

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





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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.





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#### **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.





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#### **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





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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.

Adrian Baker

**Project Geologist** 

Ashley L. Ager, P.G. Senior Geologist





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cc: Kyle Littrell, XTO

Michael Bratcher, NMOCD

Jim Amos, BLM

Deborah Mckinney, BLM

### Attachments:

Figure 1 Site Location Map

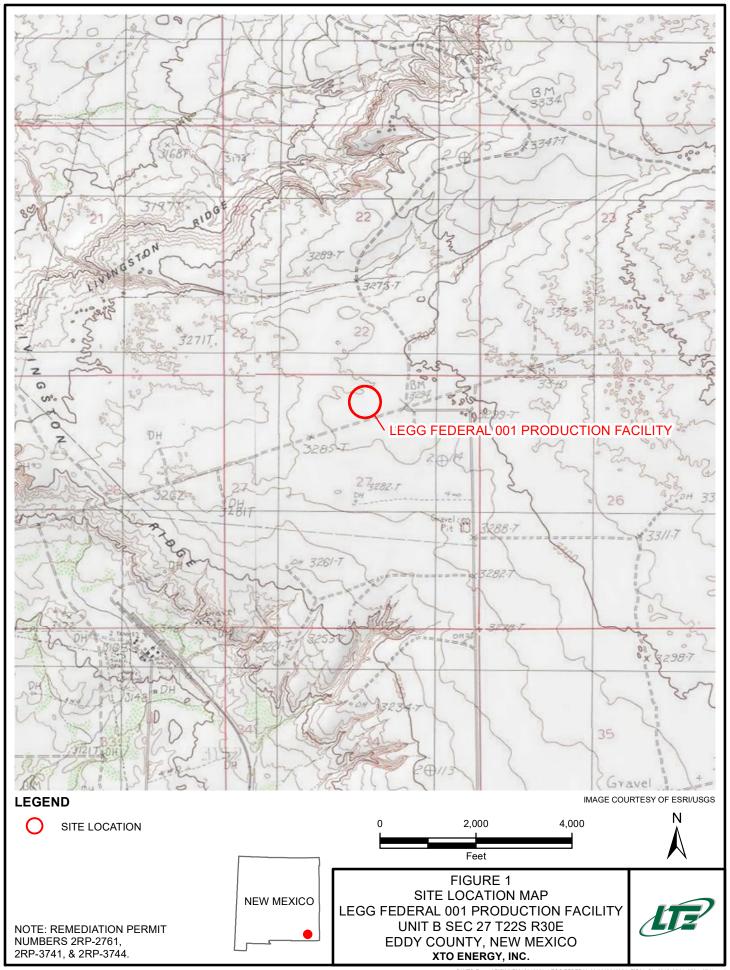
Figure 2 Initial Soil Sample Locations
Figure 3 Final Soil Sample Locations
Table 1 Soil Analytical Results

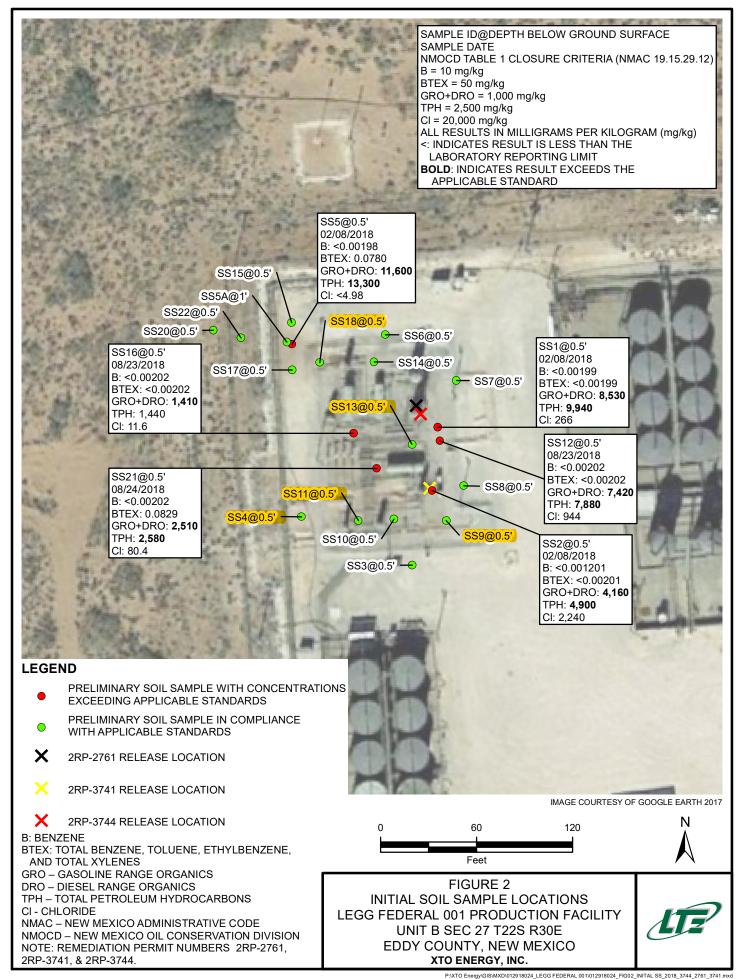
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-2761, 2RP-3741, and 2RP-3744)

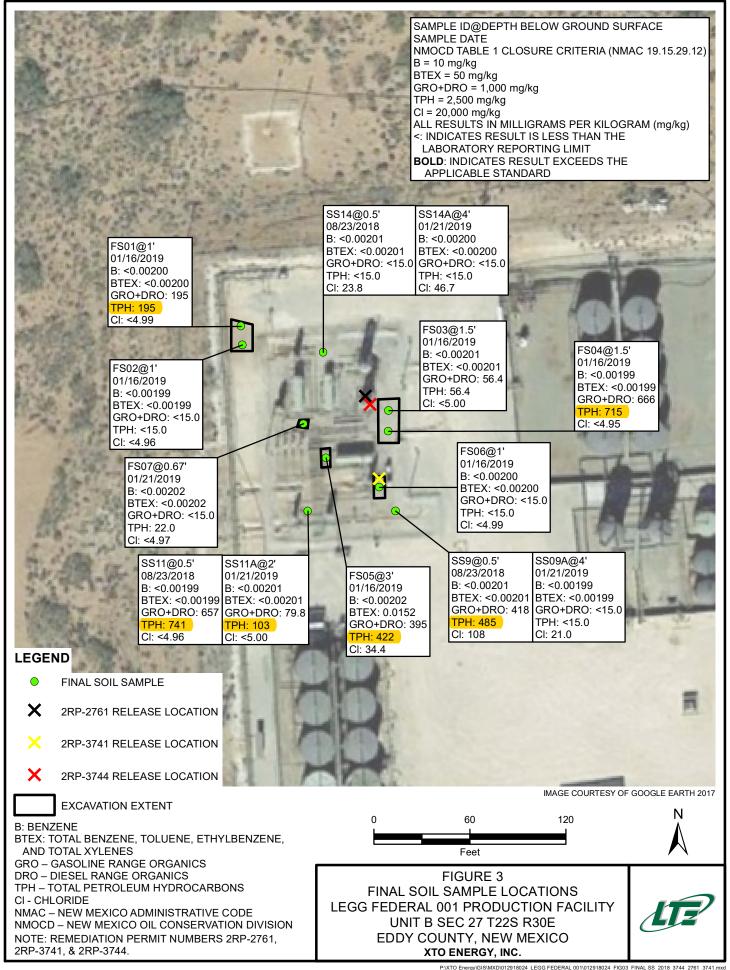
Attachment 2 Laboratory Analytical Reports

Attachment 3 Soil Sample Logs Attachment 4 Photographic Log









# 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	<b>8,</b> 53 <b>0</b>	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	a	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





## Received by OCD: 3/21/2023 1:01:50 PM

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 age 15 of 162

ARTESIA DISTRICT

Form C-141 Revised August 8, 201 JAN 26 2015

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

			Rel	ease Notifi	catio	n and Co	orrective A	ctio	n			
NAB 15	02726	789		20	*(	OPERA'	ГOR			al Report	Final Repo	
Name of Co	ompany: B	OPCO, L.P.		260737		Contact: To						
				oad, N.M. 8822		Telephone No. 575-887-7329						
Facility Na	me: Legg I	Federal Tank	Battery			Facility Typ	e: Production F	acility		·		
Surface Ow	ner: Feder	al		Mineral (	Owner:	Federal			API No	<b>30-01</b> 5-04	734	
	LOCATION OF RELEASE											
Unit Letter B	Section 27	Township 22S	Range 30E	Feet from the 660	North, No	South Line	Feet from the 2004	East/ Eas	West Line st	County: Eddy		
24	3					Longitude	e W 103.867870	2				
Type of Rele	ase: Crude o	oil and produc	ed water	NAI	UKE	Volume of	Release: 18 bbls	crude			bbls crude oil and	
Source of Re	lease: Heate	r-treater	-		-	1	our of Occurrence	e:	1.5 -6555	Hour of Disco	overy: 1/24/15 at	
Was Immedia	ate Notice G		Yes [	No □ Not Re	eauired		whom? M. Brate	cher, H.		approximatel and Jim Amo		
By Whom? T	ony Savoie					Date and H	our 1/24/14 at 11	:42 a.m				
Was a Water						If YES, Volume Impacting the Watercourse.						
16			Yes 🛚	No	æ							
If a Watercou	,	2		* =	46.11.1					4	51	
replaced.	se of Proble	m and Kemed	nai Action	i i aken.* A gaske	et failed	on the hearter	-treater fire tube.	The pr	oduction wa	as diverted an	d the gasket was	
				# P	s <sup>(59)</sup>	25			•		* <sub>e</sub>	
The release powas misted was misted was misted was misted was a second control of the control of	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.							mediation.				
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.												
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Signature:	qua-	Danie					o:	4	11/			
Printed Name:	Printed Name: Tony Savoie  Approved by Environmental Specialist:  Approved by Environmental Specialist:							F				
Title: Waste M	Fitle: Waste Management and Remediation Specialist  Approval Date: 12715 Expiration Date: NA											
E-mail Addres	E-mail Address: tasavoie@basspet.com  Conditions of Approval. D. Rules & Guidelineattached											
Date: 1/26/15 Phone: 432-556-8730 SUBMIT REMEDIATION PROPOSAL NO												
Attach Additi	onal Sheets	If Necessar	у		LAT	ER THAN:	- 5/-1	++-	_	27	P2761	

Received by OCD: 3/21/2023 1:01:50 PM
District I
1625 N. French Dr., Hobbs, NM 88240 District II Bill 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

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

# **Release Notification**

# **Responsible Party**

Responsible	Party: YTC	) Energy Inc		0	OGRID: 5380				
-						elephone: (432) 221-7331			
	Contact Name: Kyle Littrell  Contact email: Kyle Littrell@xtoenergy.com					Incident #: 2RP-2761			
					ncident #:	2RP-2761			
NM 88220	Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220								
			- · · ·	47					
			Location	of Rele	ease So	ource			
Latitude 32.3	69047			Lo	ngitude 🗓	103.867870			
			(NAD 83 in dec	cimal degree.	s to 5 decim	al places)			
Site Name: L	egg Federal	Tank Battery		Si	te Type:	Production Facility			
Date Release	Discovered:	: 1/24/15		A	PI# (if appl	licable) 30-015-04734			
Unit Letter	Section	Township	Range	1	Count	fv			
B	27	228	30E		Eddy	•			
			002			,			
Surface Owner	r: State	□ Federal □ Tr	ribal Private (A	Name:		)			
			Nature and	d Volun	ne of R	<b>Kelease</b>			
				calculations	or specific j	justification for the volumes provided below)			
Crude Oil		Volume Release	ed (bbls) 18		Volume Recovered (bbls) 3				
□ Produced	Water	Volume Release	ed (bbls) 5			Volume Recovered (bbls) 3			
		Is the concentrate produced water	tion of dissolved cl >10,000 mg/l?	hloride in	le in the Yes No				
Condensa	te	Volume Release	ed (bbls)			Volume Recovered (bbls)			
☐ Natural G	as	Volume Release	ed (Mcf)			Volume Recovered (Mcf)			
Other (des	scribe)	Volume/Weight	Released (provide	e units)		Volume/Weight Recovered (provide units)			
Cause of Rela	Cause of Release								
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.									

