Advancing Opportunity

LT Environmental, Inc.

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

October 19, 2018

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

RE: Closure Request

James Ranch Unit #019 Battery

Remediation Permit Number 2RP-3240, 2RP-3466, and 2RP-4644

Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following letter report detailing the excavation of impacted soil and confirmation soil sampling activities at the James Ranch Unit (JRU) 19 tank battery (Site) in Unit Letter J, Section 36, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after three separate events caused the release of crude oil and produced water onto the well pad and surrounding pasture.

On September 3, 2015, a swedge failed on the water transfer pump, causing approximately 1,530 barrels (bbls) of produced water to release within the lined containment. The containment failed and approximately 430 bbls of the produced water was released to the ground surface. Freestanding fluid was recovered with a vacuum truck; approximately 1,100 bbls of produced water were recovered from within the containment and approximately 260 bbls were recovered from the ground surface and pasture area. 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 September 4, 2015, and was assigned Remediation Permit Number (RP) 2RP-3240 (Attachment 1).

On December 14, 2015, a flow line leak was discovered. A corrosion hole developed in the flow line that transferred skim oil from the JRU 29 SWD tank to the JRU 19 Battery, causing a release of approximately 13 bbls of crude oil. The release impacted approximately 45 square feet of well pad and 408 square feet of pasture. Free-standing fluid was recovered with a vacuum truck; approximately 10 bbls of crude oil were recovered from the pasture. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on December 22, 2015, and was assigned RP Number 2RP-3466 (Attachment 1).

On February 17, 2018, internal corrosion caused a strainer to fail on the free water knockout (FWKO) water dump, resulting in a release of 47 bbls of crude oil and produced water. The release impacted the caliche soil around the process equipment and pumpjack. Free-standing fluid was





recovered with a vacuum truck; approximately 40 bbls of crude oil and produced water were recovered. XTO Energy reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on March 2, 2018, and was assigned RP Number 2RP-4644

Although two of 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 described above occurred at the same production facility, the sampling and excavation activities were completed to address and close all three releases simultaneously. Based on the results of the confirmation soil sampling events conducted after impacted soil was removed, XTO is requesting no further action for these release events.

BACKGROUND

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 and known aquifer properties. The nearest permitted water well is C 02492, located approximately 1.9 miles southwest of the Site, with a depth to groundwater of 125 feet bgs and a total depth of 135 feet bgs. The Site is greater than 1,000 feet from a water source and greater than 200 feet from a private domestic water source. The closest surface water to the Site is an unnamed arroyo located approximately 1.5 miles south of the Site. Based on these criteria, the NMOCD site ranking for remediation action levels is 0, and the following remediation action levels applied under the NMOCD's 1993 *Guidelines for Leaks, Spills, and Releases*: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.

SOIL SAMPLING

An LTE scientist collected 11 preliminary soil samples to assess the lateral extent of impacted soil associated with releases 2RP-3240 and 2RP-3466. 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 were selected based on information provided on the initial Form C-141s.

On December 20, 2017 and May 25, 2018, six soil samples (SS-1 through SS-5, and SS6) were collected to assess the lateral extent of soil impacts associated with release 2RP-3240 (Figure 2). The facility has been reconfigured since the time of the release and the tank battery was relocated. Due to the reconfiguration of the facility and surface disturbances since the time of the release, no visible indications of the release area were observed. The majority of the release occurred within the lined containment of the former tank battery location. The affected pasture area has since been disturbed and is now part of the active pad, truck loadout, and current tank battery.





On January 31, 2018, five soil samples (SS1 through SS5) were collected to assess the lateral extent of soil impacts associated with release 2RP-3466 (Figure 3). The process equipment area was not affected by the facility reconfiguration.

The soil samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. Hydrocarbon odor or soil staining was not observed at the Site. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were delivered at 4 degrees Celsius (°C) under strict chain-of-custody procedures to ESC Lab Sciences in Mount Juliet, Tennessee or Xenco Laboratories in Midland, Texas for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by EPA Method SW8015 Modified, and chloride by EPA Method 300.

Laboratory analytical results for the preliminary soil samples associated with release 2RP-3240 indicated two soil samples (SS-4 and SS6) exceeded the NMOCD site-specific remediation action level for TPH and/or chloride. The analytical results are depicted on Figure 2 and summarized in Table 1. Laboratory analytical results for the preliminary soil samples associated with release 2RP-3466 indicated one soil sample (SS1) exceeded the NMOCD site-specific remediation action level for TPH. The analytical results are depicted on Figure 3 and summarized in Table 2. 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 impacted areas associated with releases 2RP-3240 and 2RP-3466. The third release (release 2RP-4644) occurred at the site in February 2018, prior to commencing excavation activities for the two historical releases.

EXCAVATION ACTIVITIES

Between March 2018 and June 2018, 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 remediation action levels for TPH and chloride. Excavation activities commenced on March 8, 2018 and concluded on June 25, 2018. In an effort to delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil samples using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips.

Excavation activities associated with release 2RP-3240 were completed in the areas around preliminary soil samples SS-4 and SS6 as indicated by laboratory analytical results exceeding NMOCD remediation action levels. The excavation was completed to a depth of 4 feet bgs. The final excavation measured approximately 480 square feet. Approximately 71 cubic yards of soil





were removed from the excavation. Upon completion of excavation activities, LTE collected confirmation soil samples FS01 and FS02 from the floor of the excavation and soil samples SW9 through SW14 from the sidewalls of the excavation. The final excavation extent and soil sample locations and are illustrated on Figure 2.

Excavation activities associated with release 2RP-3466 were completed in the area around preliminary soil sample SS1 as indicated by laboratory analytical results exceeding NMOCD remediation action levels. The excavation was completed to a depth of 1.5 feet bgs. The final excavation measured approximately 64 square feet. Approximately 4 cubic yards of soil were removed from the excavation. Upon completion of excavation activities, LTE collected confirmation soil sample SS3A from the excavation. The final excavation extent and soil sample locations and are illustrated on Figure 3.

