000344	0.0998	0.0913	91	0.0977	98	70-130	7	35	mg/kg	03.30.19 05:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		98		99		70-130	%	03.30.19 05:07
4-Bromofluorobenzene	85		94		102		70-130	%	03.30.19 05:07

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3084266 Matrix: Solid Date Prep: 04.01.19
MB Sample Id: 7674873-1-BLK LCS Sample Id: 7674873-1-BKS LCSD Sample Id: 7674873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000388	0.101	0.0904	90	0.0889	89	70-130	2	35	mg/kg	04.02.19 22:40	
Toluene	<0.000459	0.101	0.0945	94	0.0924	93	70-130	2	35	mg/kg	04.02.19 22:40	
Ethylbenzene	<0.000569	0.101	0.0879	87	0.0855	86	70-130	3	35	mg/kg	04.02.19 22:40	
m,p-Xylenes	<0.00102	0.202	0.177	88	0.172	86	70-130	3	35	mg/kg	04.02.19 22:40	
o-Xylene	<0.000347	0.101	0.0906	90	0.0880	88	70-130	3	35	mg/kg	04.02.19 22:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		95		95		70-130	%	04.02.19 22:40
4-Bromofluorobenzene	85		89		92		70-130	%	04.02.19 22:40

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 618902

LT Environmental, Inc.

JRU 111 H

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

Seq Number: 3084064 Matrix: Soil Date Prep: 03.29.19

Parent Sample Id: 618899-001 MS Sample Id: 618899-001 S MSD Sample Id: 618899-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0929	93	0.0741	73	70-130	23	35	mg/kg	03.30.19 05:45	
Toluene	<0.000457	0.100	0.0958	96	0.0775	77	70-130	21	35	mg/kg	03.30.19 05:45	
Ethylbenzene	<0.000567	0.100	0.0896	90	0.0730	72	70-130	20	35	mg/kg	03.30.19 05:45	
m,p-Xylenes	<0.00102	0.201	0.180	90	0.148	74	70-130	20	35	mg/kg	03.30.19 05:45	
o-Xylene	<0.000346	0.100	0.0934	93	0.0782	77	70-130	18	35	mg/kg	03.30.19 05:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		70-130	%	03.30.19 05:45
4-Bromofluorobenzene	107		110		70-130	%	03.30.19 05:45

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

Seq Number: 3084266 Matrix: Soil Date Prep: 04.01.19

Parent Sample Id: 619029-001 MS Sample Id: 619029-001 S MSD Sample Id: 619029-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0605	61	0.0725	73	70-130	18	35	mg/kg	04.02.19 23:18	X
Toluene	<0.000457	0.100	0.0591	59	0.0705	71	70-130	18	35	mg/kg	04.02.19 23:18	X
Ethylbenzene	<0.000567	0.100	0.0530	53	0.0641	64	70-130	19	35	mg/kg	04.02.19 23:18	X
m,p-Xylenes	<0.00102	0.201	0.106	53	0.128	64	70-130	19	35	mg/kg	04.02.19 23:18	X
o-Xylene	<0.000346	0.100	0.0585	59	0.0687	69	70-130	16	35	mg/kg	04.02.19 23:18	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		97		70-130	%	04.02.19 23:18
4-Bromofluorobenzene	97		99		70-130	%	04.02.19 23:18

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

XENCO LABORATORIES

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

Work Order No: 618902

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
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	Abaker@Ltenv

Work Order Comments

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

Project Name:	JRU 111 H	Turn Around	
Project Number:		Routine ☑	
P.O. Number:	3/9/2019	Rush:	
Sampler's Name:	Garrett Green	Due Date:	

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:	

ANALYSIS REQUEST

Work Order Notes

32.317449,
-103.797132

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	3/2/19	1200	.5'	1	X	X	X	
SS02	S	3/2/19	1215	.5'	1	X	X	X	
SS03	S	3/2/19	1225	.5'	1	X	X	X	

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

7747 9294 4760

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Scott Dan	Timothy R. Elliott	3/22/19-0700	2	Taylor Day	3.26.19 1130
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 16 of 16

Analytical Report 624789

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 11 1H

21-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)

21-MAY-19

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

Reference: XENCO Report No(s): **624789**
JRU 11 1H
Project Address: Delaware Basin

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 624789. 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. 624789 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

Sample Cross Reference 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	05-14-19 14:10	4.5 - 5 ft	624789-001
FS02	S	05-14-19 14:15	4.5 - 5 ft	624789-002
FS03	S	05-15-19 10:00	6 ft	624789-003
FS04	S	05-15-19 10:05	6 ft	624789-004
FS05	S	05-15-19 10:10	6 - 9 ft	624789-005
FS06	S	05-15-19 10:15	9 - 12 ft	624789-006
SW01	S	05-14-19 14:20	0 - 5 ft	624789-007
SW02	S	05-14-19 15:00	0 - 5 ft	624789-008
SW03	S	05-15-19 18:00	0 - 5 ft	624789-009
SW04	S	05-15-19 18:05	0 - 5 ft	624789-010
SW05	S	05-15-19 18:10	4 - 12 ft	624789-011
SW06	S	05-15-19 18:15	4 - 12 ft	624789-012
SW07	S	05-15-19 18:35	4 - 12 ft	624789-013
SW08	S	05-15-19 18:40	4 - 12 ft	624789-014
SW09	S	05-15-19 18:45	4 - 12 ft	624789-015
SW10	S	05-15-19 18:50	4 - 12 ft	624789-016
SW11	S	05-15-19 19:00	4 - 12 ft	624789-017
SW12	S	05-16-19 10:00	0 - 4 ft	624789-018
SW13	S	05-16-19 10:05	0 - 4 ft	624789-019
PH01	S	05-15-19 15:50	12 ft	624789-020
PH02	S	05-15-19 15:20	14 ft	624789-021
BH01	S	05-16-19 11:55	1 ft	624789-022
BH01A	S	05-16-19 12:10	4 ft	624789-023
BH02	S	05-16-19 12:30	1 ft	624789-024
BH02A	S	05-16-19 12:45	4 ft	624789-025

Client Name: LT Environmental, Inc.
Project Name: JRU 11 1H

Project ID:
Work Order Number(s): *624789*

Report Date: *21-MAY-19*
Date Received: *05/20/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089640 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 624789-008,624789-002.