Reversed by OCD: 3/21/2023 1:01:50 Protate of New Mexico
Page 2
Oil Conservation Division

Incident ID	Page 17 of 16.
District RP	2RP-2761
Facility ID	
Application ID	

-	T					
Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?					
☐ Yes ☒ No						
If YES, was immediate n	otice 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 rele	ease has been stopped.					
☐ The impacted area ha	as been secured to protect human health and the environment.					
Released materials ha	ave been contained via the use of berms or dikes, absorbent pads, or other containment devices.					
All free liquids and r	ecoverable materials have been removed and managed appropriately.					
If all the actions describe	d above have not been undertaken, explain why:					
has begun, please attach	AC the responsible party may commence remediation immediately after discovery of a release. If remediation a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred nt area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.					
I hereby certify that the info	rmation given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and					
public health or the environ	required to report and/or file certain release notifications and perform corrective actions for releases which may endanger ment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have					
failed to adequately investig	gate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In 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.	1 a C-141 report does not reneve the operator of responsibility for compitative with any other redefal, state, or room tawns					
Printed Name: Kyl	Printed Name: Kyle Littrell Title: SH&E Coordinator					
Signature:	Date:					
email: Kyle Littrell@xto	<u>day-221-7331</u> Telephone: <u>432-221-7331</u>					
OCD Only						
Received by:	Date:					

Regeived by OCD: 3/21/2023	1:01:50 PMtate of New Mexico
Page 3	Oil Conservation Division

	D 10 . C 1 C
Incident ID	Page 18 of 16
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?	> 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)?					
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?					
Are the lateral extents of the release overlying an unstable area such as karst geology?					
Are the lateral extents of the release within a 100-year floodplain? ☐ Yes ☒					
Did the release impact areas <b>not</b> 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.					
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> <li>Depth to water determination</li> <li>Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> <li>Boring or excavation logs</li> <li>Photographs including date and GIS information</li> </ul>					
<ul> <li>✓ Photographs including date and GIS information</li> <li>✓ Topographic/Aerial maps</li> <li>✓ Laboratory data including chain of custody</li> </ul>					

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.

Page 4 Proposition 1:01:50 PM ate of New Mexico
Oil Conservation Division

Incident ID
District RP
Facility ID
Application ID

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the Galled to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: Kyle Littrell Signature:	Title: <u>SH&amp;E Coordinator</u> Date: 2/8/2019
email: Kyle Littrell@xtoenergy.com	Telephone: (432)-221-7331
OCD Only	
Received by:	Date:

Incident ID	Page 20 of 10
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 iten	is 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 D	vistrict office must be notified 2 days prior to final sampling)								
□ Description of remediation activities									
and regulations all operators are required to report and/or file certain remay endanger public health or the environment. The acceptance of a constitution of the environment. The acceptance of a constitution of the environment. In addition, OCD acceptance of a compliance with any other federal, state, or local laws and/or regulation restore, reclaim, and re-vegetate the impacted surface area to the conditaccordance with 19.15.29.13 NMAC including notification to the OCI Printed Name:  Kyle Littrell  Signature:	C-141 report by the OCD does not relieve the operator of liability diate contamination that pose a threat to groundwater, surface water, C-141 report does not relieve the operator of responsibility for ons. The responsible party acknowledges they must substantially itions that existed prior to the release or their final land use in								
OCD Only									
Received by:	Date:								
Closure approval by the OCD does not relieve the responsible party of remediate contamination that poses a threat to groundwater, surface wa party of compliance with any other federal, state, or local laws and/or	liability should their operations have failed to adequately investigate and ter, human health, or the environment nor does not relieve the responsible regulations.								
Closure Approved by: Ashley Maxwell	Date:3/22/2023								
Closure Approved by:	Title: Environmental Specialist								

District 1
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

## NM OIL CONSERVATION

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141 Revised August 8, 2011

JUN 1 4 2016 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

**RECEIVED** 

Release Notification and Corrective Action									
NAB1616737278			<b>OPERA</b>	ro <b>r</b>	$\boxtimes$	Initial	Report		Final Report
Name of Company: BOPCO, L.P.	241731		Contact: An		0				
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									
Linis Latter   Section   Township   D.			OF REI	Feet from the	East/West	Lina (	County		
Unit Letter Section Township Ran B 27 22S 30E		North	South Line	2300	East		Eddy		
	Latitude32.3689	06°	Longitude	-103.867843					
	NAT	URE	OF REL	EASE	1100				
Type of Release Crude Oil and Pro	oduced Water		Volume of	Release 45 bbls 18 bbls	pw	lume Rec		30 bbls 10 bbls	
Source of Release Three phase ver	ssel		6/3/2016 t	lour of Occurrence ime unknown		te and Ho /2016 7	our of Disc pm	ючегу	
Was Immediate Notice Given?	□ No □ Not Ro	quired	If YES, To Mike Brate	Whom? her/Heather Patte	rson (NMOC	CD), She	elly Tucker	(BLM)	)
By Whom? Amy Ruth				lour 6/4/2016 1					
Was a Watercourse Reached?	s 🛛 No		N/A	dume Impacting t	ne watercou	irse.			
If a Watercourse was Impacted, Describe Fu N/A									
Describe Cause of Problem and Remedial A JRU 12H well surged and the three phase ve isolated for repair and the well was left flow	essel gas supply pot fai				alve on the v	vessel. 1	The three p	hase ve	ssel was
Describe Area Affected and Cleanup Action The leak affected 14,940 sq. ft. of location of	caliche pad. Standing f								
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.									
N NA				OIL CON	SERVAT	IONI	DIVISIO	M	,
Signature: / July Auch	)			F	iolista (	H	//	/	
Printed Name: Amy C. Ruth Approved by Environmental Specialist:									
Titles EHS Remediation Specialist			Approval Da	1e: 11/11/	Expi	ration D	ate: N	<u>A</u>	
E-mail Address: ACRuth@basspet.com	1		Conditions o	f Approval:			ı Atteched	П	
			Comodia.	tion per O C.	D. Rules	Gui¢	NU 19114680		
Date: 6/14/2016 Phone Attach Additional Sheets If Necessary	: 432-661-0571		SUBMIT	REMEDIATIO	15/16	DOME	7	DO.	3741
rans secretify 6 delitation (1985) and			LATER T	nan	fululudus budanta		4	,I~I	

Received by OCD: 3/21/2023 1:01:50 PM
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

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

# **Release Notification**

# **Responsible Party**

Responsible l	Party: XTO	Energy, Inc		OGRID: 5	OGRID: 5380					
Contact Nam	e: Kyle Litt	trell		Contact Te	Contact Telephone: (432) 221-7331					
Contact emai	l: Kyle_Lit	trell@xtoenergy.c	om	Incident #:	2RP-3741					
Contact maili NM 88220	ing address	522 W. Mermod,	Suite 704 Carlsbac	i,						
			Location	of Release So	ource					
Latitude 32.30	68906		(NAD 83 in dec	Longitude <u>-</u>						
Cita Nama I a	as Fadaral	Touls Dottom:	·		Exploration and Production					
Site Name Le					plicable) 30-015-04734					
Date Release	Discovered	0/3/2010		AF1# (ij app	nicaole) 30-013-04734					
Unit Letter	Section	Township	Range	Coun	nty					
В	27	22S	30E	Edd	у					
Surface Owner				l Volume of 1	Release justification for the volumes provided below)					
Crude Oil		Volume Release			Volume Recovered (bbls) 30					
☐ Produced	Water	Volume Release	d (bbls) 18		Volume Recovered (bbls) 10					
		Is the concentrate produced water	ion of dissolved c >10,000 mg/l?	hloride in the	Yes No					
Condensa:	te	Volume Release	d (bbls)		Volume Recovered (bbls)					
☐ Natural G	as	Volume Release	d (Mcf)		Volume Recovered (Mcf)					
Other (describe) Volume/Weight Released (provide units				e units)	Volume/Weight Recovered (provide units)					
Cause of Rele	ease									
JRU 12H well isolated for rep Standing fluids	air and the w	ell was left flowing	gas supply pot faile to the two-phase ves	ed. Fluids exited the passel of the test train. I	pressure relief valve on the vessel. The three-phase vessel was The leak affected 14,940 sq. ft. of location caliche pad.					

Received by OCD: 3/21/2023 1:01:50 P Mate of New Mexico Page 2 Oil Conservation Divisi

Mate of New Mexico	Incident ID	Page 23 of 162
Conservation Division	District RP	2RP-3741
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	Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the responsible party consider this a major release?
19.15.29.7(A) NMAC?	Release was greater than 25 bbls.
⊠ Yes □ No	
If YES, was immediate n By: Amy Ruth	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
	er 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 rele	ease has been stopped.
The impacted area ha	as been secured to protect human health and the environment.
Released materials ha	ave been contained via the use of berms or dikes, absorbent pads, or other containment devices.
All free liquids and re	ecoverable materials have been removed and managed appropriately.
If all the actions describe	d above have not been undertaken, explain why:
Per 19.15.29.8 B. (4) NM	AC the responsible party may commence remediation immediately after discovery of a release. If remediation
has begun, please attach within a lined containmen	a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred nt area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
	ormation given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and
public health or the environ	required to report and/or file certain release notifications and perform corrective actions for releases which may endanger ment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have
failed to adequately investig	gate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In 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.	Ta C-141 Teport does not reneve the operator of responsionity for compliance with any other redefin, state, or rocal laws
Printed Name: Kyl	e Littrell Title: SH&E Coordinator
Signature:	Date:
email: Kyle Littrell@xto	Denergy.com Telephone: 432-221-7331
OCD Only	
Received by:	Date:

Reversed by OCD: 3/21/2023 1:01:50 Photate of New Mexico
Page 3 Oil Conservation Division

Incident ID		Page 24 of 16
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?							
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?							
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?							
Are the lateral extents of the release overlying a subsurface mine?							
Are the lateral extents of the release overlying an unstable area such as karst geology?							
Are the lateral extents of the release within a 100-year floodplain?							
Did the release impact areas <b>not</b> 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 so 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.							
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring well Field data</li> <li>□ Data table of soil contaminant concentration data</li> <li>□ Depth to water determination</li> <li>□ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release</li> <li>□ Boring or excavation logs</li> <li>□ Photographs including date and GIS information</li> <li>□ Topographic/Aerial maps</li> <li>□ Laboratory data including chain of custody</li> </ul>	ls.						
Mac Laboratory data including chain or 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.

Received by OCD: 3/21/2023 1:01:50 Photate of New Mexico
Page 4 Oil Conservation Division

Incident ID

District RP

Facility ID

Application ID

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.								
Printed Name:	Kyle Littrell	Title:SH&E C	oordinator					
Signature:	theil	Date:2/8/2019						
email: Kyle Littrell@	@xtoenergy.com	Telephone:	(432)-221-7331					
			-					
OCD Only								
Received by:		Date:						

# Received by OCD: 3/21/2023 1:01:50 Partate of New Mexico Page 5 Oil Conservation Division

Incident ID		Page 26 of 16
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 OD	C District office must be notified 2 days prior to final sampling)								
☐ Description of remediation activities									
and regulations all operators are required to report and/or file certai may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and re- human health or the environment. In addition, OCD acceptance of	ations. The responsible party acknowledges they must substantially onditions that existed prior to the release or their final land use in 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 remediate contamination that poses a threat to groundwater, surface party of compliance with any other federal, state, or local laws and	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible /or regulations.								
Closure Approved by: Ashley Maxwell  Printed Name: Ashley Maxwell	Date:3/22/2023								
Printed Name:Ashley Maxwell	Title: Environmental Specialist								

# NM OIL CONSERVATION ARTESIA DISTRICT

Page 27 of 162

District.]
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 1 4 2016

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 RECEIVED by to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action													
DABIL	11074	1171		•		<b>OPERA</b>	OR		☐ Initia	al Report		Final Report	
Name of Co	mpany: B	OPCO, L.P.		40737		Contact: Amy Ruth							
			04 Carlst	ad, N.M. 88220		Telephone No. 575-887-7329							
Facility Nar	ne: Legg	Federal 001				Facility Type: Exploration and Production							
Surface Ow	ner: Fed	leral		Mineral C	)wner:	Federal			API No	. 30-015-0	)4734		
				LOCA	TION	OF REI	LEASE						
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													
			Lat	itude 32.3690	)37°	Longitude	-103.86785	90					
				NAT	URE	OF RELI	EASE						
Type of Rele	asc	Crude Oil and	Produced			Volume of	Release 0.5 h	bl oil Is PW	Volume R	Recovered	0 ьы		
Source of Re	lease	Test Heater	-	Initi-32			our of Occurren			Hour of Dis	covery		
Was Immedia	te Notice (	Given?				If YES, To	me unknown Whom?		6/9/2016	/ pin			
Was Inimidan			Yes 🗀	No 🖾 Not Re	equired	N/A							
By Whom?	N/A					Date and H							
Was a Water	course Rea	ched?	Yes 🛭	No		If YES, Vo	lume Impacting	the Wat	ercourse.				
If a Watercou N/A	irse was Im	pacted, Descri	be Fully.										
		em and Remed on the test he		n Taken.* Unit was drained	and isolo	ated for repai	г.						
		and Cleanup A		en.* ost of which was a	ın oversı	oray.	<*:						
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 bays and/or regulations.													
Signature:	OIL CONSERVATION DIVISION												
Printed Name	Printed Name: Amy C. Ruth  Approved by Environmental Specialists. Left Summers.												
Title EH	IS Remedia	tion Specialis				Approval Dat	: 6/14/11	P	Expiration	Date: N/	A		
E-mail Addre	ess: AC	CRuth@basspe	t,com	) (1		Conditions of	ion nor O C	D Ru	es & Gu	Idelinea			
	4/2016			-661-0571		CHIDRAIT	PEMEDIATION	אין אכ	UPUDAL	NO.			
Attach Addi	tional She	ets If Necess	ary			LATER T	HAN:7/	15/11	-		arr	>-3744	