Excavation activities associated with the recent release 2RP-4644 were completed based on visual staining, field screening, and knowledge of the release location from initial spill response efforts. Impacted soil was removed from the entire release area to a depth of 0.5 feet bgs to 4 feet bgs by mechanical, hydrovac, and hand digging methods. The soil beneath the process equipment and aboveground piping was removed to the extent practicable. The final excavation measured approximately 3,750 square feet. Approximately 300 cubic yards of soil were removed from the excavation. Upon completion of excavation activities, LTE collected confirmation soil samples EX1-1, EX1-2, EX1-3, SW1 through SW8, SW8A, SS6, SS7, SS8, SW15, SW16, and FS01 from the excavation. The final excavation extent and soil sample locations and are illustrated on Figure 4.

The confirmation soil samples from all excavations were collected and handled as previously described and submitted to Xenco Laboratories in Midland, Texas. The impacted soil removed from all excavations was transported and properly disposed of at the Lea Land Landfill located in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results associated with release 2RP-3240 indicated preliminary soil samples SS-4 and SS6 exceeded NMOCD remediation action levels. The area around initial samples SS-4 and SS6 was excavated and subsequent soil samples FS01, FS02, and SW9 through SW14 were collected from the final excavation extent. Laboratory analytical results indicated that all final confirmation soil samples were compliant with NMOCD remediation action levels for BTEX, TPH, and chloride.

Laboratory analytical results associated with release 2RP-3466 indicated preliminary soil sample SS1 exceeded NMOCD remediation action levels. The area around initial sample SS1 was excavated and subsequent soil sample SS3A was collected from the final excavation extent.





Laboratory analytical results indicated that all final confirmation soil samples were compliant with NMOCD remediation action levels for BTEX, TPH, and chloride.

Laboratory analytical results associated with release 2RP-4644 indicated soil samples EX1-1, EX1-2, EX1-3, SW1 through SW4, SW6, SW7, SW8, SW8A, SS6, SS7, SS8, SW15, and FS01 collected from the excavation were compliant with NMOCD remediation action levels for BTEX, TPH, and chloride. Laboratory analytical results indicated soil sample SW5 exceeded the NMOCD remediation action level for TPH. The area around SW5 was excavated and subsequent excavation sidewall sample SW15 indicated TPH concentrations were compliant with the remediation action level. Laboratory analytical results indicated soil sample SW16 exceeded the NMOCD remediation action level for chloride. XTO's safety policy restricts soil disturbing activities to a 10-foot radius of the wellhead. This safety policy is established to protect workers and to reduce the likelihood of compromising the integrity of the wellbore. This policy had to be enforced along the eastern sidewall of the excavation where impacted soil was identified within ten feet of the wellhead. The excavation was advanced to ten feet from the wellhead by hydrovac and hand digging methods to remove as much impacted soil as possible. Laboratory analytical results for soil sample SW16 indicate that soil exceeding NMOCD remediation action levels for chloride was left in-place near the wellhead. Soil samples SW4, SW6, SW15, and EX1-2 delineate the extent of impacted soil that was left in-place.

Laboratory analytical results are presented on Figures 2 through 4 and summarized in Tables 1 through 3, and the complete laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for the final confirmation surface soil samples and final excavation soil samples indicate that BTEX, TPH, and chloride concentrations are compliant with NMOCD site-specific remediation action levels, with the exception of sidewall sample SW16 associated with release 2RP-4644. Impacted soil was left in-place within 10 feet of the wellhead per XTO's safety policy as described above. The site ranking criteria of 0 for this site, indicates potential receptors are significantly distant of the remaining impacted soil. The remaining impacted soil will be addressed when the site is closed to allow for remediation to be completed safely.

Initial response efforts, natural degradation, and excavation of impacted soil have mitigated impacts at this Site. XTO requests no further action for release numbers 2RP-3240, 2RP-3466, and 2RP-4644. Upon approval of this request, XTO will backfill the excavations with caliche well pad material. An updated NMOCD Form C-141 for each release is included in Attachment 1.

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





Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker Project Geologist

cc: Kyle Littrell, XTO

Maria Pruett, NMOCD Ryan Mann, SLO Ashley L. Ager, P.G. Senior Geologist

Attachments:

Figure 1 Site Location Map

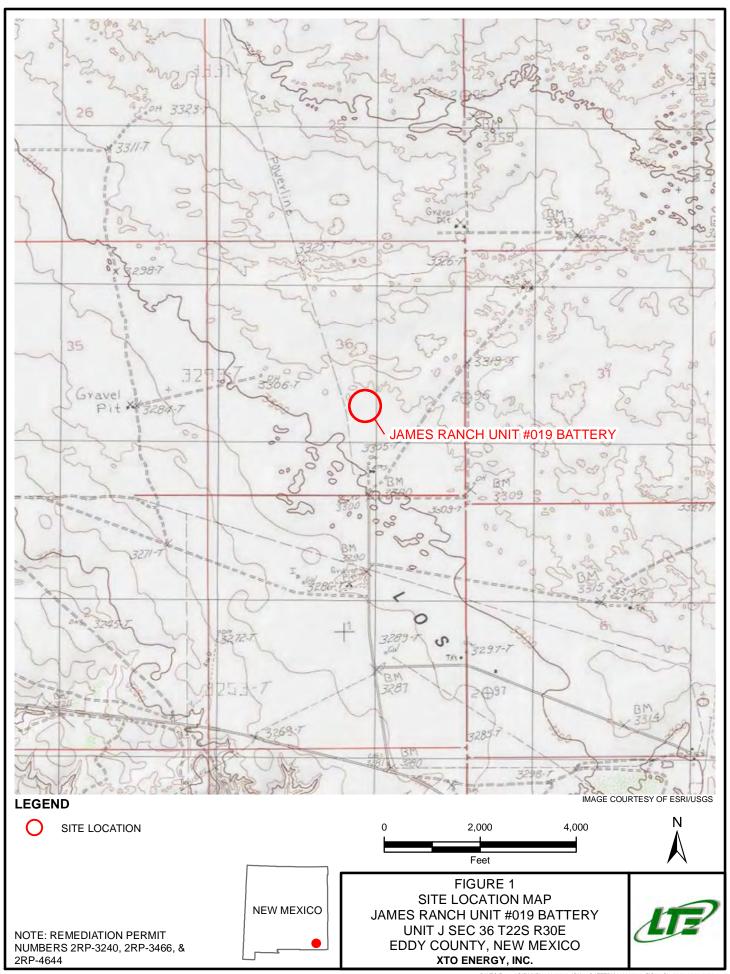
Figure 2 Soil Sample Locations (2RP-3240)
Figure 3 Soil Sample Locations (2RP-3466)
Figure 4 Soil Sample Locations (2RP-4644)
Table 1 Soil Analytical Results (2RP-3240)
Table 2 Soil Analytical Results (2RP-3466)
Table 3 Soil Analytical Results (2RP-4644)

