



LT Environmental, Inc.

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

February 8, 2019

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

**RE: Closure Request
Legg Federal 001 Production Facility
Remediation Permit Numbers 2RP-2761, 2RP-3741, and 2RP-3744
Eddy County, New Mexico**

Dear Mr. Billings:

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 Legg Federal 001 production facility (Site) in Unit B, Section 27, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation and soil sampling activities was to address impacts to soil after three separate events caused the release of crude oil and produced water in the process equipment area of the production facility.

On January 24, 2015, a gasket failed on the heater-treater fire tube. Production was diverted, and the gasket was replaced. The release pooled in an area measuring approximately 1,640 square feet and misted an area measuring approximately 5,750 square feet. The release was contained within the process equipment berm. Approximately 18 barrels (bbls) of crude oil and 5 bbls of produced water were released. The free-standing fluids were recovered with a vacuum truck; approximately 3 bbls of crude oil and 3 bbls of produced water were recovered. The former operator reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on January 26, 2015, and was assigned Remediation Permit (RP) Number 2RP-2761 (Attachment 1).

On June 3, 2016, a 3-phase vessel gas supply pot failed, causing fluids to release from the pressure relief valve on the vessel. The 3-phase vessel was isolated for repair, and the well remained flowing to a 2-phase vessel. Approximately 45 bbls of crude oil and 18 bbls of produced water were released. The release affected approximately 14,940 square feet of the caliche well pad. The free-standing fluids were recovered with a vacuum truck; approximately 30 bbls of crude oil and 10 bbls of produced water were recovered. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on June 14, 2016, and was assigned RP Number 2RP-3741 (Attachment 1).

On June 9, 2016, a manway gasket failed on the test heater unit. The unit was drained and isolated for repair. Approximately 0.5 bbls of crude oil and 9 bbls of produced water were





Billings, B.
Page 2

released; no fluids were recovered. The leak affected approximately 4,056 square feet of the caliche well pad; most of the area was impacted by overspray. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on June 14, 2016, and was assigned RP Number 2RP-3744 (Attachment 1).

Although the releases occurred while the facility was operated by the previous operator, XTO is the current operator and is committed to addressing any releases that remain unresolved. Since the three releases occurred in the process equipment area, excavation and sampling activities were completed to address and close the three releases simultaneously.

The three releases are included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The releases are categorized as Tier II sites in the Compliance Agreement, meaning remediation of the release began prior to August 14, 2018, the effective date of 19.15.29 NMAC, however a closure report had not been submitted. Based on the excavation activities and results of the confirmation soil sampling events, XTO is submitting this closure report and requesting no further action for these release events.

BACKGROUND

According to Section 12 of 19.15.29 NMAC, LTE applied Table 1, *Closure Criteria for Soils Impacted by a Release*. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is C 03015, located approximately 0.4 miles northwest of the Site. Ground surface elevation at the water well location is approximately 3,285 feet, which is 13 feet lower in elevation than the Site. The water well has a depth to groundwater of 262 feet and a total depth of 1,316 feet. The closest continuously flowing water or significant watercourse to the Site is an unnamed lake located approximately 3.1 miles southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. Based on these criteria, the following NMOCD Table 1 closure criteria apply: 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 20,000 mg/kg chloride.





Billings, B.
Page 3

SOIL SAMPLING

On February 8, 2018, an LTE scientist collected eight preliminary soil samples (SS1 through SS8) to assess the lateral extent of soil impacts within the three release areas. To eliminate the effects from weathering and natural degradation of contaminants at the ground surface, the soil samples were collected from each sample location at approximately 0.5 feet bgs. The soil sample locations, depicted on Figure 2, were selected based on information provided on the initial Form C-141s and field observations. 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 soil samples SS1, SS2, and SS5 exceeded the NMOCD Table 1 closure criteria for GRO/DRO and TPH. Laboratory analytical results indicated that soil samples SS3, SS4, and SS6 through SS8 were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride.

On August 23 and 24, 2018, an LTE scientist returned to the site to collect additional preliminary soil samples (SS9 through SS22) from a depth of 0.5 feet bgs to further delineate the lateral extent of soil impacts. One soil sample (SS5A) was collected from a depth of 1 foot bgs to vertically delineate the extent of soil impacts in the area of preliminary soil sample SS5. The soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. Soil sample SS19 was collected for field screening purposes only and was not submitted for laboratory analysis.

Laboratory analytical results indicated that soil samples SS12, SS16, and SS21 exceeded the NMOCD Table 1 closure criteria for TPH and/or GRO/DRO. Laboratory analytical results indicated that soil samples SS5A, SS9 through SS11, SS13 through SS15, SS17 through SS20, and SS22 were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride. Soil sample locations are depicted on Figure 2, analytical results are summarized in Table 1, and the laboratory analytical reports are included in Attachment 2.

Based on the soil sample laboratory analytical results, excavation of impacted soil was required in the areas around preliminary soil samples SS1, SS2, SS5, SS12, SS16, and SS21.





Billings, B.
Page 4

EXCAVATION ACTIVITIES

During August 2018 and January 2019, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by visual staining, field screening, and laboratory analytical results exceeding the NMOCD Table 1 closure criteria for TPH and/or GRO/DRO in preliminary soil samples SS1, SS2, SS5, SS12, SS16, and SS21. To delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil samples using a PID and Hach® chloride QuanTab® test strips. Following removal of impacted soil, LTE collected confirmation soil samples from the final excavation extents. The confirmation samples were collected as 5-point composite soil samples to comply with 19.15.29 NMAC, dated August 14, 2018.

Excavation and scraping activities were completed in the area around preliminary soil sample SS5, and confirmation soil samples FS01 and FS02 were collected from the floor of the excavation at 1 foot bgs. Excavation activities were completed in the area around preliminary soil samples SS1 and SS12, and confirmation soil samples FS03 and FS04 were collected from the floor of the excavation at 1.5 feet bgs. Excavation activities were completed in the area around preliminary soil sample SS21, and confirmation soil sample FS05 was collected from the floor of the excavation at 3 feet bgs. Excavation activities were completed in the area around preliminary soil sample SS2, and confirmation soil sample FS06 was collected from the floor of the excavation at 1 foot bgs. Excavation activities were completed in the area around preliminary soil sample SS16, and confirmation soil sample FS07 was collected from the floor of the excavation at 0.67 feet bgs.

The 5-point composite floor samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Based on the size of the excavations, each composite floor sample represented an area of 200 square feet or less. The horizontal extent of each excavation and associated confirmation soil samples are illustrated on Figure 3.

On January 21, 2019, boreholes were advanced by hand auger at three preliminary soil sample locations (SS9, SS11, and SS14) to confirm the vertical extent of soil impacts within the release area. Soil was field screened at 1-foot intervals in each borehole. One soil sample was collected for laboratory analysis from each borehole based on the field screening results. Soil sample SS09A was collected at 4 feet bgs from the SS9 location; soil sample SS11A was collected at 2 feet bgs from the SS11 location; and soil sample SS14A was collected at 4 feet bgs from the SS14 location. Hand auger refusal was encountered at 2 feet bgs in borehole SS11. The excavation and borehole soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Midland, Texas. Soil sample locations are depicted on Figure 3, and soil sample logs are included in Attachment 3.

The combined excavations measured approximately 900 square feet in area and were completed to depths ranging from 0.67 feet to 3 feet bgs. A total of approximately 25 cubic yards of impacted



Billings, B.
Page 5

soil were removed from the three excavations. The impacted soil was transported and properly disposed of at the Lea Land Disposal Facility in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results confirmed that the borehole soil samples and soil samples collected from the final excavation extents were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride. Laboratory analytical results indicated preliminary soil samples SS1, SS2, SS5, SS12, SS16, and SS21 exceeded the NMOCD Table 1 closure criteria for TPH and/or GRO/DRO. Impacted soil was excavated from the release areas and laboratory analytical results indicated that final confirmation soil samples FS01 through FS07 were compliant with the NMOCD Table 1 closure criteria for BTEX, TPH, and chloride. Laboratory analytical results are presented on Figure 3 and summarized in Table 1, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

The impacted soil was excavated from the release areas and laboratory analytical results for the confirmation soil samples collected from the final excavation extents indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD Table 1 closure criteria. Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for RP Numbers 2RP-2761, 2RP-3741, and 2RP-3744. Upon approval of the no further action request, XTO will backfill the excavations with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 for each release is included in Attachment 1. A photographic log of the Site is included in Attachment 4.

If you have any questions or comments, please do not hesitate to contact Ms. Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,
LT ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads 'Adrian Baker'.

Adrian Baker
Project Geologist

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

Ashley L. Ager, P.G.
Senior Geologist





Billings, B.
Page 6

cc: Kyle Littrell, XTO
Michael Bratcher, NMOCD
Jim Amos, BLM
Deborah Mckinney, BLM

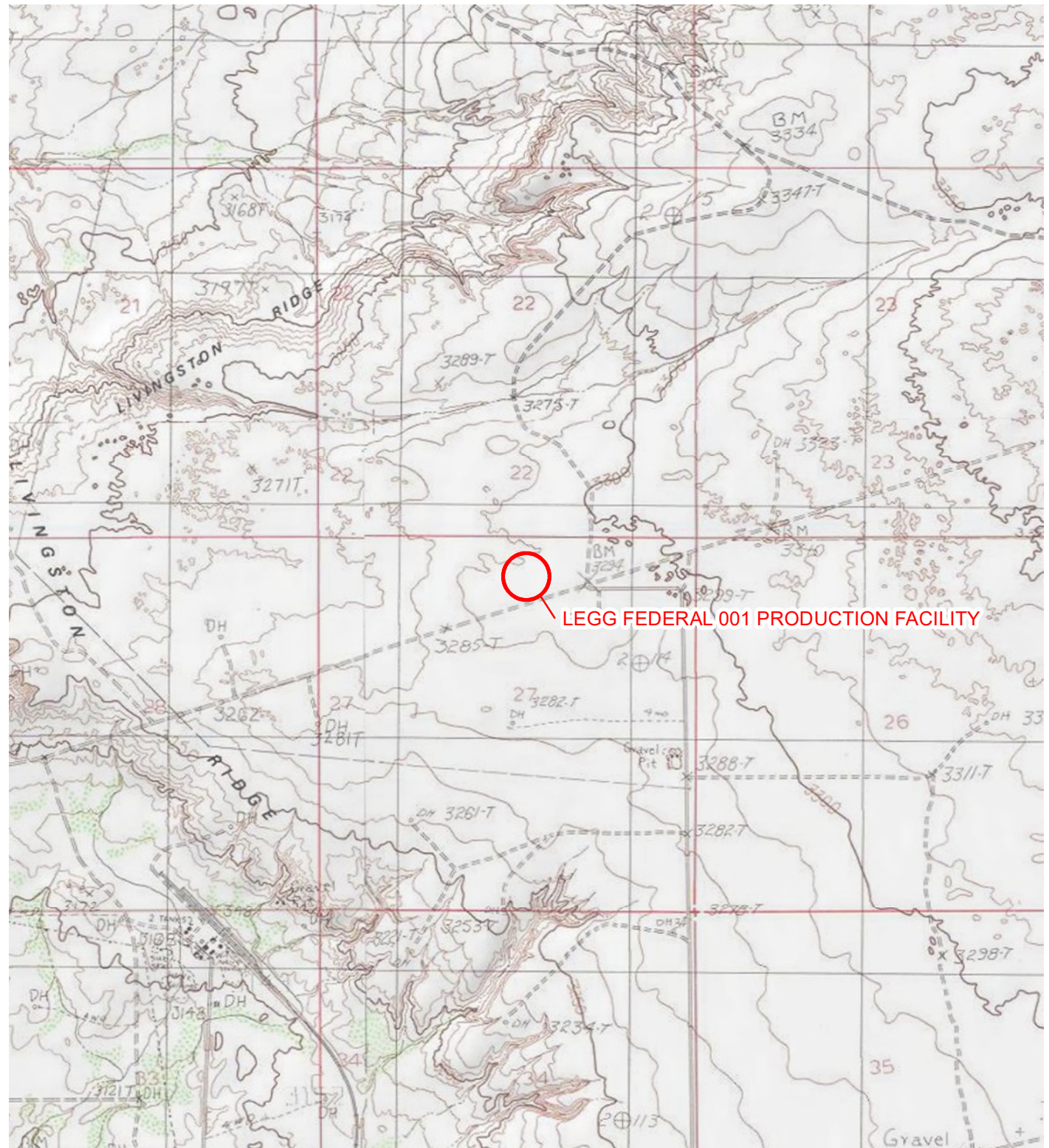
Attachments:

Figure 1 Site Location Map
Figure 2 Initial Soil Sample Locations
Figure 3 Final Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-2761, 2RP-3741, and 2RP-3744)
Attachment 2 Laboratory Analytical Reports
Attachment 3 Soil Sample Logs
Attachment 4 Photographic Log



FIGURES



**LEGEND**

○ SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000
Feet



NOTE: REMEDIATION PERMIT
NUMBERS 2RP-2761,
2RP-3741, & 2RP-3744.