# Received by OCD: 3/21/2023 1:01:50 PM

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

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

# **Release Notification**

# **Responsible Party**

Responsible Party: XTO Energy, Inc				OG	OGRID: 5380		
Contact Name: Kyle Littrell				Con	Contact Telephone: (432) 221-7331		
Contact email: Kyle_Littrell@xtoenergy.com			om	Inci	Incident #: 2RP-3744		
Contact mail NM 88220	ing address	522 W. Mermod,	Suite 704 Carlsbac	d,			
-			Location	of Relea	ase Source		
Latitude 32.3	60037			Long	gitude -103.867859		
Latitude <u>52.5</u>	09037		(NAD 83 in dec	cimal degrees to	to 5 decimal places)		
Site Name Lo	egg Federal	Tank Battery		Site	e Type Exploration and Production		
Date Release				API	I# (if applicable) 30-015-04734		
Unit Letter	Section	Township	Range		County		
В	27	228	30E		Eddy		
Surface Owner	r.  State	☑ Federal ☐ Ti	ribal Private (/	Name:			
	5		_ `	32.			
			Nature and	d Volume	ne of Release		
	Materia	l(s) Released (Select a	Il that apply and attach	calculations or	or specific justification for the volumes provided below)		
Crude Oil		Volume Release			Volume Recovered (bbls) 0		
□ Produced	Water	Volume Release	ed (bbls) 9		Volume Recovered (bbls) 0		
		Is the concentrate produced water	tion of dissolved c >10,000 mg/l?	hloride in the	the Yes No		
Condensa	te	Volume Release			Volume Recovered (bbls)		
☐ Natural Gas Volume Released (Mcf)			ed (Mcf)		Volume Recovered (Mcf)		
Other (describe) Volume/Weight Released (provide units			Released (provide	e units)	Volume/Weight Recovered (provide units)		
Cause of Rele	ease						
A manway ga	asket failed	on the test heater u	ınit. Unit was drai	ned and isola	lated for repair. The leak affected 4,056 sq. ft. of caliche pad.		
most of which					, , , , , , , , , , , , ,		
I							

Reversed by OCD: 3/21/2023 1:01:50 P State of New Mexico
Page 2 Oil Conservation Division

Incident ID	Page 29 of 16
District RP	2RP-3744
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	Transaction of the second		
Was this a major release as defined by	If YES, for what reason(s) does the res	ponsible party	consider this a major release?
19.15.29.7(A) NMAC?			
☐ Yes ⊠ No			
If YES, was immediate n	otice 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 immedi	ately unless they co	ould create a safety hazard that would result in injury
N T1 641 1			
The source of the rele		. 1 41	
1	as been secured to protect human health a		
	ave been contained via the use of berms of		
	ecoverable materials have been removed		ppropriately.
If all the actions describe	d above have <u>not</u> been undertaken, explain	in why:	
Per 19.15.29.8 B. (4) NM	AC the responsible party may commenc	e remediation i	mmediately after discovery of a release. If remediation
has begun, please attach	a narrative of actions to date. If remedi	al efforts have	been successfully completed or if the release occurred
within a lined containmen	nt area (see 19.15.29.11(A)(5)(a) NMAC	), please attach	all information needed for closure evaluation.
			owledge and understand that pursuant to OCD rules and perform corrective actions for releases which may endanger
public health or the environs	ment. The acceptance of a C-141 report by th	e OCD does not	relieve the operator of liability should their operations have
			rater, surface water, human health or the environment. In for compliance with any other federal, state, or local laws
and/or regulations.		<b>F</b>	
Printed Name: Kyl	e Littrell	Title: Sl	H&E Coordinator
1	2 y All		2/8/2019
Signature:	7 anne	Date:	
email: Kyle Littrell@xto	energy.com	Telephone:	432-221-7331
OCD O-I-			
OCD Only			
Received by:		Date:	<del></del>
I			

Received by OCD: 3/21/2023 1:01:50 PM tate of New Mexico
Page 3
Oil Conservation Division

Incident ID	Page 30 of 16
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.

This information mast be provided to the appropriate district office no tater than 20 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 <b>not</b> 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.				
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> <li>Depth to water determination</li> <li>Determination of water sources and significant watercourses within 1/2 mile of the lateral extents of the release</li> </ul>				
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release				

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.

Boring or excavation logs

☐ Topographic/Aerial maps

Photographs including date and GIS information

☐ Laboratory data including chain of custody

Reversed by OCD: 3/21/2023 1:01:50 Protate of New Mexico
Page 4 Oil Conservation Division

Incident ID	Page 31 of 16	1
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:			

# Reserved by OCD: 3/21/2023 1:01:50 Pratate of New Mexico Page 5 Oil Conservation Division

Incident ID	Page 32 of 10
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	9.11 NMAC
Photographs of the remediated site prior to backfill or phot must be notified 2 days prior to liner inspection). Site photogra	tos of the liner integrity if applicable (Note: appropriate OCD District office aphs are included showing the site and excavations.
☐ Laboratory analyses of final sampling (Note: appropriate O	DC District office must be notified 2 days prior to final sampling)
☐ Description of remediation activities	
and regulations all operators are required to report and/or file cert may endanger public health or the environment. The acceptance should their operations have failed to adequately investigate and human health or the environment. In addition, OCD acceptance compliance with any other federal, state, or local laws and/or regrestore, reclaim, and re-vegetate the impacted surface area to the accordance with 19.15.29.13 NMAC including notification to the	plete to the best of my knowledge and understand that pursuant to OCD rules tain release notifications and perform corrective actions for releases which of a C-141 report by the OCD does not relieve the operator of liability remediate contamination that pose a threat to groundwater, surface water, of a C-141 report does not relieve the operator of responsibility for gulations. The responsible party acknowledges they must substantially conditions that existed prior to the release or their final land use in e OCD when reclamation and re-vegetation are complete.
I Inited Ivanic. Ryle Littleii	Title. Street coordinator
	Date:2/8/2019 Telephone:432-221-7331
Signature:	Date: 2/8/2019
Signature: Jacobs Signature: Kyle Littrell@xtoenergy.com	
Signature:  email: Kyle Littrell@xtoenergy.com  OCD Only  Received by:  Closure approval by the OCD does not relieve the responsible par	Date:2/8/2019  Telephone:432-221-7331  Date:  rty of liability should their operations have failed to adequately investigate and ce water, human health, or the environment nor does not relieve the responsible
OCD Only  Received by:  Closure approval by the OCD does not relieve the responsible par remediate contamination that poses a threat to groundwater, surface party of compliance with any other federal, state, or local laws and	Date:
Signature:  email: Kyle Littrell@xtoenergy.com  OCD Only  Received by:  Closure approval by the OCD does not relieve the responsible par remediate contamination that poses a threat to groundwater, surface	Date:



# **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,

Jessica Kramer

fession Weamer

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	<b>Date Collected</b>	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: Report Date: 16-FEB-18 Work Order Number(s): 575938 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.



**Project Id:** 

**Contact:** 

# Certificate of Analysis Summary 575938

#### LT Environmental, Inc., Arvada, CO

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

**Report Date:** 16-FEB-18 Project Manager: Jessica Kramer

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

Adrian Baker **Project Location:** NM

	Lab Id:	575938-0	001	575938-0	002	575938-0	003	575938-	004	575938-	005	575938-0	006
Analusia Basusatad	Field Id:	SS1		SS2		SS3		SS4		SS5		SS6	
Analysis Requested	Depth:	6- In		6- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL		SOIL	,	SOIL		SOIL	_	SOIL		SOIL	,
	Sampled:	Feb-08-18	Feb-08-18 09:26		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	Feb-12-18 21:52		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 Odessa Laboratory Director



Adrian Baker

NM

**Project Id:** 

**Project Location:** 

**Contact:** 

## Certificate of Analysis Summary 575938

#### LT Environmental, Inc., Arvada, CO

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

**Report Date:** 16-FEB-18

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

Project Manager: Jessica Kramer

			-		-	1		
	Lab Id:	575938-0	007	575938-0	800			
Analysis Requested	Field Id:	SS7		SS8				
Analysis Requesieu	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 Odessa Laboratory Director





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Sample Id: SS<sub>1</sub> Matrix:

Date Collected: 02.08.18 09.26

Date Received:02.08.18 17.35

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: LRI

Analyst:

Lab Sample Id: 575938-001

Date Prep:

02.15.18 15.00

Basis:

Wet Weight

Seq Number: 3041189

LRI

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

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

02.10.18 13.00 Date Prep:

Basis:

Wet Weight

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		



SS1

ALJ

## **Certificate of Analytical Results 575938**



Date Received:02.08.18 17.35

Wet Weight

Basis:

#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

02.12.18 12.00

Lab Sample Id: 575938-001 Date Collected: 02.08.18 09.26 Sample Depth: 6 In

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

Date Prep:

Matrix:

Tech: ALJ % Moisture:

Seq Number: 3041062

Sample Id:

Analyst:

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

02.15.18 15.00

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:

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

% Moisture:

Tech:

ARM

Analyst: ARM

Date Prep: 02.10.18 13.00

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 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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Sample Id: SS2 Matrix:

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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 02.12.18 12.00

Basis: Wet Weight

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS3 Matrix:

Lab Sample Id: 575938-003

Matrix: Soil

Date Received:02.08.18 17.35

Date Collected: 02.08.18 09.32 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: LRI

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

ARM

Analyst: ARM

Seq Number: 3040800

Tech:

Date Prep: 02.10.18 13.00

% Moisture:

Prep Method: TX1005P

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 00.26	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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS<sub>3</sub>

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

Prep Method: SW5030B

% Moisture:

ALJ Analyst: 02.12.18 12.00 Basis: Wet Weight Date Prep:

Seq Number: 3041062

Tech:

Analytical Method: BTEX by EPA 8021B

ALJ

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Matrix: Sample Id: SS4

Date Received:02.08.18 17.35

Lab Sample Id: 575938-004 Date Collected: 02.08.18 09.35 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	<b>Analysis Date</b>	Flag	Dil
Chloride	16887-00-6	15.4	4.99	mg/kg	02.15.18 18.08		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

02.10.18 13.00 Date Prep:

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS4 Matrix: Soil

Date Received:02.08.18 17.35

Lab Sample Id: 575938-004 Date Collected: 02.08.18 09.35

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

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Sample Id: SS5 Matrix:

Date Received:02.08.18 17.35

Date Collected: 02.08.18 09.38

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

LRI

% Moisture:

Tech: LRI

Analyst:

Date Prep: 02.15.18 15.00

Basis: Wet Weight

Seq Number: 3041189

LRI

Lab Sample Id: 575938-005

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

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 02.10.18 13.00

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		



Lab Sample Id: 575938-005

## **Certificate of Analytical Results 575938**



#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS5 Matrix: Soil

Date Received:02.08.18 17.35

Date Collected: 02.08.18 09.38

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

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	**	





#### 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

KI

% Moistu

% Moisture:

Analyst: LRI

Seq Number: 3041189

Date Prep:

02.15.18 15.00

Basis:

Wet Weight

 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

Date Prep:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

ARM ARM

02.10.18 13.00

% Moisture: Basis:

Wet Weight

Seq Number: 3040800

Tech:

Analyst:

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

02.12.18 12.00

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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Tech: ALJ
Analyst: ALJ

D

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		

Date Prep:



Lab Sample Id: 575938-007

## **Certificate of Analytical Results 575938**



#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Matrix: Sample Id: **SS7** 

Date Received:02.08.18 17.35

Date Collected: 02.08.18 09.44

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: LRI

Basis:

Wet Weight

Analyst: LRI

Date Prep:

02.15.18 15.00

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

% Moisture:

ARMTech: ARM

Analyst:

02.10.18 13.00 Date Prep:

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 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		





#### 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

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

Date Collected: 02.08.18 09.44

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Soil

Sample Id: SS8 Matrix:

Lab Sample Id: 575938-008 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

Prep Method: E300P

% Moisture:

Tech: LRI

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	22.8	4.94	mg/kg	02.15.18 18.41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 02.10.18 13.00

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		



Lab Sample Id: 575938-008

## **Certificate of Analytical Results 575938**



#### LT Environmental, Inc., Arvada, CO

Legg Federal Tank Battery/30-015-04734

Sample Id: SS8 Matrix: Soil

Date Received:02.08.18 17.35

Date Collected: 02.08.18 09.47

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

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

PQL Practical Quantitation Limit MQL 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

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(602) 437-0330	
	(281) 240-4200 (214) 902 0300 (210) 509-3334 (432) 563-1800



#### **QC Summary** 575938

#### 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:

E300P Prep Method:

Date Prep: 02.15.18

LCSD Sample Id: 7639188-1-BSD

7639188-1-BKS MR LCS LCS Limits LCSD

Flag Date 02.15.18 21:37

**Parameter** Chloride

Spike Result Amount

Result %Rec

LCSD Result %Rec

%RPD RPD Limit Units

Analysis

< 5.00 250 262 105 255 102 90-110 3 20

Analytical Method: Inorganic Anions by EPA 300

3041189

Matrix: Soil

Prep Method:

E300P

mg/kg

Date Prep: 02.15.18

Parent Sample Id:

Seq Number:

575815-002

MS Sample Id: 575815-002 S

MSD Sample Id: 575815-002 SD

**Parameter** 

Spike Parent

MS MS Result %Rec

**MSD** Result

**MSD** Limits %RPD RPD Limit Units

Analysis

Chloride

Result Amount 22.2 250

292 108

%Rec 103

90-110

20 mg/kg

Flag Date

02.15.18 21:54

Analytical Method: Inorganic Anions by EPA 300

Seq Number:

3041189

Matrix: Soil

249

Prep Method: Date Prep:

E300P

02.15.18

Parent Sample Id:

575937-005

MS Sample Id:

575937-005 S

280

MSD Sample Id: 575937-005 SD

MS MS %Rec **MSD MSD** 

Limits

%RPD RPD Limit Units

20

Analysis

**Parameter** 

Parent Spike Result Amount <4.98

Result

102

105

Result 265 106

Result 268 %Rec 108 90-110

Date 02.15.18 17:35

Chloride

Analytical Method: TPH by SW8015 Mod

Prep Method:

TX1005P

Seq Number:

3040800

7638965-1-BLK

Matrix: Solid

Date Prep:

02.10.18

MB Sample Id: MB LCS Sample Id:

LCS

1010

Result

Flag

7638965-1-BKS LCSD

LCSD Sample Id: %RPD RPD Limit Units Limits

7638965-1-BSD

Flag

**Parameter** Gasoline Range Hydrocarbons (GRO) Diesel Range Organics (DRO)

<15.0 <15.0

1000 1000

Spike

Amount

101 113

LCS

%Rec

Result %Rec 1030

70-135 103

2 35 mg/kg

mg/kg

Analysis Flag Date

02.11.18 17:53 02.11.18 17:53

**Surrogate** 

1-Chlorooctane

o-Terphenyl

MB MB %Rec Flag 1130 LCS %Rec

114

113

1100 LCS

110 LCSD

%Rec

114

108

LCSD

70-135 LCSD

Flag

3 35

Limits

70-135

70-135

mg/kg

%

%

Units Analysis

Date

02.11.18 17:53 02.11.18 17:53

MS/MSD Percent Recovery Relative Percent Difference

LCS/LCSD Recovery

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

LCS = Laboratory Control Sample A = Parent Result

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

Flag

Flag

Flag



Seq Number:

Parent Sample Id:

Diesel Range Organics (DRO)

#### **QC Summary** 575938

#### LT Environmental, Inc.

Legg Federal Tank Battery/30-015-04734

969

97

70-135

Analytical Method: TPH by SW8015 Mod

575590-001

<15.0

3040800 Matrix: Soil

999

MS Sample Id: 575590-001 S

TX1005P Prep Method:

Date Prep: 02.10.18 MSD Sample Id: 575590-001 SD

mg/kg

Spike MS MS Limits %RPD RPD Limit Units Parent **MSD** MSD Analysis **Parameter** Result Amount Result %Rec Date Result %Rec Gasoline Range Hydrocarbons (GRO) 840 70-135 02.11.18 18:55 <15.0 999 815 82 84 3 35 mg/kg

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

92

920

Analytical Method: BTEX by EPA 8021B

Seq Number: 3041062

Matrix: Solid

Prep Method:

35

5

SW5030B

02.11.18 18:55

Date Prep: 02.12.18

LCS Sample Id: 7639131-1-BKS LCSD Sample Id: 7639131-1-BSD MB Sample Id: 7639131-1-BLK 0/ DDD DDD I :---:4 II--:4-

Parameter	MB Result	Spike Amount	Result	%Rec	LCSD Result	LCSD %Rec	Limits	%RPD	KPD LIMI	Units	Analysis Date	
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	%Rec	Flag	%Rec	Flag	%Rec	Flag	Lillits	Ullits	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 575937-003 Parent Sample Id:

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 Limi	t Units	Analysis Date	]
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) / BRPD = 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 Relinquished by:

Relinquished by:

Date Time:

Date Time:

Received By:

Custody Seal #

Preserved where applicable

Cooler Temp.

Thermo. Corr. Factor

Date/Time: Date Time:

Rec

FED-EX / UPS: Track

Corrected Temp:

(6-23: +0.2°C)

CF:(0-6: -0.2°C) Temp: 3

IR ID:R-8

Date Time:

Received By:

Relinquished by Sampler:

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

Level II Report with TRRP checklist

Level 3 (CLP Forms) Level III Std QC+ Forms Level II Std QC

UST / RG -411

TRRP Level IV

Level IV (Full Data Pkg /raw data)

3 Day EMERGENCY

Steward

2 Day EMERGENCY

Contract TAT 7 Day TAT 5 Day TAT

**Next Day EMERGENCY** Same Day TAT

Turnaround Time (Business days)

8X

200

Data Deliverable Information

4.47 44.6

9 10

326

CHAIN OF CUSTODY

Setting the Sta

Samplers's Name: Project Contact:

PO Number: 30-015-04734

Collection

Number of preserved bottles

Adrian

No.

Field ID / Point of Collection

Depth

Date

2-818

9:20

M

# of bottles HCI NaOH/Zn Acetate

NO3

NaOH NaHSO4 меон NONE

Field Comments

9/32 9:29

85.6 9:35

9:41

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		www.xenco.com	Xenco Quote # Xenco Job #		
			Analytical Information	Matrix Codes	
Client / Reporting Information		Project Information			
Company Name / Branch: LTE / Per mich		Project Name/Number: Lea G Fedural Tank Bayon /30-015-04734	15-04734	W = Water S = Soil/Sed/Soild	
Company Address:	ς)	Project Location)	215	DW = Ground water DW = Drinking Water	00
3300 N. A Truck Bldg 1. Swire 103	1.5018 103		0	P = Product SW = Surface Water	1.00
Email:	Phone No:	Invoice To:	8	SL - Sludge OW = Ocean/Sea Water	nal
Rbakero Clephic	8/15-401-28h mp	1 parters 1/0/11/10 on 432-704-5/18 XTO D , , ray - Ky (2, C) the	h	WI = Wipe 0 = 0il	Fir
Project Contact: /// 1000 / 1000			et M	WW = Waste Water	

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from for any losses or expenses incurred by the Client if such losses are due to circumstainces beyond the como sample. These terms will be enforced unless previously negotiated under a fully executed client contract. 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 fourhe cost of samples and shall not assume any responsibility ed to 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

Released to Imaging: 3/22/2023 9:40:31 AM



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

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

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

Work Order #: 575938

Temperature Measuring device used: R8

Work Order #. 373930	_	_
	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 cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	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 relinqu	uished/ received?	Yes
#10 Chain of Custody agrees with sampl	e 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 indicat	ed test(s)?	Yes
#16 All samples received within hold time	e?	Yes
#17 Subcontract of sample(s)?		N/A
#18 Water VOC samples have zero head	dspace?	N/A
* Must be completed for after-hours de		n the refrigerator
Analyst:	PH Device/Lot#:	
Checklist completed by:		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,

Jessica Kramer

Jessica Vramer

**Project Assistant** 

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# **Sample Cross Reference 597514**



## LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id	Matrix	<b>Date Collected</b>	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: Report Date: 06-SEP-18 Work Order Number(s): 597514 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

	Lab Id:	597514-0	001	597514-0	002	597514-0	003	597514-	004	597514-	005	597514-0	006
Analysis Requested	Field Id:	SS9		SS10		SS11		SS12		SS13		SS14	
Analysis Requesieu	Depth:	6- In		6- In		6- In		6- In		6- In		6- In	
	Matrix:	SOIL	,	SOIL		SOIL		SOIL	,	SOIL		SOIL	,
	Sampled:	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	Extracted:	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	
	Analyzed:	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
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00201	0.00201	< 0.00202	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	Extracted:	Aug-31-18	10:45	Aug-31-18 10:45									
	Analyzed:	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
	Units/RL:	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	Extracted:	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
	Analyzed:	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	
	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	<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



# 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

	Lab Id:	597514-0	07	597514-0	800			
Analysis Requested	Field Id:	SS15		SS16				
Analysis Requesieu	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 (	)9:30	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 2	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 Vramer

Jessica Kramer Project Assistant





#### LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS9 Matrix:

Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597514-001

Date Collected: 08.23.18 10.30

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: Analyst: OJS

% Moisture:

Wet Weight

OJS

Date Prep:

08.31.18 10.45

Basis:

Seq Number: 3061992

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

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARMARM

08.30.18 07.00 Date Prep:

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		





#### LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS9

Matrix: Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597514-001

Date Collected: 08.23.18 10.30

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

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





#### 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

10.6

% Moisture:

Analyst:

OJS

Date Prep: 08.31.18 10.45 Basis:

Wet Weight

Seq Number: 3061992

Cas Number Result

RL

Units

Parameter

16887-00-6

4.99

08.31.18 14.46 mg/kg

Flag Dil 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

**Analysis Date** 

% Moisture:

Tech: Analyst:

Chloride

ARM ARM

Date Prep:

08.30.18 07.00

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 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		





#### 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: BTEX by EPA 8021B

Prep Method: SW5030B

: ALJ % Moi

% Moisture:

Tech: ALJ
Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

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		





#### LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS11

Lab Sample Id: 597514-003

Matrix: Soil

Date Received:08.29.18 15.50

Date Collected: 08.23.18 10.40

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: OJS

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

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 08.30.18 07.00

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 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		





## LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Soil

Sample Id: Matrix: **SS11** 

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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ % Moisture:

ALJ Analyst:

09.05.18 09.30 Date Prep:

Basis: Wet Weight

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		





# LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS12** Lab Sample Id: 597514-004

Matrix:

Soil

Date Received:08.29.18 15.50

Date Collected: 08.23.18 11.00

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P % Moisture:

Tech: OJS

Analyst:

OJS

Date Prep:

08.31.18 10.45

Basis:

Wet Weight

Seq Number: 3061992

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

Analytical Method: TPH by SW8015 Mod

ARM Tech:

Seq Number: 3061961

ARM Analyst:

08.30.18 07.00 Date Prep:

% Moisture:

Prep Method: TX1005P

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		





# LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Soil

Sample Id: Matrix: **SS12** 

Date Received:08.29.18 15.50

Lab Sample Id: 597514-004 Date Collected: 08.23.18 11.00

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

Date Prep:

% Moisture:

Seq Number: 3062203

Analyst:

ALJ

09.05.18 09.30 Basis: Wet Weight

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		





# 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

ARM

% Moisture:

70 WOISTU

Analyst: ARM

Tech:

Date Prep: 08.29.18 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





# 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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

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		





# LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS14

OJS

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

Analyst:

Date Prep: 08.31.18 10.45

% Moisture:

Basis:

Wet Weight

Seq Number: 3061992

Bed Itumber. 3001772

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

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 08.29.18 16.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	08.29.18 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		





# LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: SS14 Matrix:

Date Received:08.29.18 15.50

Lab Sample Id: 597514-006

Matrix: Soil
Date Collected: 08.23.18 13.35

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

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		





# 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:

OJS Analyst:

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

% Moisture:

Tech: Analyst: ARMARM

08.29.18 16.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	08.29.18 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		





# 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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





# LT Environmental, Inc., Arvada, CO

LEGG Federal 001

Sample Id: **SS16** 

Lab Sample Id: 597514-008

Matrix: Soil

Date Received:08.29.18 15.50

Date Collected: 08.23.18 15.30

Sample Depth: 6 In

Prep Method: E300P

Analytical Method: Inorganic Anions by EPA 300

% Moisture:

OJS Tech:

OJS Analyst:

08.31.18 10.45 Date Prep:

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

ARM

Tech: ARM Analyst:

Seq Number: 3061706

Date Prep:

08.29.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Gasoline Range Hydrocarbons (GRO) PHC610 <15.0 15.0 mg/kg 08.29.18 22	.46 U	1
<b>Diesel Range Organics (DRO)</b> C10C28DRO <b>1410</b> 15.0 mg/kg 08.29.18 22	.46	1
<b>Oil Range Hydrocarbons (ORO)</b> PHCG2835 <b>27.4</b> 15.0 mg/kg 08.29.18 22	.46	1
<b>Total TPH</b> PHC635 <b>1440</b> 15.0 mg/kg 08.29.18 22	.46	1
Surrogate Cas Number Recovery Units Limits Analysis I	Date Flag	
1-Chlorooctane 111-85-3 92 % 70-135 08.29.18 22	2.46	
o-Terphenyl 84-15-1 113 % 70-135 08.29.18 22	2.46	



Lab Sample Id: 597514-008

# **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

Date Collected: 08.23.18 15.30

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

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



Page 83 of 162

- 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.