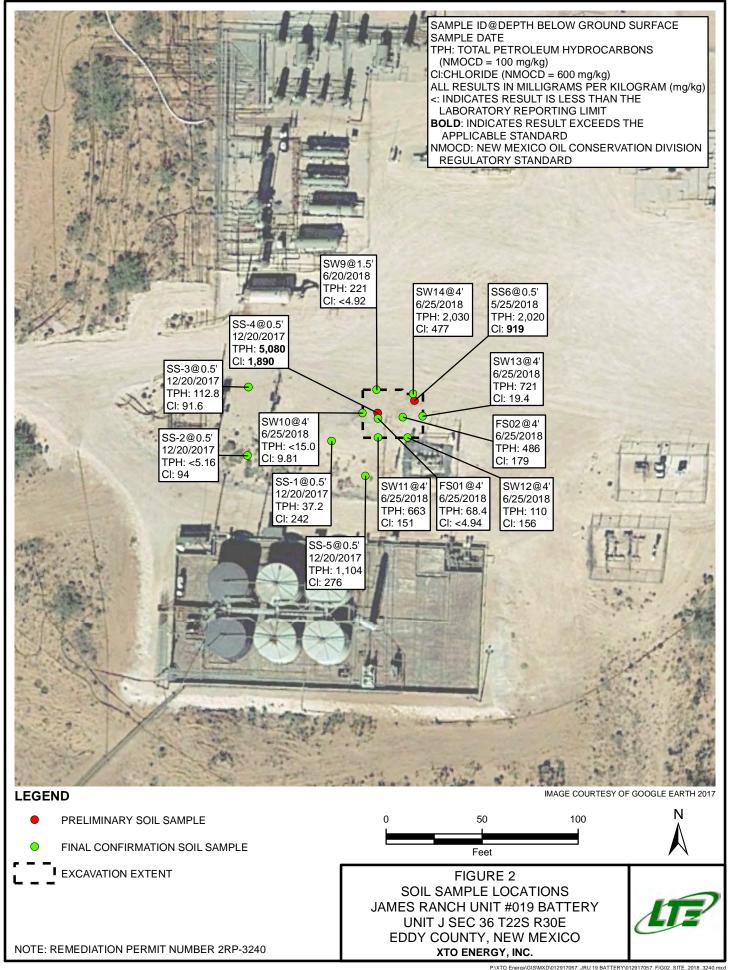
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-3240, 2RP-3466, 2RP-4644)

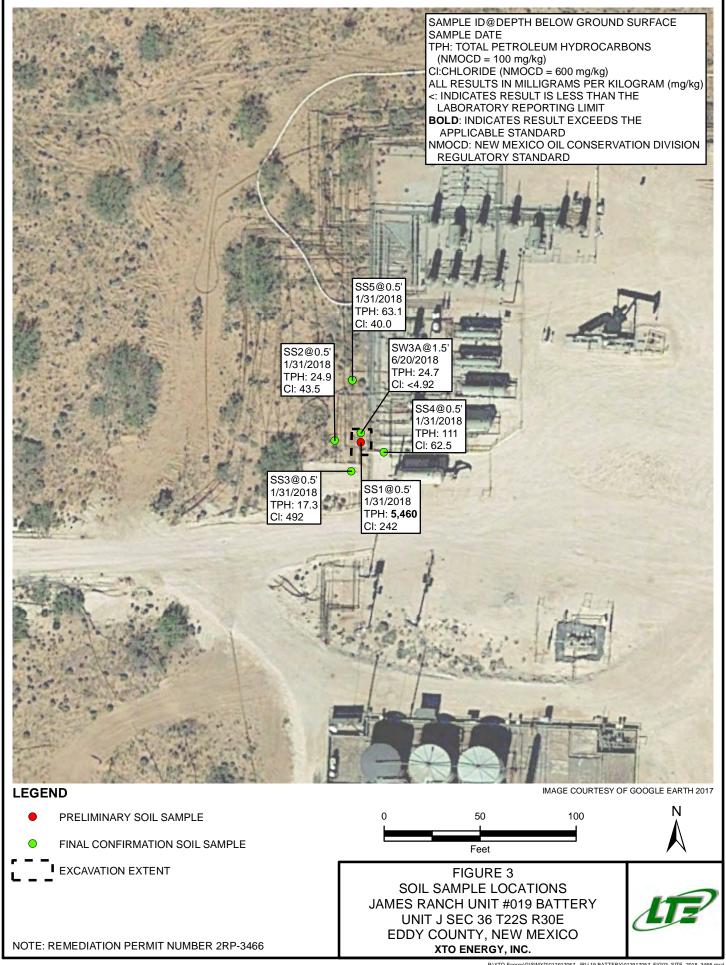
Attachment 2 Laboratory Analytical Reports