FIGURE 1
SITE LOCATION MAP
LEGG FEDERAL 001 PRODUCTION FACILITY
UNIT B SEC 27 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012918024_LEGG FEDERAL 001\012918024_FIG01_SL_2018_3744_2761_3741.mxd

SAMPLE ID@DEPTH BELOW GROUND SURFACE
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 20,000 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD

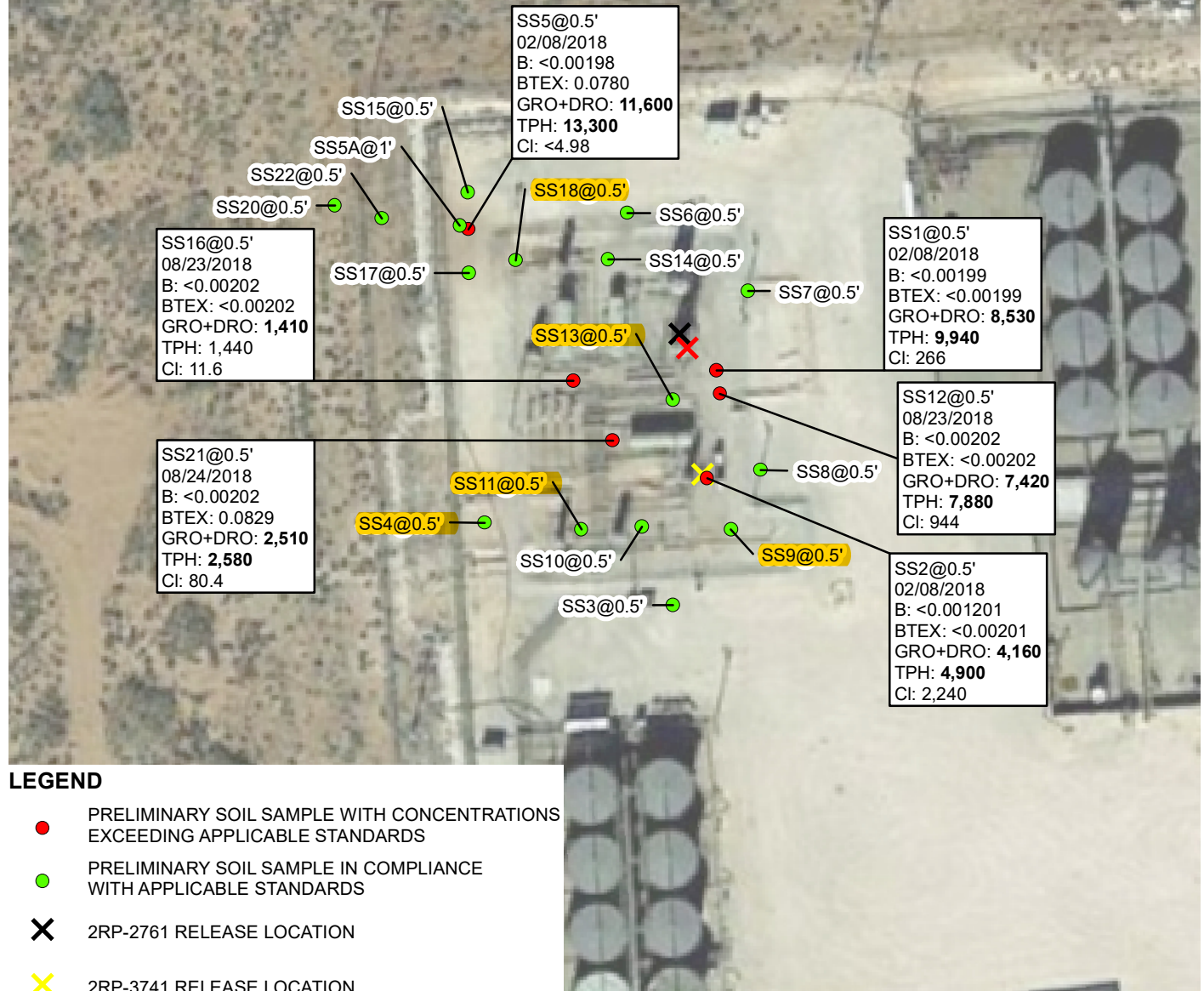


IMAGE COURTESY OF GOOGLE EARTH 2017

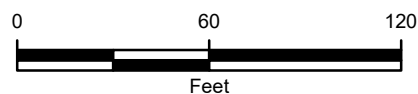
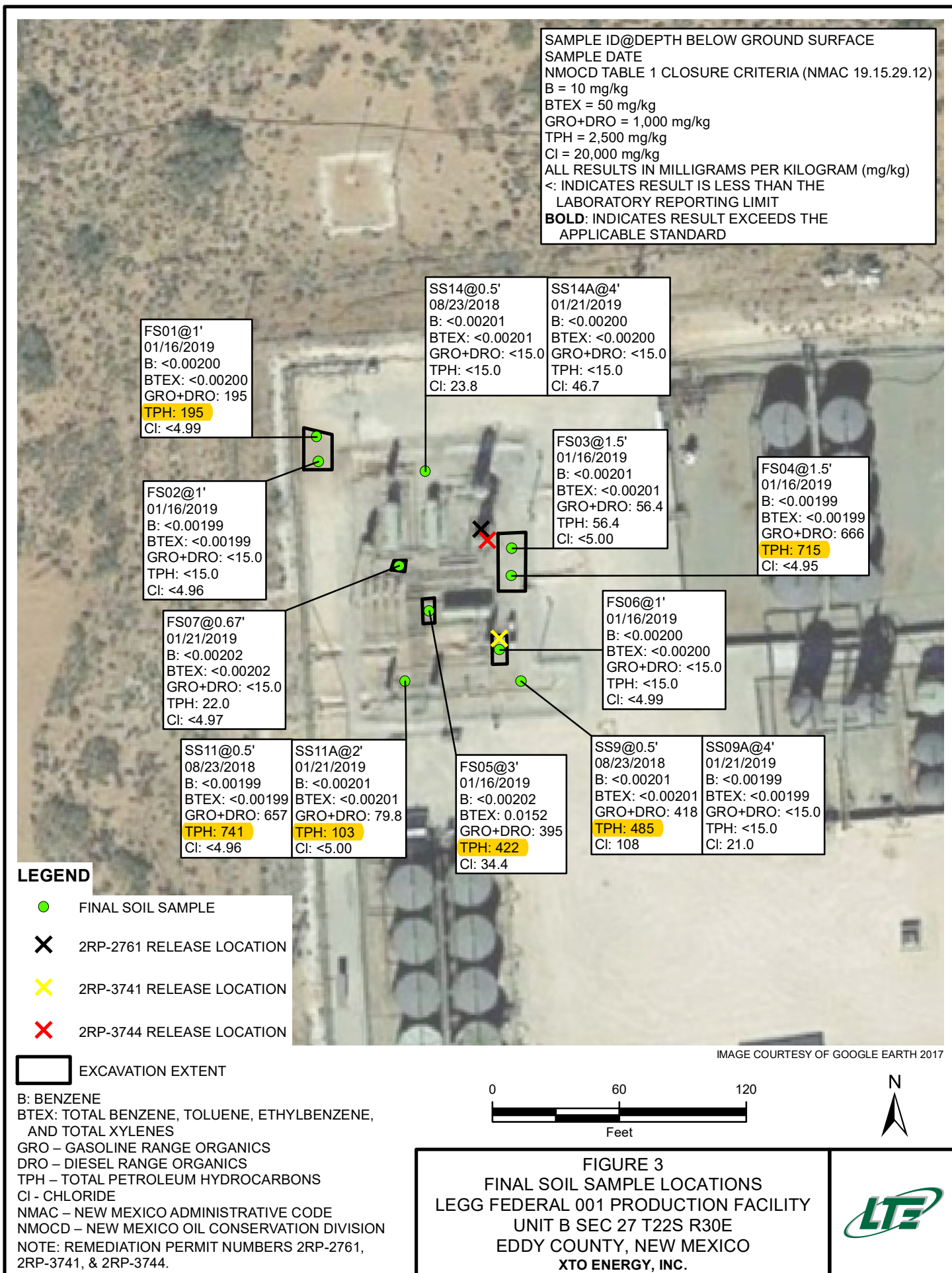


FIGURE 2
 INITIAL SOIL SAMPLE LOCATIONS
 LEGG FEDERAL 001 PRODUCTION FACILITY
 UNIT B SEC 27 T22S R30E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

LEGG FEDERAL 001 PRODUCTION FACILITY
REMEDIATION PERMIT NUMBERS 2RP-2761, 2RP-3741, and 2RP-3744
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	02/08/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<74.9	8,530	1,410	8,530	9,940	266
SS2	0.5	02/08/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	4,160	743	4,160	4,900	2,240
SS3	0.5	02/08/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	64.2	<15.0	64.2	64.2	6.10
SS4	0.5	02/08/2018	<0.00200	<0.00200	0.00212	0.00472	0.00684	<15.0	232	39.2	232	271	15.4
SS5	0.5	02/08/2018	<0.00198	0.00288	0.0337	0.0414	0.0780	457	11,100	1,760	11,600	13,300	<4.98
SS6	0.5	02/08/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	44.6	33.2	44.6	77.8	298
SS7	0.5	02/08/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	8.48
SS8	0.5	02/08/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	22.8
SS10	0.5	08/23/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	67.2	<15.0	67.2	67.2	10.6
SS11	0.5	08/23/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	657	83.7	657	741	<4.96
SS12	0.5	08/23/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<74.7	7,420	455	7,420	7,880	944
SS13	0.5	08/23/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	158	<15.0	158	158	546
SS14	0.5	08/23/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	23.8
SS15	0.5	08/23/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	18.7	<15.0	18.7	18.7	<4.99
SS16	0.5	08/23/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	1,410	27.4	1,410	1,440	11.6
SS9	0.5	08/23/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	418	67.3	418	485	108
SS17	0.5	08/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	<4.95
SS18	0.5	08/24/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	181	38.3	181	219	64.6
SS20	0.5	08/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	<4.96
SS21	0.5	08/24/2018	<0.00202	0.00870	0.0127	0.0615	0.0829	148	2,360	70.7	2,510	2,580	80.4
SS22	0.5	08/24/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	45.8	<15.0	45.8	45.8	<5.00
SS5A	1	08/24/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<14.9	<14.9	<14.9	<14.9	<14.9	<4.95
FS01	1	01/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	195	<15.0	195	195	<4.99
FS02	1	01/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96
FS03	1.5	01/16/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	56.4	<15.0	56.4	56.4	<5.00
FS04	1.5	01/16/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	666	48.5	666	715	<4.95



TABLE 1 (Continued)
SOIL ANALYTICAL RESULTS

LEGG FEDERAL 001 PRODUCTION FACILITY
REMEDIATION PERMIT NUMBERS 2RP-2761, 2RP-3741, and 2RP-3744
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 GRO (mg/kg)	C10-C28 DRO (mg/kg)	C28-C40 ORO (mg/kg)	GRO and DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS05	3	01/16/2019	<0.00202	<0.00202	0.00370	0.0115	0.0152	<15.0	395	26.7	395	422	34.4
FS06	1	01/16/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
SS09A	4	01/21/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	21.0
SS11A	2	01/21/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	79.8	23.2	79.8	103	<5.00
SS14A	4	01/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	46.7
FS07	0.67	01/21/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	22.0	22.0	<15.0	22.0	<4.97
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Bold - indicates result exceeds the applicable regulatory standard

* - indicates sample was collected in an off-pad pasture area; closure criteria for chloride concentrations in contaminated off-pad soil less than 4 feet bgs is 600 mg/kg

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

NMAC - New Mexico Administrative Code



ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-2761, 2RP- 3741, AND 2RP- 3744)



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

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

ARTESIA DISTRICT

JAN 26 2015

Form C-141
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

NAB1502726789 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P.	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Legg Federal Tank Battery	Facility Type: Production Facility
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-04734	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
B	27	22S	30E	660	North	2004	East	Eddy

Latitude N 32.369047 Longitude W 103.867870

NATURE OF RELEASE

Type of Release: Crude oil and produced water	Volume of Release: 18 bbls crude oil and 5 bbls PW	Volume Recovered: 3 bbls crude oil and 3 bbls PW
Source of Release: Heater-treater	Date and Hour of Occurrence: 1/24/15 time unknown	Date and Hour of Discovery: 1/24/15 at 4:00 a.m. approximately 11:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? M. Bratcher, H. Patterson, and Jim Amos	
By Whom? Tony Savoie	Date and Hour 1/24/14 at 11:42 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* A gasket failed on the heater-treater fire tube. The production was diverted and the gasket was replaced.

Describe Area Affected and Cleanup Action Taken.*

The release pooled up in an area measuring about 1640 sq. ft inside the bermed area, and an area measuring approximately 5,750 inside the bermed area was misted with crude oil. All of the free standing fluid was picked up with a vacuum truck. The stained area will be left as is pending remediation. The impacted area will be cleaned up in accordance to the NMOCD and BLM remediation guidelines.

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

Signature: <i>Tony Savoie</i>	OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie	Signed By: <i>Mike L...</i> Approved by Environmental Specialist	
Title: Waste Management and Remediation Specialist	Approval Date: 1/27/15	Expiration Date: N/A
E-mail Address: tasavoie@basspet.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines Attached ☐	
Date: 1/26/15	SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 2/27/15	

* Attach Additional Sheets If Necessary

2PR2761

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-2761
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432) 221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-2761
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.369047

Longitude -103.867870

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Legg Federal Tank Battery	Site Type: Production Facility
Date Release Discovered: 1/24/15	API# (if applicable) 30-015-04734

Unit Letter	Section	Township	Range	County
B	27	22S	30E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 18	Volume Recovered (bbls) 3
☒ Produced Water	Volume Released (bbls) 5	Volume Recovered (bbls) 3
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

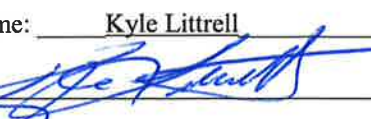
Cause of Release

A gasket failed on the heater-treater fire tube. The production was diverted and the gasket was replaced. The release pooled up in an area measuring about 1640 sq. ft inside the bermed area, and an area measuring approximately 5,750 inside the bermed area was misted with crude oil. All of the free-standing fluid was picked up with a vacuum truck.

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

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Coordinator</u>
Signature: 	Date: <u>2/8/2019</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	2RP-2761
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

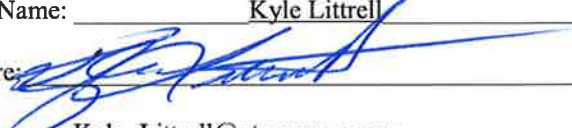
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods,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

Oil Conservation Division

Incident ID	
District RP	2RP-2761
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature:  Date: 2/8/2019

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-2761
Facility ID	
Application ID	

Closure

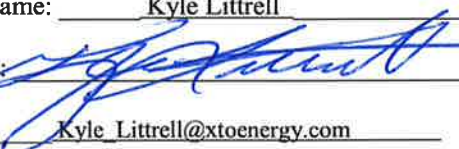
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection). Site photographs are included showing the site and excavations.
- ☒ 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 Coordinator

Signature:  Date: 2/8/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/22/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

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

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

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141

Revised August 8, 2011

JUN 14 2016

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

RECEIVED

Release Notification and Corrective Action

OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. **267737** Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 575-887-7329
Facility Name: Legg Federal 001 Facility Type: Exploration and Production

Surface Owner: Federal Mineral Owner: Federal API No. 30-015-04734

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	27	22S	30E	540	North	2300	East	Eddy

Latitude 32.368906° Longitude -103.867843°

NATURE OF RELEASE

Type of Release	Crude Oil and Produced Water	Volume of Release	45 bbls oil 18 bbls pw	Volume Recovered	30 bbls oil 10 bbls pw
Source of Release	Three phase vessel	Date and Hour of Occurrence	6/3/2016 time unknown	Date and Hour of Discovery	6/3/2016 7 pm
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher/Heather Patterson (NMOCD), Shelly Tucker (BLM)		
By Whom?	Amy Ruth	Date and Hour	6/4/2016 11:14 am		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		

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

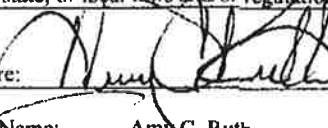
Describe Cause of Problem and Remedial Action Taken.*

JRU 12H well surged and the three phase vessel gas supply pot failed. Fluids exited the pressure relief valve on the vessel. The three phase vessel was isolated for repair and the well was left flowing to the two phase vessel of the test train.