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

<sup>\*\*</sup> Surrogate recovered outside laboratory control limit.



Seq Number:

### **QC Summary** 597514

### LT Environmental, Inc.

LEGG Federal 001

Analytical Method: Inorganic Anions by EPA 300

3061992

MR

Matrix: Solid

E300P Prep Method:

Date Prep: 08.31.18

LCS Sample Id: LCSD Sample Id: 7661490-1-BSD 7661490-1-BKS MB Sample Id: 7661490-1-BLK LCS

LCS

Spike Limits %RPD RPD Limit Units LCSD LCSD Analysis Flag **Parameter** Result Amount Result %Rec Date %Rec Result

08.31.18 13:43 Chloride < 5.00 250 262 105 262 105 90-110 0 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3061992

Matrix: Soil

E300P Prep Method: Date Prep: 08.31.18

Parent Sample Id: 597513-003 MS Sample Id: 597513-003 S MSD Sample Id: 597513-003 SD

Spike MS MS %RPD RPD Limit Units Parent **MSD MSD** Limits Analysis Flag **Parameter** Result %Rec Date Result Amount Result %Rec 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

3061992 Seq Number:

Matrix: Soil

Prep Method: E300P

> Date Prep: 08.31.18

MS Sample Id: 597514-007 S MSD Sample Id: 597514-007 SD Parent Sample Id: 597514-007

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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061706

Matrix: Solid

Prep Method:

%RPD RPD Limit Units

TX1005P

Date Prep: 7661422-1-BSD

MB Sample Id: 7661422-1-BLK MB Spike LCS

7661422-1-BKS LCS Sample Id: LCS LCSD LCSD LCSD Sample Id:

Limits

08.29.18

Analysis

Flag

**Parameter** Result %Rec Date Result Amount %Rec Result Gasoline Range Hydrocarbons (GRO) 942 94 911 91 70-135 3 20 08.29.18 15:09 < 8.00 1000 mg/kg 08.29.18 15:09 1020 102 981 70-135 4 20 Diesel Range Organics (DRO) 1000 98 < 8.13 mg/kg

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

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

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

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample A = Parent Result

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

Flag

Analysis



Seq Number:

### **QC Summary** 597514

## LT Environmental, Inc.

LEGG Federal 001

Analytical Method: TPH by SW8015 Mod

3061961 Matrix: Solid

LCS

LCSD LCSD

Limits

Prep Method: TX1005P

Date Prep: 08.30.18

LCS Sample Id: 7661540-1-BKS MB Sample Id: 7661540-1-BLK

Spike

MB

LCSD Sample Id: 7661540-1-BSD

%RPD RPD Limit Units

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP	D RPD Lin	nit 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	
Surragata	MB	MB	L	CS L	CS	LCSI	D LCS	D	Limits	Units	Analysis	

LCS

Surrogate	%Rec Flag	%Rec Flag	%Rec Flag	Limits	Cints	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 Prep Method: TX1005P Date Prep: 08.29.18

Matrix: Soil MS Sample Id: 597209-004 S MSD Sample Id: 597209-004 SD Parent Sample Id: 597209-004

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date
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

Prep Method: TX1005P Seq Number: 3061961 Matrix: Soil Date Prep: 08.30.18 MSD Sample Id: 597513-001 SD MS Sample Id: 597513-001 S 597513-001 Parent Sample Id:

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lin	it 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) / BRPD = 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



Seq Number:

MB Sample Id:

### **QC Summary** 597514

## LT Environmental, Inc.

LEGG Federal 001

Analytical Method: BTEX by EPA 8021B

3062203 Matrix: Solid

Prep Method: SW5030B

Date Prep: 09.05.18

LCS Sample Id: 7661720-1-BKS LCSD Sample Id: 7661720-1-BSD 7661720-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	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 Flag	LCSI %Re			Limits	Units	Analysis Date	
1,4-Difluorobenzene	90		8	34		89		,	70-130	%	09.05.18 16:26	
4-Bromofluorobenzene	95		8	36		100		,	70-130	%	09.05.18 16:26	

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B Seq Number: 3062203 Matrix: Soil Date Prep: 09.05.18

MS Sample Id: 597513-001 S Parent Sample Id: 597513-001

MSD Sample Id: 597513-001 SD Flag

Limita

Analysis

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	nit Units	Analysis Date	1
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	

%Rec	Flag	%Rec	Flag	Limits	Omis	Date
90		89		70-130	%	09.05.18 16:26
94		89		70-130	%	09.05.18 16:26
	<b>%Rec</b> 90	%Rec Flag	%Rec         Flag         %Rec           90         89	%Rec         Flag         %Rec         Flag           90         89	%Rec         Flag         %Rec         Flag           90         89         70-130	%Rec         Flag         %Rec         Flag           90         89         70-130         %

MC

MC

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

[D] = 100\*(C-A) / BRPD = 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

MCD

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

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

# CHAIN OF CUSTODY

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

Phoenix, Arizona (480-355-0900)

losses or expenses incurred by the Client il will be enforced unless breviously negotiate	Notice Signature of this document	Relinquished by:	Relinquished by:	Relinquished by Sampher:		TAT Starts Day received	3 Day EMERGENCY	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT	Turnaround Time ( Business days)	10	9	9 55 16	7 5515	H 55 9	5 55 13	-	3 5511	2 5510	1 559			Samplers's Name Joseph S. Hernandez	Adrian Baker	Abaker@itenv.com	Emall:	3300 North "A" Street, Building	Company Address:	Company Name / Branch: LT Environmental, Inc Permian Office	Client / Reporting Information		
id under a fully assented client contract  of such loses are due to circumstances bey		7			SAMPLE CUSTODY MUST BE DOCUMENTED BE	TAT Starts Day received by Lah, if received by 5:00 pm		Contract TAT	7 Day TAT	∑ 5 Day TAT	ss days)											Field ID / Point of Collection		26		(432) 704-5178	Phone No:	3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705		an Office	ation		
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and subcontractors. It assigns standard terms o each project. Xenco's liability will be limited	Custody Seal #	4		Belinquished By:	ANGE POSSESSION INCLIDING COLIDIES DEL WEST			UST / RG -411	TRRP Level IV	Level IV (Full Data Pkg /raw	ormation			X	XX	X	×	× ×	X	×	×. 1	Acetate HNO3 H2SO4 NaOH NaHSO4 MEOH NONE	of preserved bottles	288-3741, 788-3744 C				3	77 7 001				Xer
and conditions to the cost of s	Preserved	Date			SI WEBY					/ data)				×	( X X	×	^ × ×	\ X X	- 1	× / × /	× ×	TPH		Er Er	A	9 00		15					Xenco Quote #
of service. Xenco will amples. Any samples r	Preserved where applicable	Date lime:		Date Time:	FED-EX / U						Notes:												146				- 1				Analytical Information		
be liable only for the co	On Ice	Received By:	2	Received By:	FED-EX / UPS: Tracking #																										ion		Xenco Job #
ost of samples and sh not analyzed will be in	Cooler Temp.							***************************************																								02	L
hall not assume any responsibility for any nvoiced at \$5 per sample. These terms	np. Thermo. Corr. Factor																***************************************				- reid Collillelits	Field Comments	A = Air	O = Oil	WI = Wipe	SL = Sludge	SW = Surface water	DW = Drinking Water	S = Soil/Sed/Solid	W = Water	Matrix Codes	7	



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

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

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

Work Order #: 597514

Temperature Measuring device used: R8

San	nple 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/ r	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	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 de	livery of samples prior to pla	acing in the refrigerator
Analyst:		PH Device/Lot#:	
	Checklist completed by:	Shawnee Gomez	Date: <u>08/29/2018</u>
	Checklist reviewed by:	Jessica Kramer	Date: <u>08/30/2018</u>

# **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,

Jessica Kramer

Jessica Vramer

**Project Assistant** 

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

Certified and approved by numerous States and Agencies.

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



# **Sample Cross Reference 597513**



# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id	Matrix	<b>Date Collected</b>	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

Version: 1.%

# **CASE NARRATIVE**

Client Name: LT Environmental, Inc.

Project Name: Legg Federal 001

Project ID: Report Date: 06-SEP-18 Work Order Number(s): 597513 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** 

\*\*BORATOR

Project Id: Contact:

**Project Location:** 

Adrian Baker Carlsbad, NM **Date Received in Lab:** Wed Aug-29-18 03:50 pm

**Report Date:** 06-SEP-18 **Project Manager:** Jessica Kramer

	Lab Id:	597513-	001	597513-	002	597513-0	003	597513-	004	597513-0	005	597513-	006
Analysis Requested	Field Id:	SS17	,	SS18		SS20		SS21		SS22		SS5A	
Analysis Requesieu	Depth:	6- In		6- In		6- In		6- In		6- In		1- ft	
	Matrix:	SOIL		SOIL	SOIL SOIL		SOIL		SOIL		SOIL		
	Sampled:	Aug-24-18	Aug-24-18 10:00		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	Extracted:	Sep-05-18	Sep-05-18 09:30		09:30	Sep-05-18	09:30	Sep-05-18	09:30	Sep-05-18	09:30	Sep-05-18	09:30
	Analyzed:	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
	Units/RL:	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	Extracted:	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	
	Analyzed:	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
	Units/RL:	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	Extracted:	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
	Analyzed:	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
	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	<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.

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Version: 1.%

Jessica Kramer Project Assistant

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# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS17

Lab Sample Id: 597513-001

Soil

Date Received:08.29.18 15.50

Date Collected: 08.24.18 10.00

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P % Moisture:

Tech: OJS

Analyst: OJS

Date Prep:

Matrix:

08.31.18 09.00

Basis:

Wet Weight

Seq Number: 3061988

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

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ARM ARM

Date Prep:

08.30.18 07.00

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS17 Matrix: Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597513-001 Date Collected: 08.24.18 10.00

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

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **SS18** 

Analytical Method: Inorganic Anions by EPA 300

Lab Sample Id: 597513-002

Soil

Date Received:08.29.18 15.50

Date Collected: 08.24.18 10.15

Sample Depth: 6 In

Prep Method: E300P

% Moisture:

Wet Weight

Tech: OJS

Analyst:

OJS

Date Prep:

Matrix:

08.31.18 09.00

Basis:

Seq Number: 3061988

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

ARMTech:

ARM Analyst:

08.30.18 07.00 Date Prep:

% Moisture:

Basis: Wet Weight

Prep Method: TX1005P

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS18

Matrix: Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597513-002

Date Collected: 08.24.18 10.15

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

70 141

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

Seq Number:	3062203
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Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





# 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: We

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

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 08.30.18 07.00

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 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		





# 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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.05.18 09.30

Basis: Wet Weight

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

08.31.18 10.45

Matrix: Sample Id: **SS21** 

Date Received:08.29.18 15.50 Soil

Lab Sample Id: 597513-004 Date Collected: 08.24.18 13.37 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS % Moisture:

OJS

Analyst:

Date Prep:

Basis:

Wet Weight

Seq Number: 3061992

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

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARMARM

08.30.18 07.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		



Lab Sample Id: 597513-004

# **Certificate of Analytical Results 597513**



# LT Environmental, Inc., Arvada, CO

Legg Federal 001

09.05.18 09.30

Sample Id: Matrix: **SS21** 

Soil

Date Received:08.29.18 15.50

Date Collected: 08.24.18 13.37 Sample Depth: 6 In

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

Date Prep:

% Moisture:

Tech: ALJ ALJ

Basis: Wet Weight

Seq Number: 3062203

Analyst:

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
<b>Total Xylenes</b>	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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Soil

Sample Id: **SS22** 

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

Prep Method: E300P % Moisture:

Tech: OJS

Analyst:

OJS

Lab Sample Id: 597513-005

08.31.18 10.45 Date Prep:

Basis:

Wet Weight

Seq Number: 3061992

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	IJ	1

Matrix:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

08.30.18 07.00 Date Prep:

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Soil

Sample Id: SS22 Matrix:

Date Received:08.29.18 15.50

Lab Sample Id: 597513-005 Date Collected: 08.24.18 14.15

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ % Mo

% Moisture:

Teen.

Seq Number: 3062203

70 11101514101

Analyst: ALJ Date Prep: 09.05.18 09.30

Basis: Wet Weight

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	

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	





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS5A

Matrix: Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597513-006

Date Collected: 08.24.18 15.05

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

OJS

% Mo1

% Moisture:

Analyst:

OJS

Date Prep:

08.31.18 10.45

Basis:

Wet Weight

Seq Number: 3061992

Parameter	Cas Number	Result	RL	Units	<b>Analysis Date</b>	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

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 08.30.18 07.00

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		





# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS5A Matrix: Soil

Date Received:08.29.18 15.50

Lab Sample Id: 597513-006 Date Collected: 08.24.18 15.05

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

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**



- Page 106 of 162
- 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.

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

<sup>\*\*</sup> Surrogate recovered outside laboratory control limit.