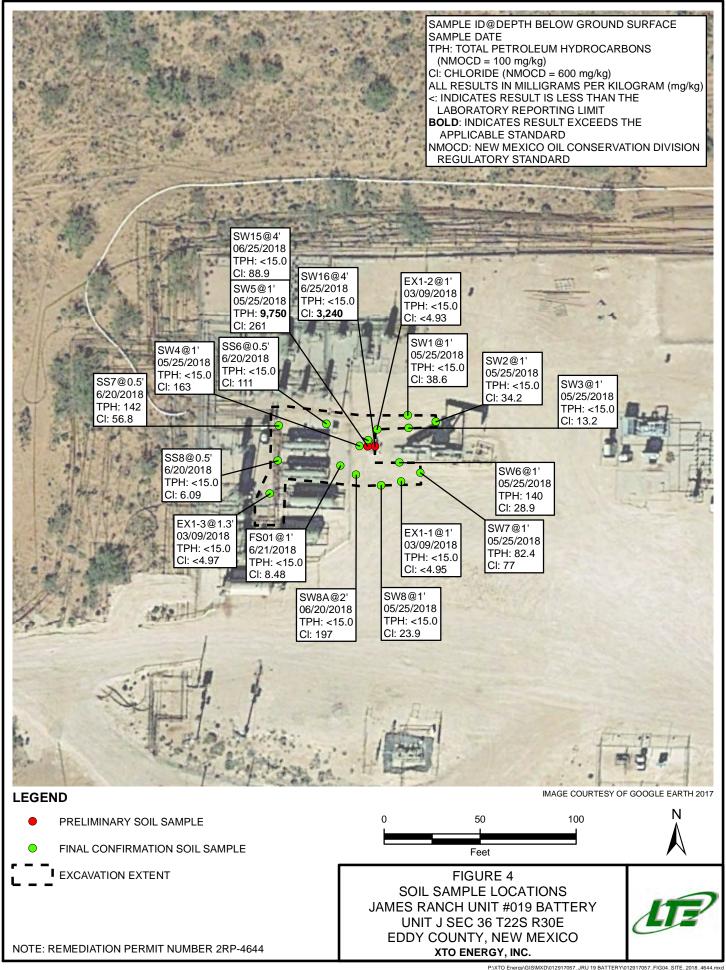




TABLE 1 SOIL ANALYTICAL RESULTS JAMES RANCH UNIT #019 BATTERY REMEDIATION PERMIT NUMBER 2RP-3240 EDDY COUNTY, NEW MEXICO XTO ENERGY, INC.

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 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-C40 Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS-1	0.5	12/20/2017	< 0.000528	< 0.00528	< 0.000528	< 0.00158	< 0.00528	< 0.106	24.4	26.9	51.3	242
SS-2	0.5	12/20/2017	0.000702 B	< 0.00644	< 0.000644	< 0.00193	< 0.00644	< 0.129	< 5.16	< 5.16	< 5.16	94.0
SS-3	0.5	12/20/2017	0.00103	< 0.00509	< 0.000509	< 0.00153	< 0.00509	< 0.102	54.0	58.8	113	91.6
SS-4	0.5	12/20/2017	<0.000520 J3	<0.00520 J3 J6	<0.000520 J3 J6	<0.00156 J3 J6	< 0.00520	<0.104 J3	3,390	1,690	5,080	1,890
SS-5	0.5	12/20/2017	< 0.000512	< 0.00512	< 0.000512	< 0.00153	< 0.00512	< 0.102	514	590	1,104	276
SS6	0.5	5/25/2018	< 0.00200	< 0.00200	0.0113	0.0772	0.0885	91.7	1,870	54.7	2,020	919
SW9	1.5	6/20/2018	< 0.00201	< 0.00201	< 0.00201	< 0.00201	< 0.00201	<15.0	206	15.2	221	<4.92
SW10	4	6/25/2018	< 0.00202	< 0.00202	< 0.00202	< 0.00202	< 0.00202	<15.0	<15.0	<15.0	<15.0	9.81
SW11	4	6/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	631	31.9	663	151
SW12	4	6/25/2018	< 0.00201	< 0.00201	< 0.00201	< 0.00201	< 0.00201	<15.0	110	<15.0	110	156
SW13	4	6/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	688	33.2	721	19.4
SW14	4	6/25/2018	< 0.00199	< 0.00199	< 0.00199	0.00470	0.00470	28.3	1,930	72.7	2,030	477
FS01 @ 4'	4	6/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	68.4	<15.0	68.4	<4.94
FS02 @ 4'	4	6/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	467	18.6	486	179
NMOCD R	emediation Action	on Levels	10	NE	NE	NE	50	NE	NE	NE	5,000	600

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

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Bold indicates result exceeds the applicable regulatory standard.

- J3 The associated batch QC was outside the established quality control range for precision.
- J6 The sample matrix interfered with the ability to make any accurate determination; spike value is low.
- B The same analyte is found in the associated blank



TABLE 2 SOIL ANALYTICAL RESULTS JAMES RANCH UNIT #019 BATTERY REMEDIATION PERMIT NUMBER 2RP-3466 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 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-C40 Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS1	0.5	1/31/2018	0.00172	< 0.00544	< 0.000544	0.00198	0.0037	0.381	3,400	2,060	5,460	242
SS2	0.5	1/31/2018	< 0.000507	< 0.00507	< 0.000507	< 0.00152	< 0.00152	< 0.101	5.42	19.5	24.9	43.5
SS3	0.5	1/31/2018	< 0.000517	< 0.00517	< 0.000517	< 0.00155	< 0.00155	< 0.103	7.56	9.72	17.3	492
SS4	0.5	1/31/2018	< 0.00121	< 0.0121	< 0.00121	< 0.00365	< 0.00365	< 0.243	35.5	75.4	111	62.5
SS5	0.5	1/31/2018	< 0.000503	< 0.00503	< 0.000503	< 0.00151	< 0.00151	< 0.101	14.2	48.9	63.1	40.0
SS3A	1.5	6/20/2018	< 0.00202	< 0.00202	< 0.00202	< 0.00202	< 0.00202	<15.0	24.7	<15.0	24.7	<4.92
NMOCD R	temediation Action	on Levels	10	NE	NE	NE	50	NE	NE	NE	5,000	600

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

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Bold indicates result exceeds the applicable regulatory standard.