Describe Area Affected and Cleanup Action Taken.*

The leak affected 14,940 sq. ft. of location caliche pad. Standing fluids were recovered.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Amy C. Ruth	Approved by Environmental Specialist: 	
Title: EHS Remediation Specialist	Approval Date: 6/14/16	Expiration Date: N/A
E-mail Address: ACRuth@basspet.com	Conditions of Approval:	
Date: 6/14/2016 Phone: 432-661-0571	Remediation per O.C.D. Rules & Guidelines ☐ SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 7/15/16 2RP-3741	

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-3741
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432) 221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-3741
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.368906

Longitude -103.867843

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Legg Federal Tank Battery	Site Type Exploration and Production
Date Release Discovered 6/3/2016	API# (if applicable) 30-015-04734

Unit Letter	Section	Township	Range	County
B	27	22S	30E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 45	Volume Recovered (bbls) 30
☒ Produced Water	Volume Released (bbls) 18	Volume Recovered (bbls) 10
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

JRU 12H well surged and the three-phase vessel gas supply pot failed. Fluids exited the pressure relief valve on the vessel. The three-phase vessel was isolated for repair and the well was left flowing to the two-phase vessel of the test train. The leak affected 14,940 sq. ft. of location caliche pad. Standing fluids were recovered.

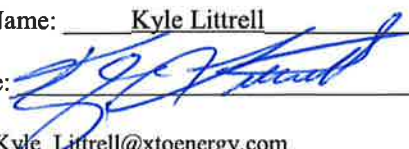
Oil Conservation Division

Incident ID	
District RP	2RP-3741
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By: Amy Ruth To: Mike Bratcher/Heather Patterson (NMOCD), Shelly Tucker (BLM)	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Coordinator</u>
Signature: 	Date: <u>2/8/2019</u>
email: <u>Kyle.Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
OCD Only	
Received by: _____	Date: _____

Incident ID	Page 24 of 162
District RP	2RP-3741
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Incident ID	Page 25 of 162
District RP	2RP-3741
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature:  Date: 2/8/2019

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

OCD Only

Received by: _____ Date: _____

Incident ID	Page 26 of 162
District RP	2RP-3741
Facility ID	
Application ID	

Closure

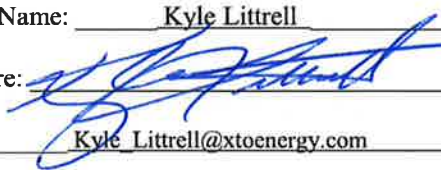
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection). Site photographs are included showing the site and excavations.
- ☒ 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 Coordinator

Signature:  Date: 2/8/2018

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/22/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

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

JUN 14 2016

Form C-141
Revised August 8, 2011

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

RECEIVED Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

DAB1616741171
Name of Company: BOPCO, L.P. 310737 Contact: Amy Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 575-887-7329
Facility Name: Legg Federal 001 Facility Type: Exploration and Production

Surface Owner: Federal Mineral Owner: Federal API No. 30-015-04734

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	27	22S	30E	540	North	2300	East	Eddy

Latitude 32.369037° Longitude -103.867859°

NATURE OF RELEASE

Type of Release	Crude Oil and Produced Water	Volume of Release	0.5 bbl oil 9 bbls PW	Volume Recovered	0 bbl
Source of Release	Test Heater	Date and Hour of Occurrence	6/9/2016 time unknown	Date and Hour of Discovery	6/9/2016 7 pm
Was Immediate Notice Given?	☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	N/A		
By Whom?	N/A	Date and Hour	N/A		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	N/A		

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

Describe Cause of Problem and Remedial Action Taken.*
A manway gasket failed on the test heater unit. Unit was drained and isolated for repair.

Describe Area Affected and Cleanup Action Taken.*
The leak affected 4,056 sq. ft. of caliche pad, most of which was an overspray.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Amy C. Ruth	Signed By: <u>[Signature]</u>	
Title: EHS Remediation Specialist	Approved by Environmental Specialist	
E-mail Address: ACRuth@basspet.com	Approval Date: <u>6/14/16</u>	Expiration Date: <u>N/A</u>
Date: 6/14/2016 Phone: 432-661-0571	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines ☐ SUBMIT REMEDIATION PROPOSAL NO LATER THAN: <u>7/15/16</u>	

* Attach Additional Sheets If Necessary

ARP-3744

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-3744
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432) 221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-3744
Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.369037

Longitude -103.867859

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Legg Federal Tank Battery	Site Type Exploration and Production
Date Release Discovered 6/9/2016	API# (if applicable) 30-015-04734

Unit Letter	Section	Township	Range	County
B	27	22S	30E	Eddy

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 0.5	Volume Recovered (bbls) 0
☒ Produced Water	Volume Released (bbls) 9	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A manway gasket failed on the test heater unit. Unit was drained and isolated for repair. The leak affected 4,056 sq. ft. of caliche pad. most of which was an overspray.

Incident ID	
District RP	2RP-3744
Facility ID	
Application ID	

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

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Coordinator</u>
Signature: 	Date: <u>2/8/2019</u>
email: <u>Kyle.Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	Page 30 of 162
District RP	2RP-3744
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

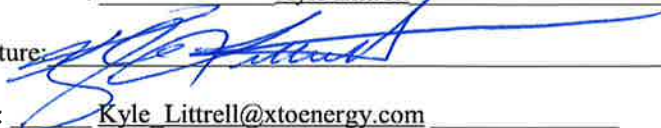
Characterization Report Checklist: *Each of the following items must be included in the report.*

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

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

Incident ID	Page 31 of 162
District RP	2RP-3744
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Coordinator
Signature:  Date: 2/8/2019
email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: _____ Date: _____

Incident ID	Page 32 of 162
District RP	2RP-3744
Facility ID	
Application ID	

Closure

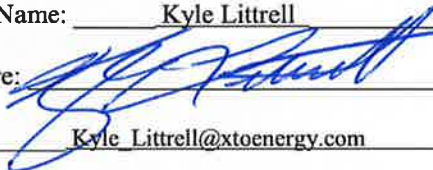
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection). Site photographs are included showing the site and excavations.
- ☒ 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 Coordinator

Signature:  Date: 2/8/2019

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/22/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS



Analytical Report 575938

for
LT Environmental, Inc.

Project Manager: Adrian Baker
Legg Federal Tank Battery/30-015-04734

16-FEB-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



16-FEB-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **575938**

Legg Federal Tank Battery/30-015-04734

Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 575938. 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. 575938 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Odessa Laboratory Director

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 575938****LT Environmental, Inc., Arvada, CO**

Legg Federal Tank Battery/30-015-04734

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS1	S	02-08-18 09:26	6 In	575938-001
SS2	S	02-08-18 09:28	6 In	575938-002
SS3	S	02-08-18 09:32	6 In	575938-003
SS4	S	02-08-18 09:35	6 In	575938-004
SS5	S	02-08-18 09:38	6 In	575938-005
SS6	S	02-08-18 09:41	6 In	575938-006
SS7	S	02-08-18 09:44	6 In	575938-007
SS8	S	02-08-18 09:47	6 In	575938-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Legg Federal Tank Battery/30-015-04734

Project ID:

Work Order Number(s): 575938

Report Date: 16-FEB-18

Date Received: 02/08/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3041062 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 575938-005.

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



Certificate of Analysis Summary 575938

LT Environmental, Inc., Arvada, CO

Project Name: Legg Federal Tank Battery/30-015-04734



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Thu Feb-08-18 05:35 pm

Report Date: 16-FEB-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	575938-001	575938-002	575938-003	575938-004	575938-005	575938-006
	Field Id:	SS1	SS2	SS3	SS4	SS5	SS6
	Depth:	6- In	6- In	6- In	6- In	6- In	6- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-08-18 09:26	Feb-08-18 09:28	Feb-08-18 09:32	Feb-08-18 09:35	Feb-08-18 09:38	Feb-08-18 09:41
BTEX by EPA 8021B	Extracted:	Feb-12-18 12:00	Feb-12-18 12:00	Feb-12-18 12:00	Feb-12-18 12:00	Feb-12-18 12:00	Feb-12-18 12:00
	Analyzed:	Feb-12-18 21:52	Feb-12-18 23:08	Feb-12-18 22:11	Feb-12-18 22:30	Feb-12-18 22:49	Feb-13-18 00:05
	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	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	0.00288 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202	0.00212 0.00200	0.0337 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00403 0.00403	0.00472 0.00399	0.0414 0.00397	<0.00403 0.00403
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202	0.00472 0.00200	0.0414 0.00198	<0.00202 0.00202
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202	0.00684 0.00200	0.0780 0.00198	<0.00202 0.00202
Inorganic Anions by EPA 300	Extracted:	Feb-15-18 15:00	Feb-15-18 15:00	Feb-15-18 15:00	Feb-15-18 15:00	Feb-15-18 15:00	Feb-15-18 15:00
	Analyzed:	Feb-15-18 17:46	Feb-15-18 17:57	Feb-15-18 18:03	Feb-15-18 18:08	Feb-15-18 18:13	Feb-15-18 18:19
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		266 4.98	2240 24.8	6.10 4.97	15.4 4.99	<4.98 4.98	298 4.93
TPH by SW8015 Mod	Extracted:	Feb-10-18 13:00	Feb-10-18 13:00	Feb-10-18 13:00	Feb-10-18 13:00	Feb-10-18 13:00	Feb-10-18 13:00
	Analyzed:	Feb-11-18 23:45	Feb-12-18 08:21	Feb-12-18 00:26	Feb-12-18 00:47	Feb-12-18 01:07	Feb-12-18 01:28
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<74.9 74.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	457 74.8	<15.0 15.0
Diesel Range Organics (DRO)		8530 74.9	4160 15.0	64.2 15.0	232 15.0	11100 74.8	44.6 15.0
Oil Range Hydrocarbons (ORO)		1410 74.9	743 15.0	<15.0 15.0	39.2 15.0	1760 74.8	33.2 15.0
Total TPH		9940 74.9	4900 15.0	64.2 15.0	271 15.0	13300 74.8	77.8 15.0

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

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

Jessica Kramer

Jessica Kramer
Odessa Laboratory Director



Certificate of Analysis Summary 575938

LT Environmental, Inc., Arvada, CO

Project Name: Legg Federal Tank Battery/30-015-04734



Project Id:

Contact: Adrian Baker

Project Location: NM

Date Received in Lab: Thu Feb-08-18 05:35 pm

Report Date: 16-FEB-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	575938-007	575938-008				
	Field Id:	SS7	SS8				
	Depth:	6- In	6- In				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-08-18 09:44	Feb-08-18 09:47				
BTEX by EPA 8021B	Extracted:	Feb-12-18 12:00	Feb-12-18 12:00				
	Analyzed:	Feb-13-18 00:25	Feb-13-18 00:44				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00200 0.00200				
Toluene		<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m,p-Xylenes		<0.00401 0.00401	<0.00399 0.00399				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Inorganic Anions by EPA 300	Extracted:	Feb-15-18 15:00	Feb-15-18 15:00				
	Analyzed:	Feb-15-18 18:24	Feb-15-18 18:41				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		8.48 4.93	22.8 4.94				
TPH by SW8015 Mod	Extracted:	Feb-10-18 13:00	Feb-10-18 13:00				
	Analyzed:	Feb-12-18 01:49	Feb-12-18 02:09				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0				
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				

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

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

Jessica Kramer

Jessica Kramer
Odessa Laboratory Director



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS1** Matrix: Soil Date Received: 02.08.18 17.35
 Lab Sample Id: 575938-001 Date Collected: 02.08.18 09.26 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: LRI % Moisture:
 Analyst: LRI Date Prep: 02.15.18 15.00 Basis: Wet Weight
 Seq Number: 3041189

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	266	4.98	mg/kg	02.15.18 17.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.10.18 13.00 Basis: Wet Weight
 Seq Number: 3040800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.9	74.9	mg/kg	02.11.18 23.45	U	5
Diesel Range Organics (DRO)	C10C28DRO	8530	74.9	mg/kg	02.11.18 23.45		5
Oil Range Hydrocarbons (ORO)	PHCG2835	1410	74.9	mg/kg	02.11.18 23.45		5
Total TPH	PHC635	9940	74.9	mg/kg	02.11.18 23.45		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	02.11.18 23.45	
o-Terphenyl	84-15-1	93	%	70-135	02.11.18 23.45	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS1**
Lab Sample Id: 575938-001

Matrix: Soil
Date Collected: 02.08.18 09.26

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

Seq Number: 3041062

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.12.18 21.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.12.18 21.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	80-120	02.12.18 21.52		
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.12.18 21.52		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS2 Matrix: Soil Date Received: 02.08.18 17.35
 Lab Sample Id: 575938-002 Date Collected: 02.08.18 09.28 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: LRI % Moisture:
 Analyst: LRI Date Prep: 02.15.18 15.00 Basis: Wet Weight
 Seq Number: 3041189

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2240	24.8	mg/kg	02.15.18 17.57		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.10.18 13.00 Basis: Wet Weight
 Seq Number: 3040800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 08.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	4160	15.0	mg/kg	02.12.18 08.21		1
Oil Range Hydrocarbons (ORO)	PHCG2835	743	15.0	mg/kg	02.12.18 08.21		1
Total TPH	PHC635	4900	15.0	mg/kg	02.12.18 08.21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	02.12.18 08.21		
o-Terphenyl	84-15-1	95	%	70-135	02.12.18 08.21		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS2
Lab Sample Id: 575938-002

Matrix: Soil
Date Collected: 02.08.18 09.28

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

Seq Number: 3041062

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.12.18 23.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.12.18 23.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	80-120	02.12.18 23.08		
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.12.18 23.08		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS3 Matrix: Soil Date Received: 02.08.18 17.35
 Lab Sample Id: 575938-003 Date Collected: 02.08.18 09.32 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: LRI % Moisture:
 Analyst: LRI Date Prep: 02.15.18 15.00 Basis: Wet Weight
 Seq Number: 3041189

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.10	4.97	mg/kg	02.15.18 18.03		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.10.18 13.00 Basis: Wet Weight
 Seq Number: 3040800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 00.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	64.2	15.0	mg/kg	02.12.18 00.26		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 00.26	U	1
Total TPH	PHC635	64.2	15.0	mg/kg	02.12.18 00.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	02.12.18 00.26	
o-Terphenyl	84-15-1	107	%	70-135	02.12.18 00.26	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS3
Lab Sample Id: 575938-003

Matrix: Soil
Date Collected: 02.08.18 09.32

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3041062

Date Prep: 02.12.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.12.18 22.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.12.18 22.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.12.18 22.11		
4-Bromofluorobenzene	460-00-4	104	%	80-120	02.12.18 22.11		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS4**
Lab Sample Id: 575938-004

Matrix: Soil
Date Collected: 02.08.18 09.35

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3041189

Date Prep: 02.15.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.4	4.99	mg/kg	02.15.18 18.08		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040800