Batch: LBA-3089642 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 624789-021,624789-024,624789-023.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3089700 Inorganic Anions by EPA 300
Lab Sample ID 624789-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 624789-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 624789

LT Environmental, Inc., Arvada, CO

Project Name: JRU 11 1H

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

Date Received in Lab: Mon May-20-19 07:26 am
Report Date: 21-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624789-001		624789-002		624789-003		624789-004		624789-005		624789-006	
	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
	Depth:	4.5-5 ft		4.5-5 ft		6- ft		6- ft		6-9 ft		9-12 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-14-19 14:10		May-14-19 14:15		May-15-19 10:00		May-15-19 10:05		May-15-19 10:10		May-15-19 10:15	
BTEX by EPA 8021B	***Extracted:***	May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00	
	Analyzed:	May-20-19 15:33		May-20-19 15:52		May-20-19 16:11		May-20-19 16:30		May-20-19 16:49		May-20-19 17:08	
	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	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.00402	0.00402	<0.00397	0.00397	<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00	
	Analyzed:	May-21-19 11:42		May-21-19 11:50		May-21-19 11:57		May-21-19 12:19		May-21-19 12:26		May-21-19 12:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		536	4.96	293	4.98	53.4	5.05	2010	25.0	7420	50.1	3080	24.9
TPH by SW8015 Mod	***Extracted:***	May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00	
	Analyzed:	May-20-19 10:04		May-20-19 11:06		May-20-19 11:27		May-20-19 11:47		May-20-19 12:07		May-20-19 12:27	
	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)		39.6	15.0	190	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	45.4	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		39.6	15.0	235	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		39.6	15.0	190	14.9	<15.0	15.0	<15.0	15.0	<15.0	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 Analysis Summary 624789

LT Environmental, Inc., Arvada, CO

Project Name: JRU 11 1H

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

Date Received in Lab: Mon May-20-19 07:26 am
Report Date: 21-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624789-007		624789-008		624789-009		624789-010		624789-011		624789-012	
	Field Id:	SW01		SW02		SW03		SW04		SW05		SW06	
	Depth:	0-5 ft		0-5 ft		0-5 ft		0-5 ft		4-12 ft		4-12 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-14-19 14:20		May-14-19 15:00		May-15-19 18:00		May-15-19 18:05		May-15-19 18:10		May-15-19 18:15	
BTEX by EPA 8021B	***Extracted:***	May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00	
	Analyzed:	May-20-19 17:27		May-20-19 17:46		May-20-19 18:05		May-20-19 18:24		May-20-19 19:38		May-20-19 19:57	
	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	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00399	0.00399	<0.00402	0.00402	<0.00397	0.00397	<0.00402	0.00402	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198	<0.00201	0.00201	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00	
	Analyzed:	May-21-19 12:40		May-21-19 12:48		May-21-19 12:55		May-21-19 13:17		May-21-19 13:24		May-21-19 13:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2230	25.2	47.8	4.96	1020	4.95	115	5.04	981	5.00	55.4	4.96
TPH by SW8015 Mod	***Extracted:***	May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00	
	Analyzed:	May-20-19 12:47		May-20-19 13:07		May-20-19 13:27		May-20-19 13:48		May-20-19 14:48		May-20-19 15:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	16.4	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		21.4	15.0	<15.0	15.0	16.2	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		21.4	15.0	<15.0	15.0	16.2	15.0	16.4	15.0	<14.9	14.9	<15.0	15.0
Total GRO-DRO		21.4	15.0	<15.0	15.0	16.2	15.0	16.4	15.0	<14.9	14.9	<15.0	15.0

Certificate of Analysis Summary 624789

LT Environmental, Inc., Arvada, CO

Project Name: JRU 11 1H

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

Date Received in Lab: Mon May-20-19 07:26 am
Report Date: 21-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624789-013		624789-014		624789-015		624789-016		624789-017		624789-018	
	Field Id:	SW07		SW08		SW09		SW10		SW11		SW12	
	Depth:	4-12 ft		4-12 ft		4-12 ft		4-12 ft		4-12 ft		0-4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-15-19 18:35		May-15-19 18:40		May-15-19 18:45		May-15-19 18:50		May-15-19 19:00		May-16-19 10:00	
BTEX by EPA 8021B	***Extracted:***	May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00		May-20-19 12:00	
	Analyzed:	May-20-19 20:16		May-20-19 20:35		May-20-19 20:54		May-20-19 21:13		May-20-19 21:32		May-20-19 21:51	
	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	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00397	0.00397	<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Inorganic Anions by EPA 300	***Extracted:***	May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00		May-20-19 15:00	
	Analyzed:	May-21-19 13:53		May-21-19 14:00		May-21-19 15:13		May-21-19 14:15		May-21-19 14:22		May-21-19 14:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		590	5.02	834	4.98	1490	24.9	8.19	5.00	33.3	4.96	18.1	4.97
TPH by SW8015 Mod	***Extracted:***	May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00		May-20-19 08:00	
	Analyzed:	May-20-19 15:28		May-20-19 15:48		May-20-19 16:09		May-20-19 16:28		May-20-19 16:49		May-20-19 17:09	
	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)		59.3	15.0	30.7	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		59.3	15.0	30.7	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		59.3	15.0	30.7	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 624789