TABLE 3 SOIL ANALYTICAL RESULTS JAMES RANCH UNIT #019 BATTERY REMEDIATION PERMIT NUMBER 2RP-4644 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 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-C40 Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
EX1-1	1	3/9/2018	< 0.00332	< 0.00332	< 0.00332	< 0.00332	< 0.00332	<15.0	<15.0	<15.0	<15.0	<4.95
EX1-2	1	3/9/2018	< 0.00201	< 0.00201	< 0.00201	< 0.00201	< 0.00201	<15.0	<15.0	<15.0	<15.0	<4.93
EX1-3	1.3	3/9/2018	< 0.00202	< 0.00202	< 0.00202	0.0161	0.0161	<15.0	<15.0	<15.0	<15.0	<4.97
SW1	1	5/25/2018	< 0.00201	< 0.00201	< 0.00201	< 0.00201	< 0.00201	<15.0	<15.0	<15.0	<15.0	38.6
SW2	1	5/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	<15.0	<15.0	<15.0	34.2
SW3	1	5/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	<15.0	<15.0	<15.0	13.2
SW4	1	5/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	<15.0	<15.0	<15.0	163
SW5	1	5/25/2018	< 0.00201	< 0.00201	< 0.00201	0.00752	0.00752	111	9,330	311	9,750	261
SW6	1	5/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<14.9	140	<14.9	140	28.9
SW7	1	5/25/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	82.4	<15.0	82.4	77.0
SW8	1	5/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	<15.0	<15.0	<15.0	23.9
SW8A	2	6/20/2018	< 0.00200	< 0.00200	< 0.00200	< 0.00200	< 0.00200	<15.0	<15.0	<15.0	<15.0	197
SS6	0.5	6/20/2018	< 0.00202	< 0.00202	< 0.00202	< 0.00202	< 0.00202	<15.0	<15.0	<15.0	<15.0	111
SS7	0.5	6/20/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	142	<15.0	142	56.8
SS8	0.5	6/20/2018	< 0.00198	< 0.00198	< 0.00198	< 0.00198	< 0.00198	<15.0	<15.0	<15.0	<15.0	6.09
FS01	1	6/21/2018	< 0.00201	< 0.00201	< 0.00201	< 0.00201	< 0.00201	<15.0	<15.0	<15.0	<15.0	8.48
SW15	4	6/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	<15.0	<15.0	<15.0	88.9
SW16	4	6/25/2018	< 0.00199	< 0.00199	< 0.00199	< 0.00199	< 0.00199	<15.0	<15.0	<15.0	<15.0	3,240
NMOCD R	temediation Action	on Levels	10	NE	NE	NE	50	NE	NE	NE	5,000	600

Notes:

bgs - below ground surface

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mg/kg - milligrams per kilogram

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NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbons

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Bold indicates result exceeds the applicable regulatory standard.





NM OIL CONSERVATION

ARTESIA DISTRICT

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<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 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**

SEP 04 2015

Form C-141 Revised August 8, 2011

Submic Living to appropriate District Office in accordance with 19.15.29 NMAC.

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

Release Noti	ification	and Co	rrective A	ction				
NAB1524749389		OPERA	FOR	D	Initi	al Report		Final Report
Name of Company: BOPCO, L.P. 240737		Contact: Bra	dley Blevins		=	·· ·		
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88			lo. 575-887 - 732					
Facility Name: JRU 19 Battery		Facility Typ	e: Exploration a	and Produ	action			
Surface Owner: State Miner	al Owner:				API No	.30015273	57	
10	CATIO	N OF REI	FACE					
Unit Letter Section Township Range Feet from the		South Line	Feet from the	East/We	est Line	County		
J 36 22S 30E 1980	ic North	South Line	1980	<u>Lasi</u> W	ot Line	Eddy		
Latitude	: 32.34645	5 Longitud	e: 103.832237					
	ATURE	OF RELI						
Type of Release: Produced Water			Release: 1530 ba			Recovered: 1		rrels
Source of Release: 4x2 Swedge on water transfer pump		9-3-15 @ 1	our of Occurrence		Date and 0-3-15 @	Hour of Dis	covery	
Was Immediate Notice Given?	····	If YES, To			<u> </u>			
☐ Yes ☐ No ☐ No	ot Required	Mike Brate	her via email					
By Whom? Bradley Blevins			our: 9-3-15 @ 9:					
Was a Watercourse Reached?		If YES, Vo	lume Impacting t	he Waterc	ourse.			
If a Watercourse was Impacted, Describe Fully.*								
Describe Cause of Problem and Remedial Action Taken.* A 4x2 swedge failed on the water transfer pump causing fluid inside the containment). The containment failed releasing 430 surrounding pasture area. Describe Area Affected and Cleanup Action Taken.*) barrels of the	ne fluid to the	ground surface,	260 barrel:	s of prod	uced water v		
Vacuum trucks were able to recover a total of 1360 barrels of I hereby certify that the information given above is true and co							OCD #1	ules and
regulations all operators are required to report and/or file certa public health or the environment. The acceptance of a C-141 should their operations have failed to adequately investigate a or the environment. In addition, NMOCD acceptance of a C-federal, state, or local laws and/or regulations.	ain release n report by the and remediate	otifications ar e NMOCD ma e contamination	nd perform correct arked as "Final Roon that pose a thr	ctive action eport" doe eat to grou	ns for rel s not rel and wate	eases which ieve the oper r, surface wa	may en ator of ter, hur	danger liability nan health
			OIL CON	<u>SERVA</u>	TION	DIVISIO)
Signature: Brasley Blow							/	
Printed Name: Bradley Blevins		Approved by	Environmental S	pecialist:	1/2	1	Z	
Title: Assistant Remediation Foreman		Approval Dat	e: 94/15	Ex	piration	Date: N/	A	
E-mail Address: bblevins@basspet.com		Conditions of	Approval:			Attached	_	
Date: 9-4/5 Phone: 432-214-370 * Attach Additional Sheets If Necessary			O.C.D. Rules					
Attach Additional Sheets If Necessary	SUBIM	IT REMED THAN:	ATION PROJ	205AL 1	4O	2	RP	-3240