Date Prep: 02.10.18 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 00.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	232	15.0	mg/kg	02.12.18 00.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	39.2	15.0	mg/kg	02.12.18 00.47		1
Total TPH	PHC635	271	15.0	mg/kg	02.12.18 00.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	02.12.18 00.47	
o-Terphenyl	84-15-1	119	%	70-135	02.12.18 00.47	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS4**
Lab Sample Id: 575938-004

Matrix: Soil
Date Collected: 02.08.18 09.35

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

Seq Number: 3041062

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.18 22.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.18 22.30	U	1
Ethylbenzene	100-41-4	0.00212	0.00200	mg/kg	02.12.18 22.30		1
m,p-Xylenes	179601-23-1	0.00472	0.00399	mg/kg	02.12.18 22.30		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.18 22.30	U	1
Total Xylenes	1330-20-7	0.00472	0.00200	mg/kg	02.12.18 22.30		1
Total BTEX		0.00684	0.00200	mg/kg	02.12.18 22.30		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	84		%	80-120	02.12.18 22.30	
4-Bromofluorobenzene	460-00-4	110		%	80-120	02.12.18 22.30	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS5
Lab Sample Id: 575938-005

Matrix: Soil
Date Collected: 02.08.18 09.38

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3041189

Date Prep: 02.15.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	02.15.18 18.13	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040800

Date Prep: 02.10.18 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	457	74.8	mg/kg	02.12.18 01.07		5
Diesel Range Organics (DRO)	C10C28DRO	11100	74.8	mg/kg	02.12.18 01.07		5
Oil Range Hydrocarbons (ORO)	PHCG2835	1760	74.8	mg/kg	02.12.18 01.07		5
Total TPH	PHC635	13300	74.8	mg/kg	02.12.18 01.07		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	127	%	70-135	02.12.18 01.07		
o-Terphenyl	84-15-1	114	%	70-135	02.12.18 01.07		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS5
Lab Sample Id: 575938-005

Matrix: Soil
Date Collected: 02.08.18 09.38

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

Seq Number: 3041062

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.12.18 22.49	U	1
Toluene	108-88-3	0.00288	0.00198	mg/kg	02.12.18 22.49		1
Ethylbenzene	100-41-4	0.0337	0.00198	mg/kg	02.12.18 22.49		1
m,p-Xylenes	179601-23-1	0.0414	0.00397	mg/kg	02.12.18 22.49		1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.12.18 22.49	U	1
Total Xylenes	1330-20-7	0.0414	0.00198	mg/kg	02.12.18 22.49		1
Total BTEX		0.0780	0.00198	mg/kg	02.12.18 22.49		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.12.18 22.49		
4-Bromofluorobenzene	460-00-4	166	%	80-120	02.12.18 22.49	**	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS6** Matrix: Soil Date Received: 02.08.18 17.35
 Lab Sample Id: 575938-006 Date Collected: 02.08.18 09.41 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: LRI % Moisture:
 Analyst: LRI Date Prep: 02.15.18 15.00 Basis: Wet Weight
 Seq Number: 3041189

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	298	4.93	mg/kg	02.15.18 18.19		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.10.18 13.00 Basis: Wet Weight
 Seq Number: 3040800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 01.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	44.6	15.0	mg/kg	02.12.18 01.28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	33.2	15.0	mg/kg	02.12.18 01.28		1
Total TPH	PHC635	77.8	15.0	mg/kg	02.12.18 01.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.12.18 01.28	
o-Terphenyl	84-15-1	104	%	70-135	02.12.18 01.28	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS6
Lab Sample Id: 575938-006

Matrix: Soil
Date Collected: 02.08.18 09.41

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

Seq Number: 3041062

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.13.18 00.05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.13.18 00.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.13.18 00.05		
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.13.18 00.05		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS7 Matrix: Soil Date Received: 02.08.18 17.35
 Lab Sample Id: 575938-007 Date Collected: 02.08.18 09.44 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: LRI % Moisture:
 Analyst: LRI Date Prep: 02.15.18 15.00 Basis: Wet Weight
 Seq Number: 3041189

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.48	4.93	mg/kg	02.15.18 18.24		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 02.10.18 13.00 Basis: Wet Weight
 Seq Number: 3040800

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 01.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 01.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 01.49	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 01.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	02.12.18 01.49		
o-Terphenyl	84-15-1	109	%	70-135	02.12.18 01.49		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS7
Lab Sample Id: 575938-007

Matrix: Soil
Date Collected: 02.08.18 09.44

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3041062

Date Prep: 02.12.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.13.18 00.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.18 00.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	80-120	02.13.18 00.25		
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.13.18 00.25		



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS8**
Lab Sample Id: 575938-008

Matrix: Soil
Date Collected: 02.08.18 09.47

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3041189

Date Prep: 02.15.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.8	4.94	mg/kg	02.15.18 18.41		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040800

Date Prep: 02.10.18 13.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.12.18 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.12.18 02.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.12.18 02.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.12.18 02.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.12.18 02.09	
o-Terphenyl	84-15-1	113	%	70-135	02.12.18 02.09	



Certificate of Analytical Results 575938



LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: **SS8**
Lab Sample Id: 575938-008

Matrix: Soil
Date Collected: 02.08.18 09.47

Date Received: 02.08.18 17.35
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3041062

Date Prep: 02.12.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.13.18 00.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.18 00.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	80-120	02.13.18 00.44		
1,4-Difluorobenzene	540-36-3	82	%	80-120	02.13.18 00.44		



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 **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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

Certified and approved by numerous States and Agencies.

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

Houston - Dallas - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



LT Environmental, Inc.
Legg Federal Tank Battery/30-015-04734

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3041189

MB Sample Id: 7639188-1-BLK

Matrix: Solid

LCS Sample Id: 7639188-1-BKS

Prep Method: E300P

Date Prep: 02.15.18

LCSD Sample Id: 7639188-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	255	102	90-110	3	20	mg/kg	02.15.18 21:37	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3041189

Parent Sample Id: 575815-002

Matrix: Soil

MS Sample Id: 575815-002 S

Prep Method: E300P

Date Prep: 02.15.18

MSD Sample Id: 575815-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	22.2	250	292	108	280	103	90-110	4	20	mg/kg	02.15.18 21:54	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3041189

Parent Sample Id: 575937-005

Matrix: Soil

MS Sample Id: 575937-005 S

Prep Method: E300P

Date Prep: 02.15.18

MSD Sample Id: 575937-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	265	106	268	108	90-110	1	20	mg/kg	02.15.18 17:35	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3040800

MB Sample Id: 7638965-1-BLK

Matrix: Solid

LCS Sample Id: 7638965-1-BKS

Prep Method: TX1005P

Date Prep: 02.10.18

LCSD Sample Id: 7638965-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1010	101	1030	103	70-135	2	35	mg/kg	02.11.18 17:53	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1100	110	70-135	3	35	mg/kg	02.11.18 17:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		114		114		70-135	%	02.11.18 17:53
o-Terphenyl	105		113		108		70-135	%	02.11.18 17:53

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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

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



LT Environmental, Inc.
Legg Federal Tank Battery/30-015-04734

Analytical Method: TPH by SW8015 Mod

Seq Number: 3040800

Parent Sample Id: 575590-001

Matrix: Soil

MS Sample Id: 575590-001 S

Prep Method: TX1005P

Date Prep: 02.10.18

MSD Sample Id: 575590-001 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)	<15.0	999	815	82	840	84	70-135	3	35	mg/kg	02.11.18 18:55	
Diesel Range Organics (DRO)	<15.0	999	920	92	969	97	70-135	5	35	mg/kg	02.11.18 18:55	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		91		70-135	%	02.11.18 18:55
o-Terphenyl	85		93		70-135	%	02.11.18 18:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3041062

MB Sample Id: 7639131-1-BLK

Matrix: Solid

LCS Sample Id: 7639131-1-BKS

Prep Method: SW5030B

Date Prep: 02.12.18

LCSD Sample Id: 7639131-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0876	88	0.0964	96	70-130	10	35	mg/kg	02.12.18 18:04	
Toluene	<0.00199	0.0994	0.0912	92	0.101	101	70-130	10	35	mg/kg	02.12.18 18:04	
Ethylbenzene	<0.00199	0.0994	0.101	102	0.111	111	71-129	9	35	mg/kg	02.12.18 18:04	
m,p-Xylenes	<0.00398	0.199	0.200	101	0.219	110	70-135	9	35	mg/kg	02.12.18 18:04	
o-Xylene	<0.00199	0.0994	0.0990	100	0.108	108	71-133	9	35	mg/kg	02.12.18 18:04	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		86		87		80-120	%	02.12.18 18:04
4-Bromofluorobenzene	100		113		113		80-120	%	02.12.18 18:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3041062

Parent Sample Id: 575937-003

Matrix: Soil

MS Sample Id: 575937-003 S

Prep Method: SW5030B

Date Prep: 02.12.18

MSD Sample Id: 575937-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0745	74	0.0812	81	70-130	9	35	mg/kg	02.12.18 18:41	
Toluene	<0.00201	0.101	0.0753	75	0.0833	83	70-130	10	35	mg/kg	02.12.18 18:41	
Ethylbenzene	<0.00201	0.101	0.0826	82	0.0900	90	71-129	9	35	mg/kg	02.12.18 18:41	
m,p-Xylenes	<0.00402	0.201	0.163	81	0.177	89	70-135	8	35	mg/kg	02.12.18 18:41	
o-Xylene	<0.00201	0.101	0.0826	82	0.0871	87	71-133	5	35	mg/kg	02.12.18 18:41	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		80-120	%	02.12.18 18:41
4-Bromofluorobenzene	118		113		80-120	%	02.12.18 18:41

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

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

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

CHAIN OF CUSTODY

Page 1 of 1

Client / Reporting Information				Project Information										Analytical Information		Matrix Codes	
Company Name / Branch: <u>UTE Permin</u>				Project Name/Number: <u>LEAG Federal Tank Battery / 30-015-04734</u>													
Company Address: <u>3300 N. A Street Bldg 1, Suite 103</u>				Project Location: <u>NM</u>													
Email: <u>Abaker@UTENL.com 432-704-5178</u>				Invoice To: <u>XTO Energy - Kyle Littlell</u>													
Project Contact: <u>Adrian Baker</u>				PO Number: <u>30-015-04734</u>													
Sampler's Name: <u>Adrian Baker</u>																	
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	NaOH	NaHSO4	MEOH	NONE	Field Comments			
1	<u>551</u>	<u>6"</u>	<u>2-8-18</u>	<u>9:26</u>	<u>S</u>	<u>1</u>								<u>Btex Meth. 8021</u>			
2	<u>552</u>			<u>9:29</u>										<u>TPH Meth. 8015</u>			
3	<u>553</u>			<u>9:32</u>										<u>Chloride Meth. 300.1</u>			
4	<u>554</u>			<u>9:35</u>													
5	<u>555</u>			<u>9:38</u>													
6	<u>556</u>			<u>9:41</u>													
7	<u>557</u>			<u>9:44</u>													
8	<u>558</u>			<u>9:47</u>													
9																	
10	<u>NEO ARN</u>																
Turnaround Time (Business days)																	
☐ Same Day TAT				☐ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg / raw data)					
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC + Forms				☐ TRRP Level IV					
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG-411					
☐ 3 Day EMERGENCY				<u>Standard</u>				☐ Level II Report with TRRP checklist									
TAT Starts Day received by Lab, if received by 5:00 pm																	
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																	
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>			
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>			
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:			
<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>		<u>[Signature]</u>		<u>2/8/18 10:30</u>			
FED-EX / UPS - Tracking # <u>575938</u>																	
Temp: <u>3.9</u> IR ID: <u>R-8</u>																	
CF: (0-6: -0.2°C)																	
(6-23: +0.2°C)																	
Corrected Temp: <u>3.7</u>																	
On Ice ☒ Cooler Temp. Thermo. Corr. Factor																	

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 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02/08/2018 05:35:00 PM

Work Order #: 575938

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	3.7
#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:

Shawnee Smith

Date: 02/09/2018

Checklist reviewed by:

Jessica Kramer

Date: 02/09/2018

Analytical Report 597514

for
LT Environmental, Inc.

Project Manager: Adrian Baker

LEGG Federal 001

06-SEP-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



06-SEP-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **597514**

LEGG Federal 001

Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 597514. 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. 597514 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 597514****LT Environmental, Inc., Arvada, CO**

LEGG Federal 001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS9	S	08-23-18 10:30	6 In	597514-001
SS10	S	08-23-18 10:35	6 In	597514-002
SS11	S	08-23-18 10:40	6 In	597514-003
SS12	S	08-23-18 11:00	6 In	597514-004
SS13	S	08-23-18 11:10	6 In	597514-005
SS14	S	08-23-18 13:35	6 In	597514-006
SS15	S	08-23-18 13:45	6 In	597514-007
SS16	S	08-23-18 15:30	6 In	597514-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: LEGG Federal 001

Project ID:

Work Order Number(s): 597514

Report Date: 06-SEP-18

Date Received: 08/29/2018

Sample receipt non conformances and comments:

Per clients email, correct sample depth from 6' to 6" for sample 001 JKR 09/06/18 NEW VERSION GENERATED

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3062203 BTEX by EPA 8021B

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



Certificate of Analysis Summary 597514

LT Environmental, Inc., Arvada, CO

Project Name: LEGG Federal 001

Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Wed Aug-29-18 03:50 pm

Report Date: 06-SEP-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	597514-001	597514-002	597514-003	597514-004	597514-005	597514-006
	<i>Field Id:</i>	SS9	SS10	SS11	SS12	SS13	SS14
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	6- In
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-23-18 10:30	Aug-23-18 10:35	Aug-23-18 10:40	Aug-23-18 11:00	Aug-23-18 11:10	Aug-23-18 13:35
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30
	<i>Analyzed:</i>	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404	<0.00398 0.00398	<0.00403 0.00403	<0.00401 0.00401	<0.00402 0.00402
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201
Inorganic Anions by EPA 300	<i>Extracted:</i>	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45
	<i>Analyzed:</i>	Aug-31-18 14:25	Aug-31-18 14:46	Aug-31-18 14:52	Aug-31-18 14:57	Aug-31-18 15:02	Aug-31-18 15:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		108 4.96	10.6 4.99	<4.96 4.96	944 4.98	546 5.00	23.8 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00	Aug-29-18 16:00	Aug-29-18 16:00
	<i>Analyzed:</i>	Aug-30-18 12:50	Aug-30-18 13:10	Aug-30-18 13:30	Aug-30-18 13:49	Aug-29-18 21:47	Aug-29-18 22:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<74.7 74.7	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		418 15.0	67.2 15.0	657 15.0	7420 74.7	158 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		67.3 15.0	<15.0 15.0	83.7 15.0	455 74.7	<15.0 15.0	<15.0 15.0
Total TPH		485 15.0	67.2 15.0	741 15.0	7880 74.7	158 15.0	<15.0 15.0