LT Environmental, Inc., Arvada, CO

Project Name: JRU 11 1H

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

Date Received in Lab: Mon May-20-19 07:26 am
Report Date: 21-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624789-019		624789-020		624789-021		624789-022		624789-023		624789-024	
	Field Id:	SW13		PH01		PH02		BH01		BH01A		BH02	
	Depth:	0-4 ft		12- ft		14- ft		1- ft		4- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-16-19 10:05		May-15-19 15:50		May-15-19 15:20		May-16-19 11:55		May-16-19 12:10		May-16-19 12:30	
BTEX by EPA 8021B	***Extracted:***	May-20-19 12:00		May-20-19 12:00		May-20-19 13:30		May-20-19 13:30		May-20-19 13:30		May-20-19 13:30	
	Analyzed:	May-20-19 22:10		May-20-19 22:29		May-21-19 01:18		May-21-19 01:37		May-21-19 01:56		May-21-19 02:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	May-20-19 16:00		May-20-19 16:00		May-20-19 16:00		May-20-19 16:00		May-20-19 16:00		May-20-19 16:00	
	Analyzed:	May-20-19 23:49		May-21-19 00:10		May-21-19 00:18		May-21-19 00:25		May-21-19 00:32		May-21-19 00:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		14.1	4.98	3190	24.8	21.7	4.96	8.00	4.99	<5.05	5.05	8.97	4.98
TPH by SW8015 Mod	***Extracted:***	May-20-19 08:00		May-20-19 08:00		May-20-19 14:00		May-20-19 14:00		May-20-19 14:00		May-20-19 14:00	
	Analyzed:	May-20-19 17:29		May-20-19 17:49		May-20-19 23:15		May-20-19 23:34		May-20-19 23:53		May-21-19 00:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total GRO-DRO		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 624789

LT Environmental, Inc., Arvada, CO

Project Name: JRU 11 1H

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

Date Received in Lab: Mon May-20-19 07:26 am
Report Date: 21-MAY-19
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	624789-025					
	Field Id:	BH02A					
	Depth:	4- ft					
	Matrix:	SOIL					
	Sampled:	May-16-19 12:45					
BTEX by EPA 8021B	***Extracted:***	May-20-19 13:30					
	Analyzed:	May-21-19 02:34					
	Units/RL:	mg/kg RL					
Benzene		<0.00199 0.00199					
Toluene		<0.00199 0.00199					
Ethylbenzene		<0.00199 0.00199					
m,p-Xylenes		<0.00398 0.00398					
o-Xylene		<0.00199 0.00199					
Total Xylenes		<0.00199 0.00199					
Total BTEX		<0.00199 0.00199					
Inorganic Anions by EPA 300	***Extracted:***	May-20-19 14:40					
	Analyzed:	May-20-19 19:49					
	Units/RL:	mg/kg RL					
Chloride		<4.95 4.95					
TPH by SW8015 Mod	***Extracted:***	May-20-19 14:00					
	Analyzed:	May-21-19 00:32					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0					
Total TPH		<15.0 15.0					
Total GRO-DRO		<15.0 15.0					

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-001	Date Collected:	05.14.19 14.10	Sample Depth:	4.5 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**536**	4.96	mg/kg	05.21.19 11.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 10.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**39.6**	15.0	mg/kg	05.20.19 10.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 10.04	U	1
Total TPH	PHC635	**39.6**	15.0	mg/kg	05.20.19 10.04		1
Total GRO-DRO	PHC628	**39.6**	15.0	mg/kg	05.20.19 10.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.20.19 10.04	
o-Terphenyl	84-15-1	95	%	70-135	05.20.19 10.04	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-001	Date Collected:	05.14.19 14.10	Sample Depth:	4.5 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 15.33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 15.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.20.19 15.33	
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.20.19 15.33	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-002	Date Collected:	05.14.19 14.15	Sample Depth:	4.5 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**293**	4.98	mg/kg	05.21.19 11.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.20.19 11.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	**190**	14.9	mg/kg	05.20.19 11.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**45.4**	14.9	mg/kg	05.20.19 11.06		1
Total TPH	PHC635	**235**	14.9	mg/kg	05.20.19 11.06		1
Total GRO-DRO	PHC628	**190**	14.9	mg/kg	05.20.19 11.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	05.20.19 11.06	
o-Terphenyl	84-15-1	103	%	70-135	05.20.19 11.06	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-002	Date Collected:	05.14.19 14.15	Sample Depth:	4.5 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.19 15.52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.19 15.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	142	%	70-130	05.20.19 15.52	**
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.20.19 15.52	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-003	Date Collected:	05.15.19 10.00	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**53.4**	5.05	mg/kg	05.21.19 11.57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 11.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 11.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 11.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 11.27	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 11.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.20.19 11.27	
o-Terphenyl	84-15-1	97	%	70-135	05.20.19 11.27	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-003	Date Collected:	05.15.19 10.00	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.20.19 16.11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.20.19 16.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.20.19 16.11	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 16.11	