### **QC Summary** 597513

### LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300 E300P Prep Method: Seq Number: 3061988 Matrix: Solid Date Prep: 08.31.18

LCS Sample Id: 7661483-1-BKS LCSD Sample Id: 7661483-1-BSD MB Sample Id: 7661483-1-BLK

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

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Seq Number: 3061992 Matrix: Solid Date Prep: 08.31.18

MB Sample Id: 7661490-1-BLK LCS Sample Id: 7661490-1-BKS LCSD Sample Id: 7661490-1-BSD

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis Flag **Parameter** Result %Rec Date Result Amount Result %Rec 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

MR

Prep Method: E300P 3061988 Matrix: Soil Seq Number: Date Prep: 08.31.18

MS Sample Id: 597513-001 S MSD Sample Id: 597513-001 SD 597513-001 Parent Sample Id:

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

Analytical Method: Inorganic Anions by EPA 300

E300P Prep Method: 3061988 Seq Number: Matrix: Soil Date Prep: 08.31.18 MSD Sample Id: 597555-002 SD 597555-002 MS Sample Id: 597555-002 S Parent Sample Id:

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

Analytical Method: Inorganic Anions by EPA 300 Prep Method:

E300P 3061992 Matrix: Soil Seq Number: Date Prep: 08.31.18

Parent Sample Id: 597513-003 MS Sample Id: 597513-003 S MSD Sample Id: 597513-003 SD

Parent Spike MS MS Limits %RPD RPD Limit Units Analysis **MSD MSD** Flag **Parameter** Result Date Result Amount %Rec Result %Rec 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) / BRPD = 200\* | (C-E) / (C+E) |[D] = 100 \* (C) / [B]

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample A = Parent Result

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



### **QC Summary** 597513

### LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

597514-007

3061992 Matrix: Soil

1000

MS Sample Id: 597514-007 S

E300P Prep Method:

08.31.18

Date Prep: MSD Sample Id: 597514-007 SD

Spike MS MS Limits %RPD RPD Limit Units Parent **MSD MSD** Analysis Flag **Parameter** Result Amount Result Date %Rec %Rec Result

08.31.18 15:18 Chloride < 0.857 250 241 96 240 96 90-110 0 20 mg/kg

Analytical Method: TPH by SW8015 Mod

3061961

Matrix: Solid

Prep Method: Date Prep:

TX1005P

Seq Number: MB Sample Id:

Diesel Range Organics (DRO)

Seq Number:

Parent Sample Id:

7661540-1-BLK

LCS Sample Id: 7661540-1-BKS LCSD Sample Id: 7661540-1-BSD

08.30.18

Flag

Flag

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis **Parameter** Result %Rec Date Result Amount Result %Rec

868

87

Gasoline Range Hydrocarbons (GRO) < 8.00 1000 843 84 842 84 70-135 0 20 874 87 70-135

08.30.18 09:30 mg/kg 20 08.30.18 09:30 mg/kg

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

Analytical Method: TPH by SW8015 Mod

Seq Number: 3061961

< 8.13

Matrix: Soil

Prep Method:

TX1005P

Date Prep:

Parent Sample Id:

597513-001

MS Sample Id: 597513-001 S

08.30.18

MSD Sample Id: 597513-001 SD

MS MS %RPD RPD Limit Units Analysis Parent Spike **MSD** MSD Limits **Parameter** Result Amount Result %Rec Date Result %Rec Gasoline Range Hydrocarbons (GRO) 08.30.18 10:31 < 7.99 999 847 85 864 86 70-135 2 20 mg/kg 89 906 70-135 2 20 08.30.18 10:31 Diesel Range Organics (DRO) < 8.12 999 886 91 mg/kg

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

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

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

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample A = Parent Result

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

Flag

SW5030B



#### **QC Summary** 597513

#### LT Environmental, Inc.

Legg Federal 001

Analytical Method: BTEX by EPA 8021B

Prep Method: 3062203 Matrix: Solid Date Prep:

Seq Number: 09.05.18 LCS Sample Id: 7661720-1-BKS LCSD Sample Id: 7661720-1-BSD 7661720-1-BLK MB Sample Id:

•												
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 Flag	LCSI %Re		_	Limits	Units	Analysis Date	
1,4-Difluorobenzene	90		8	34		89		7	0-130	%	09.05.18 16:26	
4-Bromofluorobenzene	95		8	36		100		7	0-130	%	09.05.18 16:26	

Analytical Method: BTEX by EPA 8021B

SW5030B Prep Method: Seq Number: 3062203 Matrix: Soil Date Prep: 09.05.18 MS Sample Id: 597513-001 S MSD Sample Id: 597513-001 SD Parent Sample Id: 597513-001

MS %RPD RPD Limit Units Spike MS MSD Limits Analysis Parent **MSD Parameter** Result Amount Result %Rec Date Result %Rec 09.05.18 16:26 0.0788 79 70-130 Benzene < 0.00199 0.0996 0.0834 84 6 35 mg/kg Toluene < 0.00199 0.0996 0.0830 83 0.0782 78 70-130 35 09.05.18 16:26 6 mg/kg 70-130 09.05.18 16:26 Ethylbenzene < 0.00199 0.0996 0.0972 98 0.0911 91 6 35 mg/kg 09.05.18 16:26 m,p-Xylenes < 0.00398 0.199 0.180 90 70-130 7 35 0.16884 mg/kg 84 0.0784 70-130 7 09.05.18 16:26 o-Xylene < 0.00199 0.0996 0.0841 78 35 mg/kg

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

# CHAIN OF CUSTODY Page $\downarrow$ or $\downarrow$

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

	WWW. Xenco.com	Aude # S975
		Analytical Information Matrix Codes
Client / Reporting Information	Project Information	
Company name / Branch: LT Environmental, Inc Permian Office	Project Name/Number: Lffr FFOLS 41	W = Water
Company Address:	2	
3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705	Colleged MW	
Email; Phone No:	8	.0
Abaker@ltenv.com (432) 704-5178		ST = Studge
	40	OW = Ocean/Sea Water WI = Wibe
Samplers's Name Joseph S. Hernandez	7	
ĺ	25/ 307//5/ 25/7/15/	-
No Pietro J or Joseph D J Dollar of D Joseph D J	X S S S S S S S S S S S S S S S S S S S	A=Alr
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	1150 S ( X X	
5 5521	1337 S 1	X
6 5522	1415 S 1	× ×
7 555A 11	V X X	X
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6	7	
10 <		
Turnaround Time ( Business days)	Data Deliverable Information	Notes:
Same Day TAT \$ Day TAT	Level II Std QC	a)
☐ 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	TRP Checklist	
TAT Starts Day received by Lab, if received by 5:00 pm		FED-EX / UPS: Tracking #
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Setting the Standard since 1990 Stafford, Texas (281-240-4200) Dallas Texas (214-902-0300)

XENCO



# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

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

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

Work Order #: 597513

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 con	tainer/ cooler?	N/A	
#5 Custody Seals intact on sample bottle	s?	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 relinqu	ished/ received?	Yes	
#10 Chain of Custody agrees with sample	e 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 indicate	ed test(s)?	Yes	
#16 All samples received within hold time	?	Yes	
#17 Subcontract of sample(s)?		No	
#18 Water VOC samples have zero head	space?	N/A	

	completed for after-hours de	livery of samples prior to pla	acing in the refrigerator
Analyst:		PH Device/Lot#:	
	Checklist completed by:	Maurel Smath	Date: <u>08/29/2018</u>
	Checklist reviewed by:	Jessica Warner  Jessica Kramer	Date: <u>08/30/2018</u>

# **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,

Jessica Kramer

Jessica Vramer

Project Assistant

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

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## **Sample Cross Reference 611800**



#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id	Matrix	<b>Date Collected</b>	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 Report Date: 22-JAN-19 Work Order Number(s): 611800 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** 

TNI SORATORI

Project Id:

2RP-3744, 2761, 3741

Contact:
Project Location:

Adrian Baker Delaware Basin **Date Received in Lab:** Fri Jan-18-19 11:15 am

Report Date: 22-JAN-19

Project Manager: Jessica Kramer

	Lab Id:	611800-0	001	611800-0	002	611800-0	003	611800-	004	611800-	005	611800-0	006
A I i - D 4 - I	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
Analysis Requested	Depth:	1- ft		1- ft		1.5- ft	i	1.5- f	t	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	1:00	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	6:10	Jan-21-19 16:32		Jan-21-19 16:38		Jan-21-19 16:44		4 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	6:34	Jan-20-19 13:53		Jan-20-19 14:13		Jan-20-19 14:33		Jan-20-19 14:5	
	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 Vramer

Jessica Kramer Project Assistant





#### 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:

Tech: CHE
Analyst: CHE

Date Prep: 01.21.19 11.30

Basis: Wet

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

% Moisture:

Tech: Analyst: ALJ ALJ

Date Prep: 01.20.19 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





#### 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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep:

01.21.19 11.00

Basis: We

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS02** 

Analytical Method: Inorganic Anions by EPA 300

Lab Sample Id: 611800-002

Matrix: Soil

Date Received:01.18.19 11.15

Date Collected: 01.16.19 10.15

Sample Depth: 1 ft

Prep Method: E300P

% Moisture:

Tech: CHE

CHE Analyst:

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	<4.96	4.96	mø/kø	01.21.19.16.10	U	1

Analytical Method: TPH by SW8015 Mod

ALJ Tech: Analyst:

ALJ

Seq Number: 3076435

01.20.19 08.00

% Moisture:

Basis: Wet Weight

Prep Method: TX1005P

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 (1) 1		111 05 0	00	0.7	70 105	01 20 10 16 24		

Date Prep:





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: FS02

Matrix: Soil

Date Received:01.18.19 11.15

Lab Sample Id: 611800-002

Date Collected: 01.16.19 10.15

01.21.19 11.00

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep:

Basis:

Wet Weight

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		





#### 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

% Moisture:

Tech: CHE

Analyst:

CHE

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

Date Prep:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ALJ ALJ

Date Prep: 01.20.19 08.00

Basis: Wet

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 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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: FS03 Matrix: Soil

Date Received:01.18.19 11.15

Date Collected: 01.16.19 10.35

01.21.19 11.00

Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

Lab Sample Id: 611800-003

% Moisture:

Analyst: SCM

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		

Date Prep:





#### 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

Wet Weight

Seq Number: 3076510

Parameter	Cas Number	Result	RL	Units	<b>Analysis Date</b>	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

% Moisture:

Tech:

Analyst:

ALJ ALJ

Date Prep: 01.20.19 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		





#### 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: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 01.21.19 11.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	<b>Analysis Date</b>	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		



Lab Sample Id: 611800-005

#### **Certificate of Analytical Results 611800**



#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Matrix: Sample Id: **FS05** 

Soil

Date Received:01.18.19 11.15

Date Collected: 01.16.19 11.10

Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

Analyst:

Date Prep: 01.21.19 11.30 % Moisture:

Basis:

Wet Weight

Seq Number: 3076510

CHE

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

% Moisture:

Tech:

Analyst:

ALJ ALJ

Date Prep:

Basis:

01.20.19 08.00

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 14.33	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		



Lab Sample Id: 611800-005

#### **Certificate of Analytical Results 611800**



#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: FS05 Matrix:

atrix: Soil Date Received:01.18.19 11.15

01.21.19 11.00

Date Collected: 01.16.19 11.10 Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

SCM

Prep Method: SW5030B

Tech: SCM %

% Moisture:
Basis: Wet Weight

Seq Number: 3076480

Analyst:

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		

Date Prep:





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: **FS06** Matrix: Soil

Date Received:01.18.19 11.15

Lab Sample Id: 611800-006 Date Collected: 01.16.19 11.25

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture:

Tech: CHE
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	01.21.19.16.50	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: ALJ

Analyst:

Date Prep: 01.20.19 08.00

Basis: Wet Weight

Seq Number: 3076435

ALJ

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: Matrix: Soil **FS06** 

Date Received:01.18.19 11.15

Date Collected: 01.16.19 11.25

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

SCM

Prep Method: SW5030B

SCM

Lab Sample Id: 611800-006

% Moisture:

Tech:

Analyst:

01.21.19 11.00 Date Prep:

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.

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

<sup>\*\*</sup> Surrogate recovered outside laboratory control limit.