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 597514

LT Environmental, Inc., Arvada, CO

Project Name: LEGG Federal 001



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Wed Aug-29-18 03:50 pm

Report Date: 06-SEP-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	597514-007	597514-008				
	Field Id:	SS15	SS16				
	Depth:	6- In	6- In				
	Matrix:	SOIL	SOIL				
	Sampled:	Aug-23-18 13:45	Aug-23-18 15:30				
BTEX by EPA 8021B	Extracted:	Sep-05-18 09:30	Sep-05-18 09:30				
	Analyzed:	Sep-06-18 08:07	Sep-06-18 08:07				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00202 0.00202				
	Toluene	<0.00200 0.00200	<0.00202 0.00202				
	Ethylbenzene	<0.00200 0.00200	<0.00202 0.00202				
	m,p-Xylenes	<0.00399 0.00399	<0.00404 0.00404				
	o-Xylene	<0.00200 0.00200	<0.00202 0.00202				
	Total Xylenes	<0.00200 0.00200	<0.00202 0.00202				
	Total BTEX	<0.00200 0.00200	<0.00202 0.00202				
Inorganic Anions by EPA 300	Extracted:	Aug-31-18 10:45	Aug-31-18 10:45				
	Analyzed:	Aug-31-18 15:13	Aug-31-18 15:29				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	<4.99 4.99	11.6 4.95				
TPH by SW8015 Mod	Extracted:	Aug-29-18 16:00	Aug-29-18 16:00				
	Analyzed:	Aug-29-18 22:26	Aug-29-18 22:46				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	18.7 15.0	1410 15.0				
	Oil Range Hydrocarbons (ORO)	<15.0 15.0	27.4 15.0				
	Total TPH	18.7 15.0	1440 15.0				

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

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 597514

LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS9
Lab Sample Id: 597514-001

Matrix: Soil
Date Collected: 08.23.18 10.30

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061992

Date Prep: 08.31.18 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	108	4.96	mg/kg	08.31.18 14.25		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 12.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	418	15.0	mg/kg	08.30.18 12.50		1
Oil Range Hydrocarbons (ORO)	PHCG2835	67.3	15.0	mg/kg	08.30.18 12.50		1
Total TPH	PHC635	485	15.0	mg/kg	08.30.18 12.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.30.18 12.50	
o-Terphenyl	84-15-1	116	%	70-135	08.30.18 12.50	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS9
Lab Sample Id: 597514-001

Matrix: Soil
Date Collected: 08.23.18 10.30

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	88	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	96	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS10** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-002 Date Collected: 08.23.18 10.35 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.6	4.99	mg/kg	08.31.18 14.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.30.18 07.00 Basis: Wet Weight
 Seq Number: 3061961

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 13.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	67.2	15.0	mg/kg	08.30.18 13.10		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.30.18 13.10	U	1
Total TPH	PHC635	67.2	15.0	mg/kg	08.30.18 13.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.30.18 13.10	
o-Terphenyl	84-15-1	96	%	70-135	08.30.18 13.10	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS10**
Lab Sample Id: 597514-002

Matrix: Soil
Date Collected: 08.23.18 10.35

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	103	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS11** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-003 Date Collected: 08.23.18 10.40 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	08.31.18 14.52	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.30.18 07.00 Basis: Wet Weight
 Seq Number: 3061961

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 13.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	657	15.0	mg/kg	08.30.18 13.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	83.7	15.0	mg/kg	08.30.18 13.30		1
Total TPH	PHC635	741	15.0	mg/kg	08.30.18 13.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.30.18 13.30	
o-Terphenyl	84-15-1	104	%	70-135	08.30.18 13.30	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS11**
Lab Sample Id: 597514-003

Matrix: Soil
Date Collected: 08.23.18 10.40

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	87	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514

LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS12
Lab Sample Id: 597514-004

Matrix: Soil
Date Collected: 08.23.18 11.00

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061992

Date Prep: 08.31.18 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	944	4.98	mg/kg	08.31.18 14.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<74.7	74.7	mg/kg	08.30.18 13.49	U	5
Diesel Range Organics (DRO)	C10C28DRO	7420	74.7	mg/kg	08.30.18 13.49		5
Oil Range Hydrocarbons (ORO)	PHCG2835	455	74.7	mg/kg	08.30.18 13.49		5
Total TPH	PHC635	7880	74.7	mg/kg	08.30.18 13.49		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.30.18 13.49	
o-Terphenyl	84-15-1	102	%	70-135	08.30.18 13.49	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS12
Lab Sample Id: 597514-004

Matrix: Soil
Date Collected: 08.23.18 11.00

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.06.18 08.07		
1,4-Difluorobenzene	540-36-3	83	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS13** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-005 Date Collected: 08.23.18 11.10 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	546	5.00	mg/kg	08.31.18 15.02		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.29.18 16.00 Basis: Wet Weight
 Seq Number: 3061706

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.29.18 21.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	158	15.0	mg/kg	08.29.18 21.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.29.18 21.47	U	1
Total TPH	PHC635	158	15.0	mg/kg	08.29.18 21.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.29.18 21.47	
o-Terphenyl	84-15-1	97	%	70-135	08.29.18 21.47	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS13**
Lab Sample Id: 597514-005

Matrix: Soil
Date Collected: 08.23.18 11.10

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	09.06.18 08.07		
1,4-Difluorobenzene	540-36-3	80	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS14** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-006 Date Collected: 08.23.18 13.35 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.8	5.00	mg/kg	08.31.18 15.07		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.29.18 16.00 Basis: Wet Weight
 Seq Number: 3061706

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.29.18 22.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.29.18 22.07	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.29.18 22.07	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.29.18 22.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.29.18 22.07	
o-Terphenyl	84-15-1	98	%	70-135	08.29.18 22.07	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS14**
Lab Sample Id: 597514-006

Matrix: Soil
Date Collected: 08.23.18 13.35

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	75	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS15** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-007 Date Collected: 08.23.18 13.45 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	08.31.18 15.13	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.29.18 16.00 Basis: Wet Weight
 Seq Number: 3061706

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.29.18 22.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.7	15.0	mg/kg	08.29.18 22.26		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.29.18 22.26	U	1
Total TPH	PHC635	18.7	15.0	mg/kg	08.29.18 22.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.29.18 22.26	
o-Terphenyl	84-15-1	103	%	70-135	08.29.18 22.26	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS15**
Lab Sample Id: 597514-007

Matrix: Soil
Date Collected: 08.23.18 13.45

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	109	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS16** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597514-008 Date Collected: 08.23.18 15.30 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	4.95	mg/kg	08.31.18 15.29		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.29.18 16.00 Basis: Wet Weight
 Seq Number: 3061706

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.29.18 22.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	1410	15.0	mg/kg	08.29.18 22.46		1
Oil Range Hydrocarbons (ORO)	PHCG2835	27.4	15.0	mg/kg	08.29.18 22.46		1
Total TPH	PHC635	1440	15.0	mg/kg	08.29.18 22.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	08.29.18 22.46	
o-Terphenyl	84-15-1	113	%	70-135	08.29.18 22.46	



Certificate of Analytical Results 597514



LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS16**
Lab Sample Id: 597514-008

Matrix: Soil
Date Collected: 08.23.18 15.30

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	99	%	70-130	09.06.18 08.07		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

LEGG Federal 001

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

MB Sample Id: 7661490-1-BLK

Matrix: Solid

LCS Sample Id: 7661490-1-BKS

Prep Method: E300P

Date Prep: 08.31.18

LCSD Sample Id: 7661490-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	262	105	90-110	0	20	mg/kg	08.31.18 13:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

Parent Sample Id: 597513-003

Matrix: Soil

MS Sample Id: 597513-003 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597513-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	253	102	245	99	90-110	3	20	mg/kg	08.31.18 13:58	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

Parent Sample Id: 597514-007

Matrix: Soil

MS Sample Id: 597514-007 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.857	250	241	96	240	96	90-110	0	20	mg/kg	08.31.18 15:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061706

MB Sample Id: 7661422-1-BLK

Matrix: Solid

LCS Sample Id: 7661422-1-BKS

Prep Method: TX1005P

Date Prep: 08.29.18

LCSD Sample Id: 7661422-1-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	942	94	911	91	70-135	3	20	mg/kg	08.29.18 15:09	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	981	98	70-135	4	20	mg/kg	08.29.18 15:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		118		113		70-135	%	08.29.18 15:09
o-Terphenyl	102		111		108		70-135	%	08.29.18 15:09

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

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

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

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



LT Environmental, Inc.

LEGG Federal 001

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061961

MB Sample Id: 7661540-1-BLK

Matrix: Solid

LCS Sample Id: 7661540-1-BKS

Prep Method: TX1005P

Date Prep: 08.30.18

LCSD Sample Id: 7661540-1-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	843	84	842	84	70-135	0	20	mg/kg	08.30.18 09:30	
Diesel Range Organics (DRO)	<8.13	1000	874	87	868	87	70-135	1	20	mg/kg	08.30.18 09:30	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	85		116		117		70-135	%	08.30.18 09:30			
o-Terphenyl	92		98		106		70-135	%	08.30.18 09:30			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061706

Parent Sample Id: 597209-004

Matrix: Soil

MS Sample Id: 597209-004 S

Prep Method: TX1005P

Date Prep: 08.29.18

MSD Sample Id: 597209-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	904	91	878	88	70-135	3	20	mg/kg	08.29.18 17:10	
Diesel Range Organics (DRO)	<8.11	998	974	98	945	95	70-135	3	20	mg/kg	08.29.18 17:10	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			120		114		70-135	%	08.29.18 17:10			
o-Terphenyl			106		104		70-135	%	08.29.18 17:10			

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061961

Parent Sample Id: 597513-001

Matrix: Soil

MS Sample Id: 597513-001 S

Prep Method: TX1005P

Date Prep: 08.30.18

MSD Sample Id: 597513-001 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	847	85	864	86	70-135	2	20	mg/kg	08.30.18 10:31	
Diesel Range Organics (DRO)	<8.12	999	886	89	906	91	70-135	2	20	mg/kg	08.30.18 10:31	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			119		122		70-135	%	08.30.18 10:31			
o-Terphenyl			100		106		70-135	%	08.30.18 10:31			

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

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

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

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



LT Environmental, Inc.

LEGG Federal 001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3062203

MB Sample Id: 7661720-1-BLK

Matrix: Solid

LCS Sample Id: 7661720-1-BKS

Prep Method: SW5030B

Date Prep: 09.05.18

LCSD Sample Id: 7661720-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0841	83	0.0870	86	70-130	3	35	mg/kg	09.05.18 16:26	
Toluene	<0.00201	0.101	0.0879	87	0.0919	91	70-130	4	35	mg/kg	09.05.18 16:26	
Ethylbenzene	<0.00201	0.101	0.108	107	0.114	113	70-130	5	35	mg/kg	09.05.18 16:26	
m,p-Xylenes	<0.00402	0.201	0.203	101	0.215	106	70-130	6	35	mg/kg	09.05.18 16:26	
o-Xylene	<0.00201	0.101	0.0952	94	0.102	101	70-130	7	35	mg/kg	09.05.18 16:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		84		89		70-130	%	09.05.18 16:26
4-Bromofluorobenzene	95		86		100		70-130	%	09.05.18 16:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3062203

Parent Sample Id: 597513-001

Matrix: Soil

MS Sample Id: 597513-001 S

Prep Method: SW5030B

Date Prep: 09.05.18

MSD Sample Id: 597513-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0834	84	0.0788	79	70-130	6	35	mg/kg	09.05.18 16:26	
Toluene	<0.00199	0.0996	0.0830	83	0.0782	78	70-130	6	35	mg/kg	09.05.18 16:26	
Ethylbenzene	<0.00199	0.0996	0.0972	98	0.0911	91	70-130	6	35	mg/kg	09.05.18 16:26	
m,p-Xylenes	<0.00398	0.199	0.180	90	0.168	84	70-130	7	35	mg/kg	09.05.18 16:26	
o-Xylene	<0.00199	0.0996	0.0841	84	0.0784	78	70-130	7	35	mg/kg	09.05.18 16:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	09.05.18 16:26
4-Bromofluorobenzene	94		89		70-130	%	09.05.18 16:26

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



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

[illegible]



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/29/2018 03:50:00 PM

Work Order #: 597514

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)?	14.6
#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)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Shawnee Gomez

Date: 08/29/2018

Checklist reviewed by:

Jessica Kramer

Date: 08/30/2018

Analytical Report 597513

for
LT Environmental, Inc.

Project Manager: Adrian Baker

Legg Federal 001

06-SEP-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), 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 (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



06-SEP-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **597513**

Legg Federal 001

Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 597513. 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. 597513 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 597513****LT Environmental, Inc., Arvada, CO**

Legg Federal 001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS17	S	08-24-18 10:00	6 In	597513-001
SS18	S	08-24-18 10:15	6 In	597513-002
SS20	S	08-24-18 11:50	6 In	597513-003
SS21	S	08-24-18 13:37	6 In	597513-004
SS22	S	08-24-18 14:15	6 In	597513-005
SS5A	S	08-24-18 15:05	1 ft	597513-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Legg Federal 001

Project ID:

Work Order Number(s): 597513

Report Date: 06-SEP-18

Date Received: 08/29/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3062203 BTEX by EPA 8021B

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



Certificate of Analysis Summary 597513

LT Environmental, Inc., Arvada, CO

Project Name: Legg Federal 001

Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Wed Aug-29-18 03:50 pm

Report Date: 06-SEP-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	597513-001	597513-002	597513-003	597513-004	597513-005	597513-006
	<i>Field Id:</i>	SS17	SS18	SS20	SS21	SS22	SS5A
	<i>Depth:</i>	6- In	6- In	6- In	6- In	6- In	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-24-18 10:00	Aug-24-18 10:15	Aug-24-18 11:50	Aug-24-18 13:37	Aug-24-18 14:15	Aug-24-18 15:05
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30	Sep-05-18 09:30
	<i>Analyzed:</i>	Sep-05-18 16:26	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07	Sep-06-18 08:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	0.00870 0.00202	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	0.0127 0.00202	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00399 0.00399	0.0538 0.00403	<0.00401 0.00401	<0.00397 0.00397
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	0.00774 0.00202	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	0.0615 0.00202	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	0.0829 0.00202	<0.00200 0.00200	<0.00198 0.00198
Inorganic Anions by EPA 300	<i>Extracted:</i>	Aug-31-18 09:00	Aug-31-18 09:00	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45	Aug-31-18 10:45
	<i>Analyzed:</i>	Aug-31-18 12:13	Aug-31-18 13:21	Aug-31-18 13:53	Aug-31-18 14:09	Aug-31-18 14:14	Aug-31-18 14:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.95 4.95	64.6 5.00	<4.96 4.96	80.4 4.95	<5.00 5.00	<4.95 4.95
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00	Aug-30-18 07:00
	<i>Analyzed:</i>	Aug-30-18 10:11	Aug-30-18 11:11	Aug-30-18 11:31	Aug-30-18 11:51	Aug-30-18 12:10	Aug-30-18 12:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	148 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	181 15.0	<14.9 14.9	2360 15.0	45.8 15.0	<14.9 14.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	38.3 15.0	<14.9 14.9	70.7 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15.0 15.0	219 15.0	<14.9 14.9	2580 15.0	45.8 15.0	<14.9 14.9