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-004	Date Collected:	05.15.19 10.05	Sample Depth:	6 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2010**	25.0	mg/kg	05.21.19 12.19		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 11.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 11.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 11.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.20.19 11.47	
o-Terphenyl	84-15-1	98	%	70-135	05.20.19 11.47	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-004	Date Collected:	05.15.19 10.05	Sample Depth:	6 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.20.19 16.30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.20.19 16.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 16.30	
4-Bromofluorobenzene	460-00-4	118	%	70-130	05.20.19 16.30	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-005	Date Collected:	05.15.19 10.10	Sample Depth:	6 - 9 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7420**	50.1	mg/kg	05.21.19 12.26		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 12.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 12.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 12.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 12.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 12.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.20.19 12.07	
o-Terphenyl	84-15-1	94	%	70-135	05.20.19 12.07	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-005	Date Collected:	05.15.19 10.10	Sample Depth:	6 - 9 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 16.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 16.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.20.19 16.49	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 16.49	

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-006	Date Collected:	05.15.19 10.15	Sample Depth:	9 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3080**	24.9	mg/kg	05.21.19 12.33		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 12.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 12.27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 12.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 12.27	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 12.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.20.19 12.27	
o-Terphenyl	84-15-1	97	%	70-135	05.20.19 12.27	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-006	Date Collected:	05.15.19 10.15	Sample Depth:	9 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 17.08	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 17.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 17.08	
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.20.19 17.08	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-007	Date Collected:	05.14.19 14.20	Sample Depth:	0 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2230**	25.2	mg/kg	05.21.19 12.40		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 12.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	**21.4**	15.0	mg/kg	05.20.19 12.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 12.47	U	1
Total TPH	PHC635	**21.4**	15.0	mg/kg	05.20.19 12.47		1
Total GRO-DRO	PHC628	**21.4**	15.0	mg/kg	05.20.19 12.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.20.19 12.47	
o-Terphenyl	84-15-1	95	%	70-135	05.20.19 12.47	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-007	Date Collected:	05.14.19 14.20	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.19 17.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.19 17.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 17.27	
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.20.19 17.27	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-008	Date Collected:	05.14.19 15.00	Sample Depth:	0 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**47.8**	4.96	mg/kg	05.21.19 12.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 13.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 13.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 13.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 13.07	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 13.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.20.19 13.07	
o-Terphenyl	84-15-1	97	%	70-135	05.20.19 13.07	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-008	Date Collected:	05.14.19 15.00	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.20.19 17.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.19 17.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	147	%	70-130	05.20.19 17.46	**
1,4-Difluorobenzene	540-36-3	93	%	70-130	05.20.19 17.46	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-009	Date Collected:	05.15.19 18.00	Sample Depth:	0 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	4.95	mg/kg	05.21.19 12.55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 13.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	**16.2**	15.0	mg/kg	05.20.19 13.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 13.27	U	1
Total TPH	PHC635	**16.2**	15.0	mg/kg	05.20.19 13.27		1
Total GRO-DRO	PHC628	**16.2**	15.0	mg/kg	05.20.19 13.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.20.19 13.27	
o-Terphenyl	84-15-1	90	%	70-135	05.20.19 13.27	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-009	Date Collected:	05.15.19 18.00	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.19 18.05	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.19 18.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.20.19 18.05	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.20.19 18.05	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-010	Date Collected:	05.15.19 18.05	Sample Depth:	0 - 5 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**115**	5.04	mg/kg	05.21.19 13.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**16.4**	15.0	mg/kg	05.20.19 13.48		1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 13.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 13.48	U	1
Total TPH	PHC635	**16.4**	15.0	mg/kg	05.20.19 13.48		1
Total GRO-DRO	PHC628	**16.4**	15.0	mg/kg	05.20.19 13.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	05.20.19 13.48	
o-Terphenyl	84-15-1	81	%	70-135	05.20.19 13.48	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-010	Date Collected:	05.15.19 18.05	Sample Depth:	0 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.20.19 18.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.20.19 18.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.20.19 18.24	
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.20.19 18.24	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-011	Date Collected:	05.15.19 18.10	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**981**	5.00	mg/kg	05.21.19 13.24		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.20.19 14.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	05.20.19 14.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.20.19 14.48	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.20.19 14.48	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	05.20.19 14.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.20.19 14.48	
o-Terphenyl	84-15-1	89	%	70-135	05.20.19 14.48	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW05**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-011	Date Collected:	05.15.19 18.10	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.19 19.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.19 19.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 19.38	
4-Bromofluorobenzene	460-00-4	118	%	70-130	05.20.19 19.38	