#### **QC Summary** 611800

#### LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

3076510

Matrix: Solid

Prep Method:

E300P 01.21.19

Seq Number: MB Sample Id:

7670119-1-BLK

LCS Sample Id: 7670119-1-BKS

Date Prep: LCSD Sample Id: 7670119-1-BSD

**Parameter** 

MR

LCS LCS %Rec

LCSD %Rec

Limits

%RPD RPD Limit Units

Analysis Date 01.21.19 15:21

Chloride

Result Amount < 5.00 250

Spike

Spike

248

Amount

Result 252

Result 239

LCSD

96 90-110

5 20 mg/kg

Flag

Analytical Method: Inorganic Anions by EPA 300

Result

Parent

Result

< 0.858

229

3076510

Matrix: Soil

101

Prep Method: Date Prep:

E300P 01.21.19

Seq Number: Parent Sample Id:

611795-001

MS Sample Id: 611795-001 S

90-110

MSD Sample Id: 611795-001 SD

**Parameter** 

Chloride

Parent

MS Result

464

MS %Rec 95

**MSD MSD** Result

463

Limits %Rec

94

%RPD RPD Limit Units

0

Analysis Date

01.21.19 15:40

Flag

Analytical Method: Inorganic Anions by EPA 300

3076510

Matrix: Soil

Prep Method:

20

mg/kg

E300P

Seq Number: Parent Sample Id:

611798-002

MS Sample Id: 611798-002 S

Date Prep:

01.21.19

MSD Sample Id: 611798-002 SD

**Parameter** 

Spike

MS MS Result

**MSD** 

**MSD** Limits %Rec

%RPD RPD Limit Units

Analysis

Chloride

Amount 250

%Rec 245 98

Result 227

91 90-110 8 20

Date 01.21.19 17:09 mg/kg

Flag

Analytical Method: TPH by SW8015 Mod

3076435

Matrix: Solid

LCS

LCSD

Prep Method:

TX1005P

Seq Number: MB Sample Id:

**Parameter** 

7670060-1-BLK

7670060-1-BKS LCS Sample Id:

LCSD

Date Prep: LCSD Sample Id: 01.20.19

7670060-1-BSD

Analysis Date

Gasoline Range Hydrocarbons (GRO) Diesel Range Organics (DRO)

< 8.00 < 8.13

1000 1000

Spike

Amount

Result %Rec 84 836 94 939

%Rec

129

105

LCS

Result %Rec 849 955

70-135 85 70-135

Limits

2 2

20 20

Limits

70-135

70-135

%RPD RPD Limit Units

01.20.19 10:40 mg/kg

Flag

**Surrogate** 

o-Terphenyl

1-Chlorooctane

MB %Rec 92

94

MB

Result

MB Flag LCS LCS

Flag

96 LCSD LCSD

%Rec

129

106

Flag

%

%

01.20.19 10:40 mg/kg Units

MS = Matrix Spike

Analysis Date

> 01.20.19 10:40 01.20.19 10:40

MS/MSD Percent Recovery Relative Percent Difference

LCS/LCSD Recovery

Log Difference

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

[D] = 100 \* (C) / [B]Log Diff. = Log(Sample Duplicate) - Log(Original Sample) LCS = Laboratory Control Sample A = Parent Result

B = Spike Added = MS/LCS Result D = MSD/LCSD % Rec = MSD/LCSD Result

Flag

Flag



Seq Number:

Parent Sample Id:

#### **QC Summary** 611800

#### LT Environmental, Inc.

Legg Federal 001

Analytical Method: TPH by SW8015 Mod

3076435 Matrix: Soil

MS Sample Id: 611429-003 S 611429-003

TX1005P Prep Method:

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 Limi	t 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

Matrix: Solid

Prep Method: SW5030B Date Prep:

01.21.19

SW5030B

Prep Method:

LCS Sample Id: 7670131-1-BKS LCSD Sample Id: 7670131-1-BSD MB Sample Id: 7670131-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
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 Matrix: Soil Date Prep: 01.21.19 MS Sample Id: 611795-003 S MSD Sample Id: 611795-003 SD Parent Sample Id: 611795-003

MS %RPD RPD Limit Units Parent Spike MS MSD MSD Limits Analysis **Parameter** Result Amount Result %Rec %Rec Date Result 01.21.19 13:02 < 0.00200 0.0998 0.112 112 9 Benzene 0.122121 70-130 35 mg/kg Toluene < 0.00200 0.0998 0.0897 90 0.0997 99 70-130 11 35 mg/kg 01.21.19 13:02 102 70-130 01.21.19 13:02 Ethylbenzene < 0.00200 0.0998 0.102 0.109 108 7 35 mg/kg 101 35 01.21.19 13:02 m,p-Xylenes < 0.00399 0.200 0.202 0.206 70-130 2 102 mg/kg 01.21.19 13:02 0.0955 o-Xylene 0.0998 0.0990 70-130 35 < 0.00200 96 98 4 mg/kg

Surrogate		MS MSD lag %Rec	MSD Limits Flag	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) / BRPD = 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 13:30



# Chain of Custody

Work Order No: \_

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334

	Hobbs,NM (5	75-392-7550) Phoenix,AZ (4)	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)	-620-2000) <u>www.xenco.com</u> Page
Project Manager: Adrian Baker	Adrian Baker	Bill to: (if different)	Kulo literell	Work Order Comments
Company Name:	LT Environmental, Inc., Permian office	Company Name:	OXTO FREGUE	Program: HST/PST   PRP   rounfields
Address:	3300 North A Street	Address:		State of Project:
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbed Mn 88220	Reporting:Level II
Phone:	432.704.5178 E <sub>I</sub>	mail: Naunbachos	Email: Maurbach Olbernson about et Ellerson	Deliverables: EDD ADaPT Other:

Phone: 4:	432.704.5178	Email: Maurica	Email: Manager to Manager EDD	ADaPT Dother:
			1	
Project Name:	loss federal col	Turn Around	ANALYSIS REQUEST	Work Order Notes
Project Number:	CRP-3744, 2761, 3741 Routine TX	Routine X		
P.O. Number:		Rush:	SAA	
Sampler's Name:	landa laumbach	Due Date: 8i/2 ບ		
SAMPLE RECEIPT	Temp Blank: Yes No Wet Ice: Yes No	Vet Ice: (Yes No		
				_

Sample Custody Seals:

Yes Yes

Correction Factor: Total Containers:

Number of Containers

TPH (EPA 8015)

BTEX (EPA 8021)

Chloride (EPA 300.0)

Thermometer ID

es No No CAR 8

Sample Identification

Matrix

Sampled

Time Sampled 9:50

Depth

aue

FSOI

Received Intact: Cooler Custody Seals:

Temperature (°C):

Hobbs,NM (57	5-392-7550) Phoenix,A	miulariu, ۱۸ (محد 194-1944) EL Pasc, ۱۸ (کام) Sa5-3443 Lubbock, ۱۸ (806)/94-1296 (170-449-8800) Tampa Fi (813-620-2000) المامكة (806)/75-392-7550 (1806) Phoenix, AZ (480-355-0900) Atlanta (GA (770-449-8800) Tampa Fi (813-620-2000)	
an Baker	Bill to: (if different)	Kulo Litheell	Work Order
<u>Environmental, Inc., Permian office</u>	Company Name:	VITO FRACTOR	Program: UST/PST PRP Prownfields R C Inserting
0 North A Street	Address:		State of Project:
and, TX 79705	City, State ZIP:	Carlsbed Nn 88220	Reporting:Level III
704.5178 En	nail: Maurback	Email: Maurbacholberroan, aboker Elter. con	Deliverables: EDD ☐ ADaPT ☐ Other:
In Tallet at	•		

Relinquished by: (Signature) Received by: (Signature) Date/Time Relinquished by: (Signature) Received by: (Signature) Date/Time	neutes: signature or 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.	Ag SiO2		f506 S 11:25 1'nwe ( \ \ X X	FSOS S 11:10 3' Nue 1 X X X	FS04 S 10:35 1.5' ave 1 X X X	FS03 S 10:35 1,5'am 1 1 X X X	1) or (2) /3/2 / X X
Date/Time		Na Sr Tl Sn U V Zn 1631 / 245.1 / 7470 / 7471 : Hg				M coulde	1 simile	

7742 2439 2838

Revised Date 051418 Rev. 2018.1

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

Sample Comments



#### 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: 01/18/2019 11:15:00 AM

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

Work Order #: 611800

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 co	ntainer/ cooler?	N/A					
#5 Custody Seals intact on sample bottle	es?	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 relinq	uished/ received?	Yes					
#10 Chain of Custody agrees with samp	le labels/matrix?	Yes					
#11 Container label(s) legible and intact	?	Yes					
#12 Samples in proper container/ bottle	<b>&gt;</b>	Yes					
#13 Samples properly preserved?		Yes					
#14 Sample container(s) intact?		Yes					
#15 Sufficient sample amount for indicate	ed test(s)?	Yes					
#16 All samples received within hold tim	e?	Yes					
#17 Subcontract of sample(s)?		No					
#18 Water VOC samples have zero hea	dspace?	N/A					
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator  Analyst: PH Device/Lot#:							
Checklist completed by:	Listafuul 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,

Jessica Kramer

Jessica Vramer

**Project Assistant** 

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

Certified and approved by numerous States and Agencies.

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## **Sample Cross Reference 612380**



#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id	Matrix	<b>Date Collected</b>	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
 Report Date:
 29-JAN-19

 Work Order Number(s):
 612380
 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** 

TNI TNI

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

	Lab Id:	612380-001		612380-0	02	612380-003		612380-004			
Analysis Requested	Field Id:	SS09A		SS11A		SS14A		FS07			
Analysis Requesieu	Depth:	4- ft	4- ft			4- ft		0.67-	ìt		
	Matrix:	SOIL		SOIL		SOIL		SOIL	,		
	Sampled:	Jan-21-19 1	Jan-21-19 10:30		3:20	Jan-21-19 1	2:10	Jan-21-19	14:50		
BTEX by EPA 8021B	Extracted:	Jan-24-19 1	12:30	Jan-24-19 1	2:30	Jan-24-19 1	2:30	Jan-24-19	12:30		
	Analyzed:	Jan-24-19 1	19:46	Jan-24-19 20:07		Jan-24-19 20:29		Jan-24-19	21:54		
	Units/RL:	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	Extracted:	Jan-24-19 1	12:30	Jan-24-19 12:30		Jan-24-19 12:30		Jan-24-19 12:30			
	Analyzed:	Jan-24-19 1	17:43	Jan-24-19 17:49		Jan-24-19 17:56		Jan-24-19 18:02			
	Units/RL:	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	Extracted:	Jan-24-19 1	14:00	Jan-24-19 14:00		Jan-24-19 14:00		Jan-24-19 14:00			
	Analyzed:	Jan-24-19 1	19:29	Jan-24-19 20:30		Jan-24-19 20:50		Jan-24-19 21:11			
	Units/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		
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 Vramer

Jessica Kramer Project Assistant





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS09A Matrix: Soil Date Received:01.24.19 12.15

Lab Sample Id: 612380-001

Date Collected: 01.21.19 10.30

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CHE

% Moisture: Basis:

Wet Weight

Analyst:

CHE

Date Prep: 01.24.19 12.30

Seq Number: 3077011

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

Prep Method: TX1005P

Tech:

ARM

% Moisture:

ARM Analyst:

01.24.19 14.00 Date Prep:

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: Matrix: SS09A

Soil

Date Received:01.24.19 12.15

Date Collected: 01.21.19 10.30 Sample Depth: 4 ft

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

% Moisture:

Tech: SCM SCM Analyst: 01.24.19 12.30 Basis: Wet Weight Date Prep:

Seq Number: 3076948

Lab Sample Id: 612380-001

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS11A

Matrix: Soil

Date Received:01.24.19 12.15

Lab Sample Id: 612380-002

Date Collected: 01.21.19 13.20

Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: CI

Analyst:

CHE CHE

Date Prep: 01.24.19 12.30

% Moisture: Basis:

Wet Weight

Seq Number: 3077011

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

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ARM ARM

Date Prep: 01.24.19 14.00

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Soil

Sample Id: SS11A

Date Received:01.24.19 12.15

Date Collected: 01.21.19 13.20

01.24.19 12.30

Sample Depth: 2 ft

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

Date Prep:

Matrix:

% Moisture:

Tech: SCMSCM

Basis: Wet Weight

Seq Number: 3076948

Analyst:

Lab Sample Id: 612380-002

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		





#### LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: SS14A

Analytical Method: Inorganic Anions by EPA 300

Lab Sample Id: 612380-003

CHE

Matrix: Soil Date Received:01.24.19 12.15

Date Collected: 01.21.19 12.10

Sample Depth: 4 ft

Prep Method: E300P

% Moisture:

CHE Analyst:

Tech:

Date Prep: 01.24.19 12.30 Basis:

Wet Weight

Seq Number: 3077011

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

Analytical Method: TPH by SW8015 Mod

ARM

Tech: ARM Analyst:

o-Terphenyl

Seq Number: 3076974

Date Prep:

84-15-1

01.24.19 14.00

Prep Method: TX1005P

% Moisture:

70-135

Basis: Wet Weight

01.24.19 20.50

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		



# **Certificate of Analytical Results 612380**



# LT Environmental, Inc., Arvada, CO

Legg Federal 001

Sample Id: Matrix: Soil SS14A

Date Received:01.24.19 12.15

Lab Sample Id: 612380-003 Date Collected: 01.21.19 12.10

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM % Moisture:

SCM Analyst:

01.24.19 12.30 Date Prep:

Basis: Wet Weight

Seq Number: 3076948

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

Soil

Matrix: Sample Id: **FS07** 

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

CHE % Moisture:

Seq Number: 3077011

CHE

Tech:

Analyst:

Date Prep: 01.24.19 12.30 Basis: Wet Weight

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

% Moisture:

ARMTech: ARM

Analyst:

01.24.19 14.00 Date Prep:

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: Matrix: Soil **FS07** 

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: BTEX by EPA 8021B

SCM

Prep Method: SW5030B

Tech: SCM % Moisture:

Analyst:

01.24.19 12.30 Date Prep:

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**



- Page 148 of 162
- 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.