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS17**
Lab Sample Id: 597513-001

Matrix: Soil
Date Collected: 08.24.18 10.00

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061988

Date Prep: 08.31.18 09.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	08.31.18 12.13	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 10.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.30.18 10.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.30.18 10.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.30.18 10.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	08.30.18 10.11	
o-Terphenyl	84-15-1	102	%	70-135	08.30.18 10.11	



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS17**
Lab Sample Id: 597513-001

Matrix: Soil
Date Collected: 08.24.18 10.00

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.05.18 16.26	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.05.18 16.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	09.05.18 16.26		
1,4-Difluorobenzene	540-36-3	93	%	70-130	09.05.18 16.26		



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS18**
Lab Sample Id: 597513-002

Matrix: Soil
Date Collected: 08.24.18 10.15

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061988

Date Prep: 08.31.18 09.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.6	5.00	mg/kg	08.31.18 13.21		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 11.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	181	15.0	mg/kg	08.30.18 11.11		1
Oil Range Hydrocarbons (ORO)	PHCG2835	38.3	15.0	mg/kg	08.30.18 11.11		1
Total TPH	PHC635	219	15.0	mg/kg	08.30.18 11.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.30.18 11.11	
o-Terphenyl	84-15-1	93	%	70-135	08.30.18 11.11	



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS18**
Lab Sample Id: 597513-002

Matrix: Soil
Date Collected: 08.24.18 10.15

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	128	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS20** Matrix: Soil Date Received: 08.29.18 15.50
 Lab Sample Id: 597513-003 Date Collected: 08.24.18 11.50 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: OJS % Moisture:
 Analyst: OJS Date Prep: 08.31.18 10.45 Basis: Wet Weight
 Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	08.31.18 13.53	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.30.18 07.00 Basis: Wet Weight
 Seq Number: 3061961

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	08.30.18 11.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	08.30.18 11.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	08.30.18 11.31	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	08.30.18 11.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.30.18 11.31	
o-Terphenyl	84-15-1	93	%	70-135	08.30.18 11.31	



Certificate of Analytical Results 597513



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS20**
Lab Sample Id: 597513-003

Matrix: Soil
Date Collected: 08.24.18 11.50

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	83	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS21
Lab Sample Id: 597513-004

Matrix: Soil
Date Collected: 08.24.18 13.37

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061992

Date Prep: 08.31.18 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.4	4.95	mg/kg	08.31.18 14.09		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	148	15.0	mg/kg	08.30.18 11.51		1
Diesel Range Organics (DRO)	C10C28DRO	2360	15.0	mg/kg	08.30.18 11.51		1
Oil Range Hydrocarbons (ORO)	PHCG2835	70.7	15.0	mg/kg	08.30.18 11.51		1
Total TPH	PHC635	2580	15.0	mg/kg	08.30.18 11.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.30.18 11.51	
o-Terphenyl	84-15-1	129	%	70-135	08.30.18 11.51	



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS21**
 Lab Sample Id: 597513-004

Matrix: Soil
 Date Collected: 08.24.18 13.37

Date Received: 08.29.18 15.50
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	0.00870	0.00202	mg/kg	09.06.18 08.07		1
Ethylbenzene	100-41-4	0.0127	0.00202	mg/kg	09.06.18 08.07		1
m,p-Xylenes	179601-23-1	0.0538	0.00403	mg/kg	09.06.18 08.07		1
o-Xylene	95-47-6	0.00774	0.00202	mg/kg	09.06.18 08.07		1
Total Xylenes	1330-20-7	0.0615	0.00202	mg/kg	09.06.18 08.07		1
Total BTEX		0.0829	0.00202	mg/kg	09.06.18 08.07		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	09.06.18 08.07		
1,4-Difluorobenzene	540-36-3	88	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS22
Lab Sample Id: 597513-005

Matrix: Soil
Date Collected: 08.24.18 14.15

Date Received: 08.29.18 15.50
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061992

Date Prep: 08.31.18 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	08.31.18 14.14	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.30.18 12.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	45.8	15.0	mg/kg	08.30.18 12.10		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	08.30.18 12.10	U	1
Total TPH	PHC635	45.8	15.0	mg/kg	08.30.18 12.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.30.18 12.10	
o-Terphenyl	84-15-1	97	%	70-135	08.30.18 12.10	



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS22
 Lab Sample Id: 597513-005

Matrix: Soil
 Date Collected: 08.24.18 14.15

Date Received: 08.29.18 15.50
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	09.06.18 08.07		
4-Bromofluorobenzene	460-00-4	83	%	70-130	09.06.18 08.07		



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS5A
Lab Sample Id: 597513-006

Matrix: Soil
Date Collected: 08.24.18 15.05

Date Received: 08.29.18 15.50
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3061992

Date Prep: 08.31.18 10.45

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	08.31.18 14.20	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3061961

Date Prep: 08.30.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	08.30.18 12.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	08.30.18 12.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	08.30.18 12.30	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	08.30.18 12.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.30.18 12.30	
o-Terphenyl	84-15-1	96	%	70-135	08.30.18 12.30	



Certificate of Analytical Results 597513

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS5A
Lab Sample Id: 597513-006

Matrix: Soil
Date Collected: 08.24.18 15.05

Date Received: 08.29.18 15.50
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number: 3062203

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.06.18 08.07	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.06.18 08.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	09.06.18 08.07		
1,4-Difluorobenzene	540-36-3	97	%	70-130	09.06.18 08.07		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061988

MB Sample Id: 7661483-1-BLK

Matrix: Solid

LCS Sample Id: 7661483-1-BKS

Prep Method: E300P

Date Prep: 08.31.18

LCSD Sample Id: 7661483-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	258	103	90-110	0	20	mg/kg	08.31.18 10:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

MB Sample Id: 7661490-1-BLK

Matrix: Solid

LCS Sample Id: 7661490-1-BKS

Prep Method: E300P

Date Prep: 08.31.18

LCSD Sample Id: 7661490-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	262	105	90-110	0	20	mg/kg	08.31.18 13:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061988

Parent Sample Id: 597513-001

Matrix: Soil

MS Sample Id: 597513-001 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597513-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.850	248	252	102	245	99	90-110	3	20	mg/kg	08.31.18 12:18	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061988

Parent Sample Id: 597555-002

Matrix: Soil

MS Sample Id: 597555-002 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597555-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	252	102	252	102	90-110	0	20	mg/kg	08.31.18 11:04	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

Parent Sample Id: 597513-003

Matrix: Soil

MS Sample Id: 597513-003 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597513-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.852	248	253	102	245	99	90-110	3	20	mg/kg	08.31.18 13:58	

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

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

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

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

Parent Sample Id: 597514-007

Matrix: Soil

MS Sample Id: 597514-007 S

Prep Method: E300P

Date Prep: 08.31.18

MSD Sample Id: 597514-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.857	250	241	96	240	96	90-110	0	20	mg/kg	08.31.18 15:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061961

MB Sample Id: 7661540-1-BLK

Matrix: Solid

LCS Sample Id: 7661540-1-BKS

Prep Method: TX1005P

Date Prep: 08.30.18

LCSD Sample Id: 7661540-1-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	843	84	842	84	70-135	0	20	mg/kg	08.30.18 09:30	
Diesel Range Organics (DRO)	<8.13	1000	874	87	868	87	70-135	1	20	mg/kg	08.30.18 09:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	85		116		117		70-135	%	08.30.18 09:30
o-Terphenyl	92		98		106		70-135	%	08.30.18 09:30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061961

Parent Sample Id: 597513-001

Matrix: Soil

MS Sample Id: 597513-001 S

Prep Method: TX1005P

Date Prep: 08.30.18

MSD Sample Id: 597513-001 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	847	85	864	86	70-135	2	20	mg/kg	08.30.18 10:31	
Diesel Range Organics (DRO)	<8.12	999	886	89	906	91	70-135	2	20	mg/kg	08.30.18 10:31	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		122		70-135	%	08.30.18 10:31
o-Terphenyl	100		106		70-135	%	08.30.18 10:31

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

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

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

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3062203

MB Sample Id: 7661720-1-BLK

Matrix: Solid

LCS Sample Id: 7661720-1-BKS

Prep Method: SW5030B

Date Prep: 09.05.18

LCSD Sample Id: 7661720-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0841	83	0.0870	86	70-130	3	35	mg/kg	09.05.18 16:26	
Toluene	<0.00201	0.101	0.0879	87	0.0919	91	70-130	4	35	mg/kg	09.05.18 16:26	
Ethylbenzene	<0.00201	0.101	0.108	107	0.114	113	70-130	5	35	mg/kg	09.05.18 16:26	
m,p-Xylenes	<0.00402	0.201	0.203	101	0.215	106	70-130	6	35	mg/kg	09.05.18 16:26	
o-Xylene	<0.00201	0.101	0.0952	94	0.102	101	70-130	7	35	mg/kg	09.05.18 16:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		84		89		70-130	%	09.05.18 16:26
4-Bromofluorobenzene	95		86		100		70-130	%	09.05.18 16:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3062203

Parent Sample Id: 597513-001

Matrix: Soil

MS Sample Id: 597513-001 S

Prep Method: SW5030B

Date Prep: 09.05.18

MSD Sample Id: 597513-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0834	84	0.0788	79	70-130	6	35	mg/kg	09.05.18 16:26	
Toluene	<0.00199	0.0996	0.0830	83	0.0782	78	70-130	6	35	mg/kg	09.05.18 16:26	
Ethylbenzene	<0.00199	0.0996	0.0972	98	0.0911	91	70-130	6	35	mg/kg	09.05.18 16:26	
m,p-Xylenes	<0.00398	0.199	0.180	90	0.168	84	70-130	7	35	mg/kg	09.05.18 16:26	
o-Xylene	<0.00199	0.0996	0.0841	84	0.0784	78	70-130	7	35	mg/kg	09.05.18 16:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	09.05.18 16:26
4-Bromofluorobenzene	94		89		70-130	%	09.05.18 16:26

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

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenoco.com

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes				
Company Name / Branch: LT Environmental, Inc. - Permian Office				Project Name/Number: LEGO-FEDERAL 001												
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705				Project Location: Carlsbad, NM												
Phone No: (432) 704-5178				Invoice To: XTO Energy - Kyle Little												
Email: Abaker@ltenv.com				PO Number: 2KP-2761-2RP-3634, 2RP-3741-2RP-3744												
Project Contact: Adrian Baker																
Sampler's Name: Joseph S. Hernandez																
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles						Field Comments			
							HCl	NaOH/zn	Acetate	HNO3	H2SO4	NaOH		NH4SO4	MEOH	NONE
1	SS17	6"	8/24/18	1000	S	1										X
2	SS18	6"		1015	S	1										X
3	SS14	3'		1150	S	1										X
4	SS20	6"		1150	S	1										X
5	SS21	6"		1337	S	1										X
6	SS22	6"		1415	S	1										X
7	SS5A	1'		1505	S	1										X
8																
9																
10																
Turnaround Time (Business days) Data Deliverable Information																
Same Day TAT				☒ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg /raw data)				
Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV				
2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG -411				
3 Day EMERGENCY				☐				☐ TRRP Checklist								
TAT Starts Day received by Lab, if received by 5:00 pm																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																
Relinquished by: <i>SS</i>				Received By: <i>Adrian Baker</i>				Relinquished By:				Received By:				
Date Time: 8/24/18				Date Time: 8/24/18				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:				Date Time:				Date Time:				Date Time:				
Relinquished by:				Received By:				Relinquished By:				Received By:				
Date Time:																

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/29/2018 03:50:00 PM

Work Order #: 597513

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)?	14.6
#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)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Shawnee Gomez

Date: 08/29/2018

Checklist reviewed by:

Jessica Kramer

Date: 08/30/2018

Analytical Report 611800

for
LT Environmental, Inc.

Project Manager: Adrian Baker

Legg Federal 001

2RP-3744, 2761, 3741

22-JAN-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



22-JAN-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **611800**

Legg Federal 001

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 611800. 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. 611800 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 611800****LT Environmental, Inc., Arvada, CO**

Legg Federal 001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	01-16-19 09:50	1 ft	611800-001
FS02	S	01-16-19 10:15	1 ft	611800-002
FS03	S	01-16-19 10:35	1.5 ft	611800-003
FS04	S	01-16-19 10:35	1.5 ft	611800-004
FS05	S	01-16-19 11:10	3 ft	611800-005
FS06	S	01-16-19 11:25	1 ft	611800-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Legg Federal 001

Project ID: 2RP-3744, 2761, 3741
Work Order Number(s): 611800

Report Date: 22-JAN-19
Date Received: 01/18/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076435 TPH by SW8015 Mod

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

Samples affected are: 611429-003 SD.