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-012	Date Collected:	05.15.19 18.15	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.4**	4.96	mg/kg	05.21.19 13.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 15.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 15.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 15.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 15.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 15.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.20.19 15.08	
o-Terphenyl	84-15-1	95	%	70-135	05.20.19 15.08	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW06**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-012	Date Collected:	05.15.19 18.15	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 19.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 19.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 19.57	
4-Bromofluorobenzene	460-00-4	127	%	70-130	05.20.19 19.57	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-013	Date Collected:	05.15.19 18.35	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**590**	5.02	mg/kg	05.21.19 13.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 15.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**59.3**	15.0	mg/kg	05.20.19 15.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 15.28	U	1
Total TPH	PHC635	**59.3**	15.0	mg/kg	05.20.19 15.28		1
Total GRO-DRO	PHC628	**59.3**	15.0	mg/kg	05.20.19 15.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.20.19 15.28	
o-Terphenyl	84-15-1	89	%	70-135	05.20.19 15.28	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW07**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-013	Date Collected:	05.15.19 18.35	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.20.19 20.16	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.19 20.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 20.16	
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.20.19 20.16	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-014	Date Collected:	05.15.19 18.40	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**834**	4.98	mg/kg	05.21.19 14.00		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	05.20.19 15.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**30.7**	14.9	mg/kg	05.20.19 15.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.20.19 15.48	U	1
Total TPH	PHC635	**30.7**	14.9	mg/kg	05.20.19 15.48		1
Total GRO-DRO	PHC628	**30.7**	14.9	mg/kg	05.20.19 15.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.20.19 15.48	
o-Terphenyl	84-15-1	89	%	70-135	05.20.19 15.48	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-014	Date Collected:	05.15.19 18.40	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.20.19 20.35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.20.19 20.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.20.19 20.35	
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.20.19 20.35	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-015	Date Collected:	05.15.19 18.45	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1490**	24.9	mg/kg	05.21.19 15.13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 16.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 16.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 16.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 16.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 16.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.20.19 16.09	
o-Terphenyl	84-15-1	87	%	70-135	05.20.19 16.09	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-015	Date Collected:	05.15.19 18.45	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.20.19 20.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.20.19 20.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.20.19 20.54	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.20.19 20.54	

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-016	Date Collected:	05.15.19 18.50	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.19**	5.00	mg/kg	05.21.19 14.15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 16.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 16.28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 16.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 16.28	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 16.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.20.19 16.28	
o-Terphenyl	84-15-1	93	%	70-135	05.20.19 16.28	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-016	Date Collected:	05.15.19 18.50	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 21.13	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 21.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 21.13	
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.20.19 21.13	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-017	Date Collected:	05.15.19 19.00	Sample Depth:	4 - 12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**33.3**	4.96	mg/kg	05.21.19 14.22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 16.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 16.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 16.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 16.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 16.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	05.20.19 16.49	
o-Terphenyl	84-15-1	85	%	70-135	05.20.19 16.49	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW11**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-017	Date Collected:	05.15.19 19.00	Sample Depth:	4 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.19 21.32	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.19 21.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 21.32	
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.20.19 21.32	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-018	Date Collected:	05.16.19 10.00	Sample Depth:	0 - 4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 15.00	Basis:	Wet Weight
Seq Number:	3089700				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.1**	4.97	mg/kg	05.21.19 14.29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 17.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 17.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 17.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 17.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 17.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	05.20.19 17.09	
o-Terphenyl	84-15-1	83	%	70-135	05.20.19 17.09	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW12**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-018	Date Collected:	05.16.19 10.00	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.20.19 21.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.20.19 21.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	128	%	70-130	05.20.19 21.51	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 21.51	

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id: **SW13** Matrix: Soil Date Received:05.20.19 07.26
Lab Sample Id: 624789-019 Date Collected: 05.16.19 10.05 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: SPC % Moisture:
Analyst: SPC Date Prep: 05.20.19 16.00 Basis: Wet Weight
Seq Number: 3089632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.1**	4.98	mg/kg	05.20.19 23.49		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 05.20.19 08.00 Basis: Wet Weight
Seq Number: 3089657

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 17.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 17.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 17.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 17.29	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 17.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	05.20.19 17.29	
o-Terphenyl	84-15-1	81	%	70-135	05.20.19 17.29	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**SW13**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-019	Date Collected:	05.16.19 10.05	Sample Depth:	0 - 4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.20.19 22.10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.20.19 22.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.20.19 22.10	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.20.19 22.10	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-020	Date Collected:	05.15.19 15.50	Sample Depth:	12 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.20.19 16.00	Basis:	Wet Weight
Seq Number:	3089632				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3190**	24.8	mg/kg	05.21.19 00.10		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 08.00	Basis:	Wet Weight
Seq Number:	3089657				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 17.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 17.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 17.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 17.49	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 17.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.20.19 17.49	
o-Terphenyl	84-15-1	100	%	70-135	05.20.19 17.49	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-020	Date Collected:	05.15.19 15.50	Sample Depth:	12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 12.00	Basis:	Wet Weight
Seq Number:	3089640				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.20.19 22.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.20.19 22.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	05.20.19 22.29	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.20.19 22.29	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-021	Date Collected:	05.15.19 15.20	Sample Depth:	14 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.20.19 16.00	Basis:	Wet Weight
Seq Number:	3089632				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.7**	4.96	mg/kg	05.21.19 00.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 14.00	Basis:	Wet Weight
Seq Number:	3089659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 23.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 23.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 23.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 23.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 23.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.20.19 23.15	
o-Terphenyl	84-15-1	102	%	70-135	05.20.19 23.15	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-021	Date Collected:	05.15.19 15.20	Sample Depth:	14 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 13.30	Basis:	Wet Weight
Seq Number:	3089642				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.21.19 01.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.21.19 01.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	148	%	70-130	05.21.19 01.18	**
1,4-Difluorobenzene	540-36-3	92	%	70-130	05.21.19 01.18	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-022	Date Collected:	05.16.19 11.55	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.20.19 16.00	Basis:	Wet Weight
Seq Number:	3089632				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.00**	4.99	mg/kg	05.21.19 00.25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 14.00	Basis:	Wet Weight
Seq Number:	3089659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 23.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 23.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 23.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 23.34	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 23.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.20.19 23.34	
o-Terphenyl	84-15-1	90	%	70-135	05.20.19 23.34	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-022	Date Collected:	05.16.19 11.55	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 13.30	Basis:	Wet Weight
Seq Number:	3089642				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.21.19 01.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.21.19 01.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.21.19 01.37	
4-Bromofluorobenzene	460-00-4	126	%	70-130	05.21.19 01.37	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-023	Date Collected:	05.16.19 12.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.20.19 16.00	Basis:	Wet Weight
Seq Number:	3089632				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	05.21.19 00.32	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 14.00	Basis:	Wet Weight
Seq Number:	3089659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.20.19 23.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.20.19 23.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.20.19 23.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.20.19 23.53	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.20.19 23.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.20.19 23.53	
o-Terphenyl	84-15-1	101	%	70-135	05.20.19 23.53	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-023	Date Collected:	05.16.19 12.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 13.30	Basis:	Wet Weight
Seq Number:	3089642				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.21.19 01.56	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.21.19 01.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	146	%	70-130	05.21.19 01.56	**
1,4-Difluorobenzene	540-36-3	84	%	70-130	05.21.19 01.56	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-024	Date Collected:	05.16.19 12.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SPC			% Moisture:	
Analyst:	SPC	Date Prep:	05.20.19 16.00	Basis:	Wet Weight
Seq Number:	3089632				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.97**	4.98	mg/kg	05.21.19 00.54		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 14.00	Basis:	Wet Weight
Seq Number:	3089659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.21.19 00.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.21.19 00.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.21.19 00.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.21.19 00.13	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.21.19 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.21.19 00.13	
o-Terphenyl	84-15-1	86	%	70-135	05.21.19 00.13	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH02**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-024	Date Collected:	05.16.19 12.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 13.30	Basis:	Wet Weight
Seq Number:	3089642				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.21.19 02.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.21.19 02.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	139	%	70-130	05.21.19 02.14	**
1,4-Difluorobenzene	540-36-3	95	%	70-130	05.21.19 02.14	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-025	Date Collected:	05.16.19 12.45	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.20.19 14.40	Basis:	Wet Weight
Seq Number:	3089623				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	05.20.19 19.49	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.20.19 14.00	Basis:	Wet Weight
Seq Number:	3089659				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.21.19 00.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.21.19 00.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.21.19 00.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.21.19 00.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	05.21.19 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.21.19 00.32	
o-Terphenyl	84-15-1	102	%	70-135	05.21.19 00.32	