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

<sup>\*\*</sup> Surrogate recovered outside laboratory control limit.



#### **QC Summary** 612380

#### LT Environmental, Inc.

Legg Federal 001

Analytical Method: Inorganic Anions by EPA 300

3077011

Matrix: Solid

7670433-1-BKS

E300P Prep Method:

Date Prep: 01.24.19

mg/kg

LCS Sample Id: MB Sample Id: 7670433-1-BLK

LCSD Sample Id: 7670433-1-BSD %RPD RPD Limit Units

20

Analysis Flag

MR Spike LCS LCS LCSD LCSD **Parameter** Result Amount Result %Rec

139

Parent

Result

457

Chloride 226 250

%Rec Result 230 92 90-110

2

Date 01.24.19 15:35

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3077011

Matrix: Soil

90

E300P Prep Method: Date Prep:

01.24.19

mg/kg

Parent Sample Id:

612382-001

MS Sample Id: 612382-001 S

Limits

MSD Sample Id: 612382-001 SD

20

**Parameter** 

Chloride

Seq Number:

Parent Result

Spike MS Result Amount

MS %Rec 409 108

226

**MSD MSD** Result

385

Limits %Rec 98 90-110 %RPD RPD Limit Units

6

Analysis Date

Flag

Analytical Method: Inorganic Anions by EPA 300

Seq Number:

3077011

Matrix: Soil

248

250

Prep Method:

E300P

Parent Sample Id:

612243-014

MS Sample Id: 612243-014 S Date Prep:

01.24.19

01.24.19 16:51

01.24.19 18:20

**Parameter** 

Chloride

Spike Amount

MS Result

646

MS

%Rec

76

Limits

90-110

Units

mg/kg

Analysis

Flag Date

X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3076974

Matrix: Solid

Prep Method:

TX1005P

LCS Sample Id: MB Sample Id: 7670421-1-BLK

7670421-1-BKS

Date Prep: LCSD Sample Id: 7670421-1-BSD

01.24.19

%RPD RPD Limit Units MB Spike LCS LCS LCSD Limits Analysis LCSD **Parameter** Result %Rec Date Result Amount Result %Rec 01.24.19 14:14 Gasoline Range Hydrocarbons (GRO) 950 95 898 70-135 20 < 8.00 1000 90

Diesel Range Organics (DRO)

< 8.13 MB

1030 1000

103

978

70-135 98

6 20 5

mg/kg 01.24.19 14:14 mg/kg

Flag

**Surrogate** 

%Rec 95

LCS MB Flag

LCS Flag

LCSD %Rec

111

Limits

Units

Analysis

1-Chlorooctane o-Terphenyl

98

%Rec 118 111

113

LCSD Flag

70-135

70-135

Date % 01.24.19 14:14 01.24.19 14:14 %

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

Log Difference

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

Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample A = Parent Result

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

Flag

Flag



Seq Number:

MB Sample Id:

#### **QC Summary** 612380

#### LT Environmental, Inc.

Legg Federal 001

Analytical Method: TPH by SW8015 Mod

3076974 Matrix: Soil

MS Sample Id: 611651-001 S Parent Sample Id: 611651-001

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 Lim	it 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

Matrix: Solid LCS Sample Id: 7670425-1-BKS 7670425-1-BLK

SW5030B Prep Method: Date Prep: 01.24.19

LCSD Sample Id: 7670425-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	it Units	Analysis Date
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

%Rec	Flag	%Rec	Flag	%Rec	Flag	Limits	Units	Date Date
97		116		128		70-130	%	01.24.19 15:07
97		72		104		70-130	%	01.24.19 15:07
	97	<b>%Rec Flag</b> 97	%Rec         Flag         %Rec           97         116           97         72	%Rec         Flag         %Rec         Flag           97         116         72           97         72         72	%Rec         Flag         %Rec         Flag         %Rec           97         116         128	%Rec         Flag         %Rec         Flag           97         116         128	%Rec         Flag         %Rec         Flag           97         116         128         70-130	%Rec         Flag         %Rec         Flag           97         116         128         70-130         %

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B Seq Number: 3076948 Matrix: Soil Date Prep: 01.24.19 MS Sample Id: 612242-001 S MSD Sample Id: 612242-001 SD Parent Sample Id: 612242-001

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
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) / BRPD = 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 SpikeB = Spike Added D = MSD/LCSD % Rec



# **Chain of Custody**

Work Order No: (012380)

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 Liphock TX (906)704 1206

	Wasan Ma	Relinquished by: (Signature)	of service. Xenco will be lial	Votice: Signature of this doc	Total 200.7 / 6010					F507	A MSS	SIIA	9809 Y	Sample Identification		Sample Custody Seals:	Cooler Custody Seals:	Received Intact:	Temperature (°C):	SAMPLE RECEIPT	Sampler's Name:	P.O. Number:	Project Number:	Project Name:	Phone: 4	City, State ZIP: N	Address: 3	Company Name: L	Project Manager: /	
	An An	4	ble only for the cost of sie of \$75.00 will be applie	: Signature of this document and relinguishment of samples:	o 200.8 / 6020:					4			5	8		Yes (No	व	(Yes) No	0000	>T Temp Blank:	Robert	2RP-3744	012918024	Lega Federal	432.704.5178	Midland, TX 79705	3300 North A Street	T Environmental, I	Adrian Baker	
	annibul- Cl	ceived by:	amples and shall not ass d to each project and a c	nt of samples constitute	_					<b>+</b> /4	12		01/21/19	Sampled	Date	N/A Total Containers:	N/A Correction Factor:		Ther	Yes (No	MARC	'n	024	100				LT Environmental, Inc., Permian office		Hobbs,⁵
	wa	(Signature)	ume any responsibility for harge of \$5 for each samp	Hites a valid purchase order for the	RA 13PPM Texas 11			1 WHEN	6	1450 0,67'	1210 41	1320 21	1030 4'	Sampled Depth	Timo	ntainers:	n Factor:	8	TO	Wet Ice: Yes No	Due Date: 01/25//g	Rush=2 Day	Routine	Turn Around	Email:	City, State ZIP			Bill to: (if different)	M (575-392-7550) Phoe
	1-12-19/128	Time	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 fixence. 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.	RCRA Sb As Ba E				A Part 2		x X	x X	- × ×	/ X X	Num TPH (	EP/	A 80	15)		ners						rmcafee@ltenv.com	ZIP:		,,,	rent) Kulc	ייייייייייייייייייייייייייייייייייייי
6	CPn <sup>2</sup> (Med		o, its attiliates and subco surred by the client if suc- not analyzed. These term	Sb As Ba Be Cd Cr Co Cu Pb M	Ba Be B Cd Ca Cr					X	×	×	メ	Chlor	ide	(EP	A 30	0.0)		-	:					***	C	( necessity	Litrell	b)585-3443 Lubbock,T tlanta GA (770-449-880
	" Lubres	hed by: (Signature)	s and subcontractors. It assigns standard terms and condit client if such losses are due to circumstances beyond the cu These terms will be enforced unless previously negotiated.	Pb Mn Mo Ni Se Ag	Co Cu Fe Pb N																			ANALYSIS REQUEST	abaker@Henv.com				)	X (806)794-1296
	T DUC		andard terms and condi- umstances beyond the c s previously negotiated.	e Ag TI U	Mo Ni K																			)T	Deliverables: EDD	Reporting:Level II	State of Project:	Program: IIST/DST		
		Received by (Signature)	ions ontrol		Se Ag SiO2 Na	/																				□evel III □ST/UST		Pag Prounfields T	Work Order Co	
	Infall			<u>1631 / 245.1 / 7470 / 7471 : Нд</u>	Na Sr Ti Sn U V Zn									Sample Comments	ian, ii teceived by 4.50pm	TAT starts the day recevied by the								Work Order Notes	[ 일	ST TRP Twelly	٢	1	- age	
013	SIFI	Date/Time		7471 Hg	'n									ıments	y 4.supm	ecevied by the								Notes	.[	<u> </u>				

Revised Date 051418 Rev. 2018.1



#### After printing this label:

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- 2. Fold the printed page along the horizontal line.
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# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 01/24/2019 12:15:00 PM

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

Work Order #: 612380

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 cor	ntainer/ cooler?	N/A
#5 Custody Seals intact on sample bottle	es?	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 relinqu	uished/ received?	Yes
#10 Chain of Custody agrees with sample	e 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 indicat	ed test(s)?	Yes
#16 All samples received within hold time	e?	Yes
#17 Subcontract of sample(s)?		N/A
#18 Water VOC samples have zero head	dspace?	N/A
* Must be completed for after-hours de  Analyst:	livery of samples prior to placing in PH Device/Lot#:	the refrigerator
Checklist completed by:	Brianna Teel	Date: 01/24/2019
Checklist reviewed by:	Jessica Kramer	Date: 01/24/2019

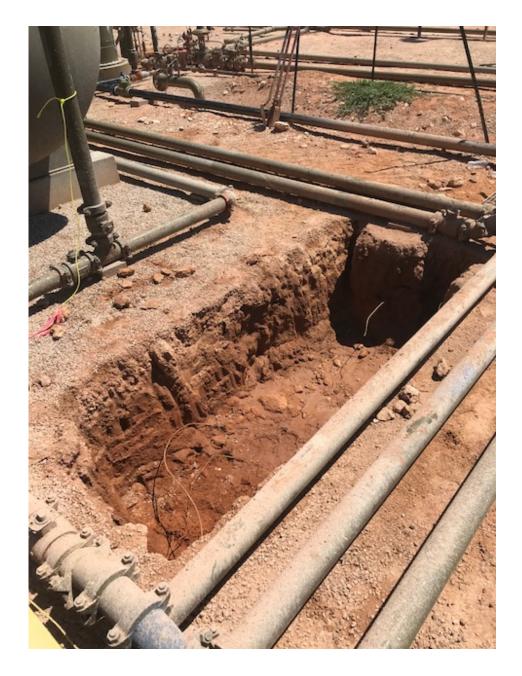


2	LT Environmental, Inc.  508 West Stevens Street Carlsbad, New Mexico 88220  Compliance · Engineering · Remediation  LITHOLOGIC / SOIL SAMPLING LOG  Lat/Long: 32.368532, -103.867647  Field Screening: PID									1 H 2 M	Date: 1/21/2019 RP Number: 2RP-2761, 2RP-3741, 2RP-3744  Method: Hand auger  Fotal Depth: 4 feet bgs
		Vapor O O O (ppm)	N N Staining	Sample #	Depth (ft. bgs.)	Sample Depth		SANDY		gy/Rema	4 feet bgs
					7 - 8 - 9 - 10 - 11 - 12						

LT Environmental, Inc.  Lat/Long: 32.368532  Comments:		Con	LT Enviro 508 West Carlsbad, Ne npliance · Eng IC / SOIL	Stevens S w Mexico gineering ·	Identifier: SS11 Project Name: Legg Federal 001 Logged By: RM Hole Diameter: 3 inches	Date: 1/21/2019  RP Number: 2RP-2761, 2RP-3741, 2RP-3744  Method: Hand auger  Total Depth: 2 feet bgs		
	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.) Sample Depth Depth Sample Sign Expression Lithology/Remarks			gy/Remarks	
M < 128	0.4 0.3	Z Z Sta	SS11A		Depth	SM		raded, medium sand

LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220  Compliance · Engineering · Remediation  LITHOLOGIC / SOIL SAMPLING LOG  Lat/Long: 32.368532, -103.867647   Field Screening:									Identifier: SS14 Project Name: Legg Federal 001 Logged By: RM Hole Diameter:	Date: 1/21/2019  RP Number: 2RP-2761, 2RP-3741, 2RP-3744  Method: Hand auger Total Depth:
Commen	ts:				PID				3 inches	4 feet bgs
				Depth	Sample	sock sock		Lithology/Remarks		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	(ft. bgs.)		Soil/Rock Type			3y/Remarks
М	< 128	0	N		0   -	-	SM	CALICHI SILTY SA	E AND, brown, poorly gra	nded, medium sand
М	< 128	0	N		2	- - - -	SC	SAND, re	ed-brown, poorly graded	l, some clay
М	< 128	0	N		3	<del>-</del>    				
M	< 128	0	N	SS14A	4		SC		CLAY, red-brown, roots oth 4 feet bgs	<u>S</u>





Southeast facing view of central excavation area.

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



Northeast facing view of southern excavation.

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



North facing view of northeast excavation.

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

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

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 199355

#### **CONDITIONS**

Operator:	OGRID:
BOPCO, L.P.	260737
6401 Holiday Hill Rd	Action Number:
Midland, TX 79707	199355
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)

#### CONDITIONS

Created By		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