Batch: LBA-3076480 BTEX by EPA 8021B

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



Certificate of Analysis Summary 611800

LT Environmental, Inc., Arvada, CO

Project Name: Legg Federal 001

Project Id: 2RP-3744, 2761, 3741
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Fri Jan-18-19 11:15 am
Report Date: 22-JAN-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	611800-001	611800-002	611800-003	611800-004	611800-005	611800-006
	Field Id:	FS01	FS02	FS03	FS04	FS05	FS06
	Depth:	1- ft	1- ft	1.5- ft	1.5- ft	3- ft	1- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-16-19 09:50	Jan-16-19 10:15	Jan-16-19 10:35	Jan-16-19 10:35	Jan-16-19 11:10	Jan-16-19 11:25
BTEX by EPA 8021B	Extracted:	Jan-21-19 11:00	Jan-21-19 11:00	Jan-21-19 11:00	Jan-21-19 11:00	Jan-21-19 11:00	Jan-21-19 11:00
	Analyzed:	Jan-21-19 19:07	Jan-21-19 19:28	Jan-21-19 19:49	Jan-21-19 20:11	Jan-21-19 20:33	Jan-21-19 20:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.00370 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00398 0.00398	<0.00402 0.00402	<0.00398 0.00398	0.00587 0.00403	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.00561 0.00202	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.0115 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	0.0152 0.00202	<0.00200 0.00200
Inorganic Anions by EPA 300	Extracted:	Jan-21-19 11:30	Jan-21-19 11:30	Jan-21-19 11:30	Jan-21-19 11:30	Jan-21-19 11:30	Jan-21-19 11:30
	Analyzed:	Jan-21-19 16:04	Jan-21-19 16:10	Jan-21-19 16:32	Jan-21-19 16:38	Jan-21-19 16:44	Jan-21-19 16:50
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.99 4.99	<4.96 4.96	<5.00 5.00	<4.95 4.95	34.4 4.98	<4.99 4.99
TPH by SW8015 Mod	Extracted:	Jan-20-19 08:00	Jan-20-19 08:00	Jan-20-19 08:00	Jan-20-19 08:00	Jan-20-19 08:00	Jan-20-19 08:00
	Analyzed:	Jan-20-19 16:13	Jan-20-19 16:34	Jan-20-19 13:53	Jan-20-19 14:13	Jan-20-19 14:33	Jan-20-19 14:53
	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)		195 15.0	<15.0 15.0	56.4 15.0	666 15.0	395 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	48.5 15.0	26.7 15.0	<15.0 15.0
Total TPH		195 15.0	<15.0 15.0	56.4 15.0	715 15.0	422 15.0	<15.0 15.0

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS01** Matrix: Soil Date Received: 01.18.19 11.15
 Lab Sample Id: 611800-001 Date Collected: 01.16.19 09.50 Sample Depth: 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.21.19 11.30 Basis: Wet Weight
 Seq Number: 3076510

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	01.21.19 16.04	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 01.20.19 08.00 Basis: Wet Weight
 Seq Number: 3076435

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 16.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	195	15.0	mg/kg	01.20.19 16.13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.20.19 16.13	U	1
Total TPH	PHC635	195	15.0	mg/kg	01.20.19 16.13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.20.19 16.13	
o-Terphenyl	84-15-1	106	%	70-135	01.20.19 16.13	



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS01**
 Lab Sample Id: 611800-001

Matrix: Soil
 Date Collected: 01.16.19 09.50

Date Received: 01.18.19 11.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076480

Date Prep: 01.21.19 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.21.19 19.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.21.19 19.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	01.21.19 19.07		
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.21.19 19.07		



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS02**
 Lab Sample Id: 611800-002

Matrix: Soil
 Date Collected: 01.16.19 10.15

Date Received: 01.18.19 11.15
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	01.21.19 16.10	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3076435

Date Prep: 01.20.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 16.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.20.19 16.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.20.19 16.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.20.19 16.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.20.19 16.34	
o-Terphenyl	84-15-1	101	%	70-135	01.20.19 16.34	



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS02**
 Lab Sample Id: 611800-002

Matrix: Soil
 Date Collected: 01.16.19 10.15

Date Received: 01.18.19 11.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.21.19 11.00

Basis: Wet Weight

Seq Number: 3076480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.19 19.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.19 19.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.21.19 19.28		
1,4-Difluorobenzene	540-36-3	93	%	70-130	01.21.19 19.28		



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS03** Matrix: Soil Date Received: 01.18.19 11.15
 Lab Sample Id: 611800-003 Date Collected: 01.16.19 10.35 Sample Depth: 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.21.19 11.30 Basis: Wet Weight
 Seq Number: 3076510

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	01.21.19 16.32	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 01.20.19 08.00 Basis: Wet Weight
 Seq Number: 3076435

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 13.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	56.4	15.0	mg/kg	01.20.19 13.53		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.20.19 13.53	U	1
Total TPH	PHC635	56.4	15.0	mg/kg	01.20.19 13.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	01.20.19 13.53	
o-Terphenyl	84-15-1	96	%	70-135	01.20.19 13.53	



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS03**
 Lab Sample Id: 611800-003

Matrix: Soil
 Date Collected: 01.16.19 10.35

Date Received: 01.18.19 11.15
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.21.19 11.00

Basis: Wet Weight

Seq Number: 3076480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.21.19 19.49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.21.19 19.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.21.19 19.49		
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.21.19 19.49		



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS04** Matrix: Soil Date Received: 01.18.19 11.15
 Lab Sample Id: 611800-004 Date Collected: 01.16.19 10.35 Sample Depth: 1.5 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.21.19 11.30 Basis: Wet Weight
 Seq Number: 3076510

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	01.21.19 16.38	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 01.20.19 08.00 Basis: Wet Weight
 Seq Number: 3076435

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 14.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	666	15.0	mg/kg	01.20.19 14.13		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	48.5	15.0	mg/kg	01.20.19 14.13		1
Total TPH	PHC635	715	15.0	mg/kg	01.20.19 14.13		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	01.20.19 14.13	
o-Terphenyl	84-15-1	122	%	70-135	01.20.19 14.13	



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS04**
 Lab Sample Id: 611800-004

Matrix: Soil
 Date Collected: 01.16.19 10.35

Date Received: 01.18.19 11.15
 Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.21.19 11.00

Basis: Wet Weight

Seq Number: 3076480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.19 20.11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.19 20.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.19 20.11		
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.21.19 20.11		



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS05** Matrix: Soil Date Received: 01.18.19 11.15
 Lab Sample Id: 611800-005 Date Collected: 01.16.19 11.10 Sample Depth: 3 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.21.19 11.30 Basis: Wet Weight
 Seq Number: 3076510

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.4	4.98	mg/kg	01.21.19 16.44		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ALJ % Moisture:
 Analyst: ALJ Date Prep: 01.20.19 08.00 Basis: Wet Weight
 Seq Number: 3076435

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 14.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	395	15.0	mg/kg	01.20.19 14.33		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	26.7	15.0	mg/kg	01.20.19 14.33		1
Total TPH	PHC635	422	15.0	mg/kg	01.20.19 14.33		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	01.20.19 14.33	
o-Terphenyl	84-15-1	102	%	70-135	01.20.19 14.33	



Certificate of Analytical Results 611800



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS05**
Lab Sample Id: 611800-005

Matrix: Soil
Date Collected: 01.16.19 11.10

Date Received: 01.18.19 11.15
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.21.19 11.00

Basis: Wet Weight

Seq Number: 3076480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.19 20.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.19 20.33	U	1
Ethylbenzene	100-41-4	0.00370	0.00202	mg/kg	01.21.19 20.33		1
m,p-Xylenes	179601-23-1	0.00587	0.00403	mg/kg	01.21.19 20.33		1
o-Xylene	95-47-6	0.00561	0.00202	mg/kg	01.21.19 20.33		1
Total Xylenes	1330-20-7	0.0115	0.00202	mg/kg	01.21.19 20.33		1
Total BTEX		0.0152	0.00202	mg/kg	01.21.19 20.33		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97		%	70-130	01.21.19 20.33	
4-Bromofluorobenzene	460-00-4	109		%	70-130	01.21.19 20.33	



Certificate of Analytical Results 611800



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS06**
Lab Sample Id: 611800-006

Matrix: Soil
Date Collected: 01.16.19 11.25

Date Received: 01.18.19 11.15
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3076510

Date Prep: 01.21.19 11.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	01.21.19 16.50	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ALJ

Analyst: ALJ

Seq Number: 3076435

Date Prep: 01.20.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.20.19 14.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.20.19 14.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.20.19 14.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.20.19 14.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	01.20.19 14.53	
o-Terphenyl	84-15-1	101	%	70-135	01.20.19 14.53	



Certificate of Analytical Results 611800

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS06**
 Lab Sample Id: 611800-006

Matrix: Soil
 Date Collected: 01.16.19 11.25

Date Received: 01.18.19 11.15
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076480

Date Prep: 01.21.19 11.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.21.19 20.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.21.19 20.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.21.19 20.54		
1,4-Difluorobenzene	540-36-3	93	%	70-130	01.21.19 20.54		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

MB Sample Id: 7670119-1-BLK

Matrix: Solid

LCS Sample Id: 7670119-1-BKS

Prep Method: E300P

Date Prep: 01.21.19

LCSD Sample Id: 7670119-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	252	101	239	96	90-110	5	20	mg/kg	01.21.19 15:21	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

Parent Sample Id: 611795-001

Matrix: Soil

MS Sample Id: 611795-001 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611795-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	229	248	464	95	463	94	90-110	0	20	mg/kg	01.21.19 15:40	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3076510

Parent Sample Id: 611798-002

Matrix: Soil

MS Sample Id: 611798-002 S

Prep Method: E300P

Date Prep: 01.21.19

MSD Sample Id: 611798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	245	98	227	91	90-110	8	20	mg/kg	01.21.19 17:09	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076435

MB Sample Id: 7670060-1-BLK

Matrix: Solid

LCS Sample Id: 7670060-1-BKS

Prep Method: TX1005P

Date Prep: 01.20.19

LCSD Sample Id: 7670060-1-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	836	84	849	85	70-135	2	20	mg/kg	01.20.19 10:40	
Diesel Range Organics (DRO)	<8.13	1000	939	94	955	96	70-135	2	20	mg/kg	01.20.19 10:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		129		129		70-135	%	01.20.19 10:40
o-Terphenyl	94		105		106		70-135	%	01.20.19 10:40

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

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

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

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076435

Parent Sample Id: 611429-003

Matrix: Soil

MS Sample Id: 611429-003 S

Prep Method: TX1005P

Date Prep: 01.20.19

MSD Sample Id: 611429-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	18.8	1000	945	93	930	91	70-135	2	20	mg/kg	01.20.19 11:40	
Diesel Range Organics (DRO)	80.3	1000	1120	104	1090	101	70-135	3	20	mg/kg	01.20.19 11:40	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		138	**	70-135	%	01.20.19 11:40
o-Terphenyl	112		137	**	70-135	%	01.20.19 11:40

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076480

MB Sample Id: 7670131-1-BLK

Matrix: Solid

LCS Sample Id: 7670131-1-BKS

Prep Method: SW5030B

Date Prep: 01.21.19

LCSD Sample Id: 7670131-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.124	124	0.122	122	70-130	2	35	mg/kg	01.21.19 12:19	
Toluene	<0.00199	0.0996	0.103	103	0.103	103	70-130	0	35	mg/kg	01.21.19 12:19	
Ethylbenzene	<0.00199	0.0996	0.122	122	0.120	120	70-130	2	35	mg/kg	01.21.19 12:19	
m,p-Xylenes	<0.00398	0.199	0.245	123	0.239	120	70-130	2	35	mg/kg	01.21.19 12:19	
o-Xylene	<0.00199	0.0996	0.115	115	0.112	112	70-130	3	35	mg/kg	01.21.19 12:19	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		128		86		70-130	%	01.21.19 12:19
4-Bromofluorobenzene	102		99		79		70-130	%	01.21.19 12:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076480

Parent Sample Id: 611795-003

Matrix: Soil

MS Sample Id: 611795-003 S

Prep Method: SW5030B

Date Prep: 01.21.19

MSD Sample Id: 611795-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.112	112	0.122	121	70-130	9	35	mg/kg	01.21.19 13:02	
Toluene	<0.00200	0.0998	0.0897	90	0.0997	99	70-130	11	35	mg/kg	01.21.19 13:02	
Ethylbenzene	<0.00200	0.0998	0.102	102	0.109	108	70-130	7	35	mg/kg	01.21.19 13:02	
m,p-Xylenes	<0.00399	0.200	0.202	101	0.206	102	70-130	2	35	mg/kg	01.21.19 13:02	
o-Xylene	<0.00200	0.0998	0.0955	96	0.0990	98	70-130	4	35	mg/kg	01.21.19 13:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		111		70-130	%	01.21.19 13:02
4-Bromofluorobenzene	88		75		70-130	%	01.21.19 13:02

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

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

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

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



Chain of Custody

Work Order No:

611800

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 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTE Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.704.5178	Email:	hannah@xenco.com, adrian@xenco.com

Work Order Comments	
Program: UST/PST	☐ RP ☐ Rowfields ☐ C ☐ Pertund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RP ☐ Well IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

ANALYSIS REQUEST

Work Order Notes

Project Name:	Logg Federal oil	Turn Around	
Project Number:	2RP-3744, 2761, 3741	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Lynda Lambard	Due Date:	8/1/22

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
	Temperature (°C):	4.24.1	Thermometer ID	
	Received Intact:	Yes ☒ No ☐	Correction Factor:	RS
	Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	-0.1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																Sample Comments
					TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)														
FS01	S	01/11/2019	9:50	1'ave	X	X	X														Composites
FS02	S		10:15	1'ave	X	X	X														
FS03	S		10:35	1.5'ave	X	X	X														LL Sample
FS04	S		10:35	1.5'ave	X	X	X														RM Sample
FS05	S		11:10	3'ave	X	X	X														
FS06	S		11:25	1'ave	X	X	X														

Total 200.7 / 6010 200.8 / 6020:

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

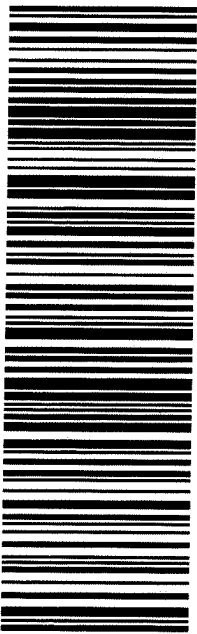
8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	01/17/2019 13:30	<i>[Signature]</i>	<i>[Signature]</i>	11/19/19 11:05

7742 24392838

ORIGIN ID:CAOA (575) 887-6245 XENCO PAC N MAIL 910 W PIERCE ST CARLSBAD, NM 88220 UNITED STATES US	SHIP DATE: 17JAN19 ACTWGT: 34.00 LB CAD: 1018137061NET4040 DIMS: 18X12X15 IN BILL RECIPIENT
TO HOLD FOR XENCO FEDEX EXPRESS SHIP CENTER FEDEX SHIP CENTER 3600 COUNTY RD 1276 S MIDLAND TX 79711 (806) 794-1296 REF:	
DEPT:	
TRACK# 7742 2439 2838 0201 STANDARD OVERNIGHT FRI - 18 JAN HOLD HLD 41 MAFA TX-US LBB 	
	

552J2ID74C/DCA5

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.



Client: LT Environmental, Inc.

Date/ Time Received: 01/18/2019 11:15:00 AM

Work Order #: 611800

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)?	4.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 01/18/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/21/2019

Analytical Report 612380

for
LT Environmental, Inc.