NM OIL CONSERVATION

ARTESIA DISTRICT

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., Santo Fc. NM 87505

State of New Mexico
Energy Minerals and Natural Resources

DEC 2 2 2015

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 NAB1535832134 **OPERATOR** Initial Report Final Report Name of Company: BOPCO, L.P. Contact: Amy Ruth Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220 Telephone No. 575-887-7329 Facility Name: JRU 29 SWD @ JRU 19 Battery Facility Type: Exploration and Production (JRU 19 Battery API 30-015-27357) Surface Owner: State Mineral Owner: Unknown API No. 30-015-27735 LOCATION OF RELEASE East/West Line Unit Letter Section Township Range Feet from the North/South Line Feet from the County 36 **22S** 30E 1980 South 1980 Eddy East Latitude 32.346632° Longitude -103.832532° NATURE OF RELEASE Volume of Release 13 bbls Type of Release Crude Oil Volume Recovered 10 bbls Source of Release Flow Line Date and Hour of Occurrence Date and Hour of Discovery Date/time unknown 12/14/2015 2 pm Was Immediate Notice Given? If YES, To Whom? Mike Bratcher/Heather Patterson (NMOCD) By Whom? Amy Ruth Date and Hour 12/14/2015 4:53 pm Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ⊠ No N/A If a Watercourse was Impacted, Describe Fully.* N/A Describe Cause of Problem and Remedial Action Taken.* A hole developed due to corrosion in the flow line transferring skim oil from the JRU 29 SWD tank to the JRU 19 Battery. The line was clamped and repaired. Describe Area Affected and Cleanup Action Taken.* The leak affected 408 Ω² of pasture and 45 Ω² of well pad and standing fluids were recovered from the pasture. 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 OIL CONSERVATION DIVISION Signature Approved by Environmental Specialist: Printed Name: C. Ruth Title: Remediation Specialist Approval Date: **Expiration Date:** E-mail Address: ACRuth@basspet.com Conditions of Approval: Remediation per O.C.D. Rules & Guidelines Date: 12/22/2015 Phone: 432-661-0571 SUBMIT REMEDIATION PROPOSAL NO Attach Additional Sheets If Necessary 2RP3466 _ATER THAN:_

NM OIL CONSERVATION ARTESIA DISTRICT

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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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

MAR 02 2018

Form C-141 Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Gopy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification	on and Corrective Action
NAB1806435465 P	OPERATOR
Name of Company: XTO Energy DUCO 260737	Contact: Amy C. Ruth
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 575-689-3380
Facility Name: James Ranch Unit #019 Battery	Facility Type: Exploration and Production
Surface Owner: State Mineral Owner	: Unknown API No: 30-015-27357
	ON OF RELEASE
Unit Letter Section Township Range Feet from the Nort J 36 22S 30E 1960 Sout	h/South Line Feet from the East/West Line County h East Eddy
Latitude32.346722°I	Longitude103.83232° NAD83
NATURI	E OF RELEASE
Type of Release Crude Oil and Produced Water	Volume of Release 47 bbls Volume Recovered 40 bbls
Source of Release FWKO	Date and Hour of Occurrence Date and Hour of Discovery 2/17/2018 time unknown 2/17/2018 12 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?
By Whom? Jacob Foust	Date and Hour: 2/19/2018 8:14 am by email
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A
If a Watercourse was Impacted, Describe Fully.* N/A Describe Cause of Problem and Remedial Action Taken.* Internal corrosion caused strainer to fail on FWKO water dump. Vessel Describe Area Affected and Cleanup Action Taken.* The release affected the caliche soils surrounding the process equipment	was repaired. was repaired. within the facility. Free standing fluids were recovered. An environmental
contractor was retained to assist with the remediation and soil samples h	ave been collected.
regulations all operators are required to report and/or file certain release public health or the environment The acceptance of a C-141 report by should their operations have failed to adequately investigate and remedi	the best of my knowledge and understand that pursuant to NMOCD rules and notifications and perform corrective actions for releases which may endanger the NMOCD marked as "Final Report" does not relieve the operator of liability at contamination that pose a threat to ground water, surface water, human health does not relieve the operator of responsibility for compliance with any other
Signature: Amy C. Buth	OIL CONSERVATION DIVISION Approved by Environmental Specialist:
Title: Environmental Coordinator	Approval Date: 35 B Expiration Date: N/A
E-mail Address: Amy_Ruth@xtoenergy.com Date: 3/2/2018 Phone: 575-689-3380 * Attach Additional Sheets If Necessary	Conditions of Approval: SEE AHACMED Attached 27. 4644

Received by OCD: 3/23/2023 9:27:33 AM

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

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

Page 20 of 197 Form C-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	
District RP	2RP-3240
Facility ID	
Application ID	

Release Notification Responsible Party **OGRID 5380** Responsible Party XTO Energy Contact Telephone 432-221-7331 Contact Name Kyle Littrell Incident # (assigned by OCD) Contact email Kyle Littrell@xtoenergy.com Contact mailing address 522 W. Mermod, Suite 704 Carlsbad, NM 88220 Location of Release Source Longitude -103.832237 Latitude 32.346455 (NAD 83 in decimal degrees to 5 decimal places) Site Type Tank Battery Site Name JRU 19 Battery API# 30-015-27357 Date Release 9/3/2018 County Township Range Section Unit Letter Eddy **22S** 30E J 36 Surface Owner: X State ☐ Federal ☐ Tribal ☐ Private (Name: Federal Nature and Volume of Release Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below) Volume Recovered (bbls) Crude Oil Volume Released (bbls) Volume Recovered (bbls) 1360 Produced Water Volume Released (bbls) 1530 Yes No Is the concentration of dissolved chloride in the produced water >10,000 mg/l? Volume Recovered (bbls) Volume Released (bbls) Condensate Volume Recovered (Mcf) Natural Gas Volume Released (Mcf) Volume/Weight Recovered (bbls) Volume/Weight Released (bbls) Other Calcium Carbonate Cause of Release A 4x2 swedge failed on the water transfer pump causing fluid to be released to the lined containment.