Certificate of Analytical Results 624789

LT Environmental, Inc., Arvada, CO

JRU 11 1H

Sample Id:	**BH02A**	Matrix:	Soil	Date Received:	05.20.19 07.26
Lab Sample Id:	624789-025	Date Collected:	05.16.19 12.45	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.20.19 13.30	Basis:	Wet Weight
Seq Number:	3089642				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.21.19 02.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.21.19 02.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.21.19 02.34	
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.21.19 02.34	

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 624789

LT Environmental, Inc.

JRU 11 1H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089623 Matrix: Solid Date Prep: 05.20.19
MB Sample Id: 7678200-1-BLK LCS Sample Id: 7678200-1-BKS LCSD Sample Id: 7678200-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.14	250	242	97	243	97	90-110	0	20	mg/kg	05.20.19 19:35	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089700 Matrix: Solid Date Prep: 05.20.19
MB Sample Id: 7678201-1-BLK LCS Sample Id: 7678201-1-BKS LCSD Sample Id: 7678201-1-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	248	99	250	100	90-110	1	20	mg/kg	05.21.19 10:59	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089632 Matrix: Solid Date Prep: 05.20.19
MB Sample Id: 7678204-1-BLK LCS Sample Id: 7678204-1-BKS LCSD Sample Id: 7678204-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.81	250	254	102	250	100	90-110	2	20	mg/kg	05.20.19 23:34	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089623 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624789-025 MS Sample Id: 624789-025 S MSD Sample Id: 624789-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.29	248	256	102	253	101	90-110	1	20	mg/kg	05.20.19 19:57	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089623 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624790-001 MS Sample Id: 624790-001 S MSD Sample Id: 624790-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	35.2	250	314	112	312	111	90-110	1	20	mg/kg	05.20.19 21:38	X

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 624789

LT Environmental, Inc.

JRU 11 1H

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089700 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624788-028 MS Sample Id: 624788-028 S MSD Sample Id: 624788-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.07	252	258	99	249	95	90-110	4	20	mg/kg	05.21.19 11:21	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089700 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624789-009 MS Sample Id: 624789-009 S MSD Sample Id: 624789-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1020	248	1230	85	1260	97	90-110	2	20	mg/kg	05.21.19 13:02	X

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089632 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624789-019 MS Sample Id: 624789-019 S MSD Sample Id: 624789-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.1	249	249	94	251	95	90-110	1	20	mg/kg	05.20.19 23:56	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3089632 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624831-001 MS Sample Id: 624831-001 S MSD Sample Id: 624831-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	106	251	363	102	358	100	90-110	1	20	mg/kg	05.21.19 01:37	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089657 Matrix: Solid Date Prep: 05.20.19
MB Sample Id: 7678207-1-BLK LCS Sample Id: 7678207-1-BKS LCSD Sample Id: 7678207-1-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	947	95	957	96	70-135	1	20	mg/kg	05.20.19 09:26	
Diesel Range Organics (DRO)	<8.13	1000	889	89	908	91	70-135	2	20	mg/kg	05.20.19 09:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		119		117		70-135	%	05.20.19 09:26
o-Terphenyl	93		120		117		70-135	%	05.20.19 09:26

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

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

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

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

QC Summary 624789

LT Environmental, Inc.