Project Manager: Adrian Baker

Legg Federal 001

012918024

29-JAN-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



29-JAN-19

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **612380**

Legg Federal 001

Project Address: Delaware Basin

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 612380. 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. 612380 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 612380****LT Environmental, Inc., Arvada, CO**

Legg Federal 001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS09A	S	01-21-19 10:30	4 ft	612380-001
SS11A	S	01-21-19 13:20	2 ft	612380-002
SS14A	S	01-21-19 12:10	4 ft	612380-003
FS07	S	01-21-19 14:50	0.67 ft	612380-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Legg Federal 001

Project ID: 012918024
Work Order Number(s): 612380

Report Date: 29-JAN-19
Date Received: 01/24/2019

Sample receipt non conformances and comments:

Per clients email, corrected sample name from SSHA to SS14A. NEW VERSION GENERATED. JK
01/29/19

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3076948 BTEX by EPA 8021B

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



Certificate of Analysis Summary 612380

LT Environmental, Inc., Arvada, CO

Project Name: Legg Federal 001

Project Id: 012918024
Contact: Adrian Baker
Project Location: Delaware Basin

Date Received in Lab: Thu Jan-24-19 12:15 pm
Report Date: 29-JAN-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612380-001	612380-002	612380-003	612380-004		
	<i>Field Id:</i>	SS09A	SS11A	SS14A	FS07		
	<i>Depth:</i>	4- ft	2- ft	4- ft	0.67- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jan-21-19 10:30	Jan-21-19 13:20	Jan-21-19 12:10	Jan-21-19 14:50		
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-24-19 12:30	Jan-24-19 12:30	Jan-24-19 12:30	Jan-24-19 12:30		
	<i>Analyzed:</i>	Jan-24-19 19:46	Jan-24-19 20:07	Jan-24-19 20:29	Jan-24-19 21:54		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399	<0.00403 0.00403		
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202		
Inorganic Anions by EPA 300	<i>Extracted:</i>	Jan-24-19 12:30	Jan-24-19 12:30	Jan-24-19 12:30	Jan-24-19 12:30		
	<i>Analyzed:</i>	Jan-24-19 17:43	Jan-24-19 17:49	Jan-24-19 17:56	Jan-24-19 18:02		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		21.0 4.98	<5.00 5.00	46.7 4.99	<4.97 4.97		
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-24-19 14:00	Jan-24-19 14:00	Jan-24-19 14:00	Jan-24-19 14:00		
	<i>Analyzed:</i>	Jan-24-19 19:29	Jan-24-19 20:30	Jan-24-19 20:50	Jan-24-19 21:11		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	79.8 15.0	<15.0 15.0	22.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	23.2 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	103 15.0	<15.0 15.0	22.0 15.0		

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS09A**
Lab Sample Id: 612380-001

Matrix: Soil
Date Collected: 01.21.19 10.30

Date Received: 01.24.19 12.15
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3077011

Date Prep: 01.24.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.0	4.98	mg/kg	01.24.19 17.43		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.24.19 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 19.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 19.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	01.24.19 19.29	
o-Terphenyl	84-15-1	90	%	70-135	01.24.19 19.29	



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS09A**
Lab Sample Id: 612380-001

Matrix: Soil
Date Collected: 01.21.19 10.30

Date Received: 01.24.19 12.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076948

Date Prep: 01.24.19 12.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.24.19 19.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.24.19 19.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	01.24.19 19.46		
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.24.19 19.46		



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS11A**
Lab Sample Id: 612380-002

Matrix: Soil
Date Collected: 01.21.19 13.20

Date Received: 01.24.19 12.15
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3077011

Date Prep: 01.24.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	01.24.19 17.49	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.24.19 20.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	79.8	15.0	mg/kg	01.24.19 20.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	23.2	15.0	mg/kg	01.24.19 20.30		1
Total TPH	PHC635	103	15.0	mg/kg	01.24.19 20.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.24.19 20.30	
o-Terphenyl	84-15-1	94	%	70-135	01.24.19 20.30	



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS11A**
Lab Sample Id: 612380-002

Matrix: Soil
Date Collected: 01.21.19 13.20

Date Received: 01.24.19 12.15
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.24.19 12.30

Basis: Wet Weight

Seq Number: 3076948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.24.19 20.07	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.24.19 20.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	01.24.19 20.07		
1,4-Difluorobenzene	540-36-3	92	%	70-130	01.24.19 20.07		



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS14A**
Lab Sample Id: 612380-003

Matrix: Soil
Date Collected: 01.21.19 12.10

Date Received: 01.24.19 12.15
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3077011

Date Prep: 01.24.19 12.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.7	4.99	mg/kg	01.24.19 17.56		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3076974

Date Prep: 01.24.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.24.19 20.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	01.24.19 20.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 20.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	01.24.19 20.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	01.24.19 20.50	
o-Terphenyl	84-15-1	88	%	70-135	01.24.19 20.50	



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS14A**
Lab Sample Id: 612380-003

Matrix: Soil
Date Collected: 01.21.19 12.10

Date Received: 01.24.19 12.15
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3076948

Date Prep: 01.24.19 12.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.24.19 20.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.24.19 20.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.24.19 20.29		
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.24.19 20.29		



Certificate of Analytical Results 612380

LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS07** Matrix: Soil Date Received: 01.24.19 12.15
 Lab Sample Id: 612380-004 Date Collected: 01.21.19 14.50 Sample Depth: 0.67 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 01.24.19 12.30 Basis: Wet Weight
 Seq Number: 3077011

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	01.24.19 18.02	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 01.24.19 14.00 Basis: Wet Weight
 Seq Number: 3076974

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	01.24.19 21.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	22.0	15.0	mg/kg	01.24.19 21.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	01.24.19 21.11	U	1
Total TPH	PHC635	22.0	15.0	mg/kg	01.24.19 21.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.24.19 21.11	
o-Terphenyl	84-15-1	96	%	70-135	01.24.19 21.11	



Certificate of Analytical Results 612380



LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS07**
Lab Sample Id: 612380-004

Matrix: Soil
Date Collected: 01.21.19 14.50

Date Received: 01.24.19 12.15
Sample Depth: 0.67 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.24.19 12.30

Basis: Wet Weight

Seq Number: 3076948

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.24.19 21.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.24.19 21.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	01.24.19 21.54		
1,4-Difluorobenzene	540-36-3	92	%	70-130	01.24.19 21.54		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077011

MB Sample Id: 7670433-1-BLK

Matrix: Solid

LCS Sample Id: 7670433-1-BKS

Prep Method: E300P

Date Prep: 01.24.19

LCSD Sample Id: 7670433-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	226	250	226	90	230	92	90-110	2	20	mg/kg	01.24.19 15:35	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077011

Parent Sample Id: 612382-001

Matrix: Soil

MS Sample Id: 612382-001 S

Prep Method: E300P

Date Prep: 01.24.19

MSD Sample Id: 612382-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	139	250	409	108	385	98	90-110	6	20	mg/kg	01.24.19 18:20	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077011

Parent Sample Id: 612243-014

Matrix: Soil

MS Sample Id: 612243-014 S

Prep Method: E300P

Date Prep: 01.24.19

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	457	248	646	76	90-110	mg/kg	01.24.19 16:51	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076974

MB Sample Id: 7670421-1-BLK

Matrix: Solid

LCS Sample Id: 7670421-1-BKS

Prep Method: TX1005P

Date Prep: 01.24.19

LCSD Sample Id: 7670421-1-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	950	95	898	90	70-135	6	20	mg/kg	01.24.19 14:14	
Diesel Range Organics (DRO)	<8.13	1000	1030	103	978	98	70-135	5	20	mg/kg	01.24.19 14:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		118		113		70-135	%	01.24.19 14:14
o-Terphenyl	98		111		111		70-135	%	01.24.19 14:14

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

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

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

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



LT Environmental, Inc.

Legg Federal 001

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076974

Parent Sample Id: 611651-001

Matrix: Soil

MS Sample Id: 611651-001 S

Prep Method: TX1005P

Date Prep: 01.24.19

MSD Sample Id: 611651-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	12.0	997	857	85	870	86	70-135	2	20	mg/kg	01.24.19 16:30	
Diesel Range Organics (DRO)	12.2	997	980	97	976	96	70-135	0	20	mg/kg	01.24.19 16:30	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		120		70-135	%	01.24.19 16:30
o-Terphenyl	111		109		70-135	%	01.24.19 16:30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076948

MB Sample Id: 7670425-1-BLK

Matrix: Solid

LCS Sample Id: 7670425-1-BKS

Prep Method: SW5030B

Date Prep: 01.24.19

LCSD Sample Id: 7670425-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.118	118	0.112	112	70-130	5	35	mg/kg	01.24.19 15:07	
Toluene	<0.00200	0.100	0.103	103	0.0983	98	70-130	5	35	mg/kg	01.24.19 15:07	
Ethylbenzene	<0.00200	0.100	0.129	129	0.117	117	70-130	10	35	mg/kg	01.24.19 15:07	
m,p-Xylenes	<0.00401	0.200	0.241	121	0.235	118	70-130	3	35	mg/kg	01.24.19 15:07	
o-Xylene	<0.00200	0.100	0.125	125	0.110	110	70-130	13	35	mg/kg	01.24.19 15:07	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		116		128		70-130	%	01.24.19 15:07
4-Bromofluorobenzene	97		72		104		70-130	%	01.24.19 15:07

Analytical Method: BTEX by EPA 8021B

Seq Number: 3076948

Parent Sample Id: 612242-001

Matrix: Soil

MS Sample Id: 612242-001 S

Prep Method: SW5030B

Date Prep: 01.24.19

MSD Sample Id: 612242-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.103	102	0.125	125	70-130	19	35	mg/kg	01.24.19 15:49	
Toluene	<0.00202	0.101	0.0921	91	0.109	109	70-130	17	35	mg/kg	01.24.19 15:49	
Ethylbenzene	<0.00202	0.101	0.114	113	0.125	125	70-130	9	35	mg/kg	01.24.19 15:49	
m,p-Xylenes	<0.00403	0.202	0.226	112	0.249	125	70-130	10	35	mg/kg	01.24.19 15:49	
o-Xylene	<0.00202	0.101	0.107	106	0.118	118	70-130	10	35	mg/kg	01.24.19 15:49	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		124		70-130	%	01.24.19 15:49
4-Bromofluorobenzene	113		104		70-130	%	01.24.19 15:49

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

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

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

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



Chain of Custody

Work Order No:

1012380

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

www.xenco.com

Page 1 of 1

Project Manager:	Adrian Baker	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	
Phone:	432.704.5178	Email:	rmcafee@ltenv.com abaker@ltenv.com

Program: UST/PST ☐ RP ☐ Rowfields ☐ C ☐ perfund ☐ State of Project:	
Reporting Level II ☐	Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐	ADAPT ☐ Other: ☐

Project Name:	Legg Federal 001	Turn Around	
Project Number:	012918024	Routine ☐	
P.O. Number:	2 RP - 3744	Rush 2 Day ☐	
Sampler's Name:	Robert McRae	Due Date: 01/25/19	

SAMPLE RECEIPT	Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
	Temperature (°C):	0.3002	Thermometer ID:	12
	Received Intact:	Yes ☒ No ☐	Correction Factor:	0.1
	Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	
	Sample Custody Seals:	Yes ☒ No ☐ N/A		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA)	BTEX (EPA)	Chloride																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
-----------------------	--------	--------------	--------------	-------	--------	-----------	------------	----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total 200.7 / 6010 200.8 / 6020:
 Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
 1631 / 245.1 / 7470 / 7471 : Hg

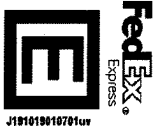
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McRae	James P. Clark	1/23-19 / 12:52 PM	Robert McRae	Robert McRae	1/24/19
					145

ORIGIN ID:CAOA (5/5) 887-6245	SHIP DATE: 23JAN19
XENCO	ACTWTG: 7.00 LB
PAC N MAIL	CAD: 101813706/NET4100
910 W PIERCE ST	DIMS: 16x11x13 IN
CARLSBAD, NM 88220	BILL RECIPIENT
UNITED STATES US	

TO HOLD FOR XENCO
FEDEX EXPRESS SHIP CENTER
FEDEX SHIP CENTER
3600 COUNTY RD 1276 S
MIDLAND TX 79711
(806) 794-1296
REF:
PO:
DEPT:

TRK# 7742 9508 5955	THU - 24 JAN HOLD
0201	STANDARD OVERNIGHT
41 MAFA	HL D
TX-US	MAFA
	LBB



565J2D74C/23AD

After printing this label:

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

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: 01/24/2019 12:15:00 PM

Work Order #: 612380

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 01/24/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/24/2019

ATTACHMENT 3: SOIL SAMPLE LOGS



 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: SS9	Date: 1/21/2019					
		Project Name: Legg Federal 001	RP Number: 2RP-2761, 2RP-3741, 2RP-3744					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: RM	Method: Hand auger					
Lat/Long: 32.368532, -103.867647		Field Screening: PID	Hole Diameter: 3 inches					
Total Depth: 4 feet bgs								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	< 128	0	N	SS9A	0			CALICHE
					1			SILTY SAND, brown, poorly graded
M	< 128	0	N		2			
M	< 128	0	N		3			SANDY CLAY, Red-brown, roots
M	< 128	0	N		4			Total Depth 4 feet bgs
					5			
					6			
					7			
					8			
					9			
					10			
					11			
				12				

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: SS11	Date: 1/21/2019					
		Project Name: Legg Federal 001	RP Number: 2RP-2761, 2RP-3741, 2RP-3744					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: RM	Method: Hand auger					
Lat/Long: 32.368532, -103.867647		Field Screening: PID	Hole Diameter: 3 inches					
Total Depth: 2 feet bgs								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	< 128	0.4	N	SS11A	0		SM	CALICHE
					1			SILTY SAND, brown, poorly graded, medium sand
M	< 128	0.3	N		2		SC	SAND, red-brown, poorly graded, some clay
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
				12				

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: SS14	Date: 1/21/2019					
		Project Name: Legg Federal 001	RP Number: 2RP-2761, 2RP-3741, 2RP-3744					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: RM	Method: Hand auger					
Lat/Long: 32.368532, -103.867647		Field Screening: PID	Hole Diameter: 3 inches					
Total Depth: 4 feet bgs								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
M	< 128	0	N	SS14A	0		SM	CALICHE
					1			SILTY SAND, brown, poorly graded, medium sand
M	< 128	0	N		2		SC	SAND, red-brown, poorly graded, some clay
M	< 128	0	N		3			
M	< 128	0	N		4		SC	SANDY CLAY, red-brown, roots
					5			Total Depth 4 feet bgs
					6			
					7			
					8			
					9			
					10			
					11			
				12				

ATTACHMENT 4: PHOTOGRAPHIC LOG





Southeast facing view of central excavation area.

Project: 012918024	XTO Energy, Inc. Legg Federal 001 Production Facility	 Advancing Opportunity
August 29, 2018	Photographic Log	



Northeast facing view of southern excavation.

Project: 012918024	XTO Energy, Inc. Legg Federal 001 Production Facility	 Advancing Opportunity
August 29, 2018	Photographic Log	



North facing view of northeast excavation.

Project: 012918024	XTO Energy, Inc. Legg Federal 001 Production Facility	 Advancing Opportunity
August 29, 2018	Photographic Log	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 199347

CONDITIONS

Operator: BOPCO, L.P. 6401 Holiday Hill Rd Midland, TX 79707	OGRID: 260737
	Action Number: 199347
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Closure approved. Release area will be subject to 19.15.29.13 RESTORATION, RECLAMATION AND RE-VEGETATION for the top 4 feet upon plug and abandonment.	3/22/2023