ForReceived by OCD: 3/23/2023 9:27: Statut of New Mexico Page 2

Oil Conservation Division

Incident ID	Page 21 of 19
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Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☑ Yes ☐ No	If YES, for what reason(s) does the responsi An unauthorized release of a volume, exclude	ole party consider this a major release? ing gases, of 25 barrels or more.
		2. Will be the trace of those amail ato)?
If YES, was immediate i	notice given to the OCD? By whom? To whom	n? When and by what means (phone, email, etc)?
	Initial Res	
The responsible	e party must undertake the following actions immediately t	unless they could create a safety hazard that would result in injury
☐ The source of the re	lease has been stopped.	
∑ The impacted area h	has been secured to protect human health and the	e environment.
Released materials l	have been contained via the use of berms or dil	kes, absorbent pads, or other containment devices.
All free liquids and	recoverable materials have been removed and	managed appropriately.
has begun please attac	h a narrative of actions to date. If remedial e	mediation immediately after discovery of a release. If remediation fforts have been successfully completed or if the release occurred ease attach all information needed for closure evaluation.
regulations all operators a public health or the enviro	re required to report and/or file certain release notification. The acceptance of a C-141 report by the OC tigate and remediate contamination that pose a threat	est of my knowledge and understand that pursuant to OCD rules and cations and perform corrective actions for releases which may endanger CD does not relieve the operator of liability should their operations have to groundwater, surface water, human health or the environment. In esponsibility for compliance with any other federal, state, or local laws
Printed Name: Kyle	Littrell	Γitle: SH&E Coordinator
Signature:	& Fellent	Date: 10/19/2018
email: Kyle L	.ittrell@xtoenergy.com	Telephone: 432-221-7331
OCD Only		
Received by:		Date:

For Received by OCD: 3/23/2023 9:27:3status of New Mexico
Page 6 Oil Conservation Division

Incident ID	Page 22 of 19
District RP	2RP-3240
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 must be notified 2 days prior to liner inspection)	l or photos of the liner integrity if applicable (Note: appropriate OCD District office
■ Laboratory analyses of final sampling (Note: appro	priate ODC District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/o may endanger public health or the environment. The acc should their operations have failed to adequately investignment human health or the environment. In addition, OCD acc compliance with any other federal, state, or local laws at restore, reclaim, and re-vegetate the impacted surface are	and complete to the best of my knowledge and understand that pursuant to OCD rules refile certain release notifications and perform corrective actions for releases which ceptance of a C-141 report by the OCD does not relieve the operator of liability gate and remediate contamination that pose a threat to groundwater, surface water, septance of a C-141 report does not relieve the operator of responsibility for and/or regulations. The responsible party acknowledges they must substantially ea to the conditions that existed prior to the release or their final land use in ion to the OCD when reclamation and re-vegetation are complete. Title: SH&E Coordinator Date: 10/19/2018 Telephone: 432-221-7331
OCD Only	
Received by:	Date:
remediate contamination that poses a threat to groundwa party of compliance with any other federal, state, or loc	44
Closure Approved by: Ashley Maxie	Date: 3/24/2023
Printed Name: Ashley Maxwell	Title: Environmental Specialist

Closure of release approved. Incident will remain open as release area is subject to 19.15.29.13 NMAC and will need to be addressed during P&A activities.

Received by OCD: 3/23/2023 9:27:33 AM

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

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

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Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
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Facility ID	
Application ID	

Release Notification

Responsible	Party XTO I	Energy		OGRID 53	380	
Contact Nam				Contact To	elephone 432-221-7331	
		rell@xtoenergy.co	m	Incident #	(assigned by OCD)	
Contact mail NM 88220	ing address	522 W. Mermod,	Suite 704 Carlsb	ad,		
atitude 32.3	346632			Longitude	-103.832532	
Site Name JR	RU 19 Batter	У		Site Type	Tank Battery	
Date Release				API# 30-0	15-27357	
Unit Letter	Section 36	Township 22S	Range 30E	Eddy	nty	
urface Owne	er: 🛛 State	Federal T	ribal Private	(Name: Federal)
urface Owne			ribal Private	(Name: Federal)
	Materi		ribal ☐ Private Nature al	(Name: Federal	Release c justification for the volumes provided below Volume Recovered (bbls) 10) w)
urface Owne	<u>Materi</u> il	al(s) Released (Select a	Private Nature all that apply and atta ed (bbls) 13	(Name: Federal	c justification for the volumes provided below) w)
⊠ Crude O	Materi il d Water	Volume Releas Volume Releas Volume Reneas Is the concentration produced water	Nature all that apply and attated (bbls) 13 ed (bbls) ation of dissolved >10,000 mg/l?	(Name: Federal nd Volume of the calculations or specifi	Volume Recovered (bbls) Volume Recovered (bbls) Volume Recovered (bbls) Yes No) w)
Crude O	Materi il d Water	Volume Releas Volume Releas Volume Recas	Nature all that apply and attated (bbls) 13 ed (bbls) ation of dissolved >10,000 mg/l?	(Name: Federal nd Volume of the calculations or specifi	Volume Recovered (bbls)) v)
⊠ Crude O	Materi il d Water	Volume Releas Volume Releas Volume Reneas Is the concentration produced water	Nature and all that apply and attacked (bbls) 13 ed (bbls) attion of dissolved the color of the	(Name: Federal nd Volume of the calculations or specifi	volume Recovered (bbls) Volume Recovered (Mcf)	
☐ Crude O	Materi il d Water	Volume Releas Is the concentra produced water Volume Releas Volume Releas Volume Releas	Nature and all that apply and attacked (bbls) 13 ed (bbls) attion of dissolved the color of the	(Name: Federal nd Volume of the calculations or specified chloride in the	Volume Recovered (bbls)	
□ Crude Of □ Produceo □ Condens □ Natural Of	Materi il d Water sate Gas	Volume Releas Is the concentra produced water Volume Releas Volume Releas Volume Releas	Nature and all that apply and attaced (bbls) 13 red (bbls) action of dissolved (bbls) artion of dissolved (bbls) artion (bbls) artion (bbls) articled (bbls) a	(Name: Federal nd Volume of the calculations or specified chloride in the	volume Recovered (bbls) Volume Recovered (Mcf)	

ForReceived by	OCD: 3/23/2023	9:27:38tate of New Mexic
Page 2		Oil Conservation Divis