JRU 11 1H

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089659 Matrix: Solid Date Prep: 05.20.19
MB Sample Id: 7678208-1-BLK LCS Sample Id: 7678208-1-BKS LCSD Sample Id: 7678208-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1040	104	1050	105	70-135	1	20	mg/kg	05.20.19 18:48	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	1020	102	70-135	2	20	mg/kg	05.20.19 18:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		121		125		70-135	%	05.20.19 18:48
o-Terphenyl	104		110		114		70-135	%	05.20.19 18:48

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089657 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624789-001 MS Sample Id: 624789-001 S MSD Sample Id: 624789-001 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	1050	105	1030	103	70-135	2	20	mg/kg	05.20.19 10:25	
Diesel Range Organics (DRO)	39.6	999	1020	98	1010	97	70-135	1	20	mg/kg	05.20.19 10:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		120		70-135	%	05.20.19 10:25
o-Terphenyl	103		100		70-135	%	05.20.19 10:25

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089659 Matrix: Soil Date Prep: 05.20.19
Parent Sample Id: 624494-001 MS Sample Id: 624494-001 S MSD Sample Id: 624494-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.54	999	1130	112	1140	113	70-135	1	20	mg/kg	05.20.19 19:45	
Diesel Range Organics (DRO)	<8.12	999	1110	111	1120	112	70-135	1	20	mg/kg	05.20.19 19:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		122		70-135	%	05.20.19 19:45
o-Terphenyl	107		108		70-135	%	05.20.19 19:45

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 624789

LT Environmental, Inc.

JRU 11 1H

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089640 | Matrix: Solid | Date Prep: 05.20.19
MB Sample Id: 7678196-1-BLK | LCS Sample Id: 7678196-1-BKS | LCSD Sample Id: 7678196-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0897	90	0.0989	99	70-130	10	35	mg/kg	05.20.19 13:41	
Toluene	<0.00198	0.0992	0.0919	93	0.0994	99	70-130	8	35	mg/kg	05.20.19 13:41	
Ethylbenzene	<0.00198	0.0992	0.0996	100	0.107	107	70-130	7	35	mg/kg	05.20.19 13:41	
m,p-Xylenes	<0.00397	0.198	0.210	106	0.225	112	70-130	7	35	mg/kg	05.20.19 13:41	
o-Xylene	<0.00198	0.0992	0.103	104	0.110	110	70-130	7	35	mg/kg	05.20.19 13:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		95		95		70-130	%	05.20.19 13:41
4-Bromofluorobenzene	97		108		107		70-130	%	05.20.19 13:41

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089642 | Matrix: Solid | Date Prep: 05.20.19
MB Sample Id: 7678198-1-BLK | LCS Sample Id: 7678198-1-BKS | LCSD Sample Id: 7678198-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0992	0.0941	95	0.101	100	70-130	7	35	mg/kg	05.20.19 23:25	
Toluene	<0.00198	0.0992	0.0987	99	0.103	102	70-130	4	35	mg/kg	05.20.19 23:25	
Ethylbenzene	<0.00198	0.0992	0.107	108	0.111	110	70-130	4	35	mg/kg	05.20.19 23:25	
m,p-Xylenes	<0.00397	0.198	0.226	114	0.233	115	70-130	3	35	mg/kg	05.20.19 23:25	
o-Xylene	<0.00198	0.0992	0.112	113	0.116	115	70-130	4	35	mg/kg	05.20.19 23:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		92		94		70-130	%	05.20.19 23:25
4-Bromofluorobenzene	109		111		110		70-130	%	05.20.19 23:25

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3089640 | Matrix: Soil | Date Prep: 05.20.19
Parent Sample Id: 624789-001 | MS Sample Id: 624789-001 S | MSD Sample Id: 624789-001 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	0.0885	89	0.0883	88	70-130	0	35	mg/kg	05.20.19 14:19	
Toluene	<0.00199	0.0994	0.0873	88	0.0834	84	70-130	5	35	mg/kg	05.20.19 14:19	
Ethylbenzene	<0.00199	0.0994	0.0886	89	0.0823	82	70-130	7	35	mg/kg	05.20.19 14:19	
m,p-Xylenes	<0.00398	0.199	0.186	93	0.171	86	70-130	8	35	mg/kg	05.20.19 14:19	
o-Xylene	<0.00199	0.0994	0.0916	92	0.0845	85	70-130	8	35	mg/kg	05.20.19 14:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		98		70-130	%	05.20.19 14:19
4-Bromofluorobenzene	110		106		70-130	%	05.20.19 14:19

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 624789

LT Environmental, Inc.

JRU 11 1H

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

Seq Number: 3089642 Matrix: Soil Date Prep: 05.20.19

Parent Sample Id: 624789-021 MS Sample Id: 624789-021 S MSD Sample Id: 624789-021 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	0.0921	93	0.0902	89	70-130	2	35	mg/kg	05.21.19 00:03	
Toluene	<0.00199	0.0994	0.0976	98	0.0948	94	70-130	3	35	mg/kg	05.21.19 00:03	
Ethylbenzene	<0.00199	0.0994	0.106	107	0.102	101	70-130	4	35	mg/kg	05.21.19 00:03	
m,p-Xylenes	<0.00398	0.199	0.220	111	0.213	106	70-130	3	35	mg/kg	05.21.19 00:03	
o-Xylene	<0.00199	0.0994	0.111	112	0.107	106	70-130	4	35	mg/kg	05.21.19 00:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		94		70-130	%	05.21.19 00:03
4-Bromofluorobenzene	116		114		70-130	%	05.21.19 00:03

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

XENCO LABORATORIES

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

Work Order No: 624789

Page 1 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178 Email:		Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	JRU III H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	ZRP-5331	Rush: Yes	
Sampler's Name:	Garrett Green	Due Date: 5/20/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.4.6	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
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)
FS01	S	5/14/19	1410	4.5-5'	1	X	X	X
FS02	S	5/14/19	1415	4.5'-5'	1			
FS03	S	5/15/19	1000	6'	1			
FS04	S		1005	6'	1			
FS05	S		1010	6'-9'	1			
FS06	S		1015	9'-12'	1			
SW01	S	5/14/19	1420	0'-5'	1			
SW02	S	5/14/19	1500	0'-5'	1			
SW03	S	5/15/19	1800	0'-5'	1			
SW04	S	5/15/19	1805	0'-5'	1			

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			05-16-19 15:20			5/20/19
3			17:20	4		0724
5				6		

Chain of Custody

Work Order No: 624789

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 2 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178 Email:	Ggreen@Ltenv.com	

Work Order Comments

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

Project Name:	JRU 111 H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	2RP-5331	Rush: Yes	
Sampler's Name:	Garrett Green	Due Date: 5/20/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.8/4.6	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
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)
SW05	S	5/15/19	1810	4'-12'	1	X	X	X
SW06	S		1815		1			
SW07	S		1835		1			
SW08	S		1840		1			
SW09	S		1845		1			
SW10	S		1850		1			
SW11	S		1900		1			
SW12	S	5/16/19	1000	0'-4'	1			
SW13	S	5/16/19	1005	0'-4'	1			
PH01	S	5/15/19	1550	12'	1			

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Dan Moir	Mous.	05-16-19 17:20	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 67 of 70

Chain of Custody

Work Order No: 24789

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 3 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, Tx 79705
Phone:	432.704.5178	Email:	Ggreen@Ltenv.com

Work Order Comments

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

Project Name:	JRU 111 H	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	RAP-5331	Rush: Yes	
Sampler's Name:	Garrett Green	Due Date: 5/20/19	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.8/4.6	Thermometer ID	R8	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
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)
PH02	S	5/15/19	1520	14'	1	X	X	X
BH01	S	5/16/19	1155	1'	1			
BH01A	S		1210	4'	1			
BH02	S		1230	1'	1			
BH02A	S		1245	4'	1			

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			05-16-19 17:20	2		5/20/19 0720
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Final 1.000

Page 68 of 70

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: 05/20/2019 07:26:00 AM

Work Order #: 624789

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)?	4.6
#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: 05/20/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/20/2019

Jessica Kramer

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
PH07	5/10/19
Project Name: JRU 111H	**RP Number:**
Logged By: GG	**Method:** Ex
Field Screening: GTS/PID	**Hole Diameter:**
	Total Depth:

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
~~1025~~ M					0			
1025 M	1400	172			1	1		sand, brown, low
1035	~~GT80~~	95			2			sand, brown, brow
1040	~~GT80~~	61			3			sand brown, Low
1040	~~GT80~~	23.1			4			sand brown, low
1100	>3584	17.8			5 6			sandy loam, reddish brown high plasticity
1110	>3584	6.6			6			Sandy loam, reddish brown high plasticity
1130	>3584	28			9			caliche, off white, low plasticity
1240	9	18			11			hardpacked caliche, off white low plasticity
1315	7180				12			very hard packed caliche off white no plasticity
					10			
					11			
					12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
PH02	5/10/19
Project Name:	**RP Number:**
JRU111H	2RP5331
Logged By: GG	**Method:** HA
Lat/Long:	**Field Screening:** CTS/PID
Hole Diameter:	**Total Depth:** 14'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1025 M	1400	172			1			sand, brown Low plasticity
1035 M	95	180			2			sand, brown Low plasticity
1040 D	61	180			3			sand, brown, Low plasticity
1040 D	23	3200			4			sand brown, Low plasticity
1100 D	16	3884			5			sandy loam, reddish brown high plasticity
1110 D	~~6~~	3884			6			sandy loam, reddish brown high plasticity
					X			
1130 D	28	3884			8			caliche, off white, Low plasticity
					X			
1240 D	18	942			10			hard packed caliche, off white Low plasticity
					N			
1315 D	18	<180			12			very hard packed caliche, off white Low plasticity

D <180 14'

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

Compliance · Engineering · Remediation

Identifier:	Date:
BH01	5/16/2019
Project Name:	**RP Number:**
JRU 111 H	2RP-5331
Logged By: GG	**Method:** HA
Hole Diameter:	**Total Depth:**

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: LTS/PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1155 D	<180		N		0–1			Sandy loam, low plasticity, Tan/Light brown
1200 D	<180		N		2			Sandy loam, low plasticity, Light brown
1205 D	<180		N		3			Sandy loam, low plasticity, Light brown
1210 D	<180		N		4			Sandy loam, low plasticity, light brown
					5–12			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier:	Date:
BH02	5/16/2019
Project Name:	**RP Number:**
JRU 111H	2RP5331
Logged By: GG	Method: HA
Hole Diameter:	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening: CTS/PID

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1230 D	<180		N		1			sandy loam, low plasticity, light brown
1235 D	<180		N		2			sandy loam, low plasticty, light brown
1240 D	<180		N		3			sandy loam, low plasticity, light Brown
1245 D	<180		N		4			sandy loam, low plasticity, light brown
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

Northeastern view of release extent prior to excavation activities.

Project: 012919046	XTO Energy, Inc. James Ranch Unit #111H	LTE Advancing Opportunity
March 21, 2019	Photographic Log	

Northeastern view of final excavation extent.

Project: 012919046	XTO Energy, Inc. James Ranch Unit #111H	LTE Advancing Opportunity
May 16, 2019	Photographic Log	