Oil Conservation Division

Incident ID	Page 24 of 19
District RP	2RP-3466
Facility ID	
Application ID	

release as defined by 19.15.29.7(A) NMAC ☐ Yes ⊠ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediat	e notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
The respons	Initial Response ible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury
∑ The impacted area	release has been stopped. has been secured to protect human health and the environment. s have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
All free liquids ar	d recoverable materials have been removed and managed appropriately.
All free liquids ar	
All free liquids and If all the actions described the actions described and Per 19.15.29.8 B. (4) has begun please att	d recoverable materials have been removed and managed appropriately.
Per 19.15.29.8 B. (4) has begun, please att within a lined contain. I hereby certify that the regulations all operator public health or the envertible to advantable in the contains and the contains all operators.	ibed above have <u>not</u> been undertaken, explain why: NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation ach a parrative of actions to date. If remedial efforts have been successfully completed or if the release occurred
Per 19.15.29.8 B. (4) has begun, please att within a lined contain. I hereby certify that the regulations all operator public health or the envialed to adequately invaddition, OCD acceptant.	NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation ach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation. Information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger irronment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have estigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In acce of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws
Per 19.15.29.8 B. (4) has begun, please att within a lined contain. I hereby certify that the regulations all operator public health or the envialed to adequately invaddition, OCD acceptar and/or regulations.	NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation ach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation. Information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger irronment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have estigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In acce of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws
Per 19.15.29.8 B. (4) has begun, please att within a lined contain. I hereby certify that the regulations all operator public health or the envialed to adequately invaddition, OCD acceptar and/or regulations. Printed Name: Ky Signature:	NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation ach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred ament area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation. Information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and as are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger ironment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have estigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In nee of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws Title: SH&E Coordinator

ForReceived by OCD: 3/23/2023 9:27: Statut of New Mexico Oil Conservation Division Page 6

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

Incident ID	Page 25 of 19
District RP	2RP-3466
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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.

Photographs of the remediated site prior to backfill of must be notified 2 days prior to liner inspection)	or photos of the liner integrity if applicable (Note: appropriate OCD District office
■ Laboratory analyses of final sampling (Note: appropri	riate ODC District office must be notified 2 days prior to final sampling)
■ Description of remediation activities	
	agp 1
and regulations all operators are required to report and/or may endanger public health or the environment. The accesshould their operations have failed to adequately investigated human health or the environment. In addition, OCD accessompliance with any other federal, state, or local laws and restore reclaim, and respectate the impacted surface area.	and complete to the best of my knowledge and understand that pursuant to OCD rules file certain release notifications and perform corrective actions for releases which explance of a C-141 report by the OCD does not relieve the operator of liability at and remediate contamination that pose a threat to groundwater, surface water, plance of a C-141 report does not relieve the operator of responsibility for does not regulations. The responsible party acknowledges they must substantially a to the conditions that existed prior to the release or their final land use in the OCD when reclamation and re-vegetation are complete.
Printed Name: Kyle Littrell	Title: SH&E Coordinator
Signature:	Date: 10/19/2018
email: Kyle Littrell@xtoenergy.com	Telephone: <u>432-221-7331</u>
OCD Only	
Received by:	Date:
Closure approval by the OCD does not relieve the response remediate contamination that poses a threat to groundwate party of compliance with any other federal, state, or local	sible party of liability should their operations have failed to adequately investigate and er, surface water, human health, or the environment nor does not relieve the responsible laws and/or regulations.
Closure Approved by: Ashley Max	well Date: 3/24/2023
Printed Name:Ashley Maxwell	Title:Environmental Specialist

Closure of release approved. Incident will remain open as release area is subject to

19.15.29.13 NMAC and will need to be addressed during P&A activities.

Received by OCD: 3/23/2023 9:27:33 AM

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 Page 26 of 197
Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	2RP-4644
Facility ID	
Application ID	VIII E

Release Notification

			Res	ponsible Part	y	
Responsible	Party XTO	Energy		OGRID 5	380	
Contact Nam	e Kyle Litti	rell		Contact T	elephone 432-221-7331	
Contact emai	l Kyle_Litt	rell@xtoenergy.co	m	Incident #	(assigned by OCD)	
Contact mail NM 88220	ing address	522 W. Mermod,	Suite 704 Carlsba	ad,		
atitude 32.3	46632			n of Release S Longitude decimal degrees to 5 deci	-103.832532	
Site Name JR	II 19 Batte	rv		Site Type	Tank Battery	
Date Release		-,			015-27357	
Dute Resease	310/2010					
Unit Letter	Section	Township	Range	Cou	inty	
J	36	22S	30E	Eddy		
	i. A State	Federal 1		(Name: Federal	D 1)
	Mater	ial(s) Released (Select	Nature at	nd Volume of	ic justification for the volumes provided bel	ow)
Crude O	Mater	ial(s) Released (Select Volume Releas	Nature an	nd Volume of	Volume Recovered (bbls) 40 bb	ow)
	Mater	ial(s) Released (Select Volume Release Volume Release Is the concentr	Nature an all that apply and attated (bbls) 47 bbls and (bbls) attorn of dissolved	nd Volume of	ic justification for the volumes provided bel	ow)
Crude Oi	Mater il il Water	ial(s) Released (Select Volume Release Volume Release Is the concentr	Nature an all that apply and attaged (bbls) 47 bbls and (bbls) atton of dissolved r >10,000 mg/l?	nd Volume of	Volume Recovered (bbls) 40 bb Volume Recovered (bbls)	ow)
☐ Condens	Mater il il Water ate	ial(s) Released (Select Volume Release Volume Release Is the concentre produced water	Nature and attacked (bbls) 47 bbls sed (bbls) atton of dissolved (bbls) atton of dissolved (bbls) sed (bbls) sed (bbls)	nd Volume of	Volume Recovered (bbls) 40 bb Volume Recovered (bbls) Volume Recovered (bbls) No	ow)
Crude O	Mater il d Water ate Gas	Volume Released (Select Volume Released Volume Released Is the concentre produced water Volume Released (Select Volume	Nature and attacked (bbls) 47 bbls sed (bbls) atton of dissolved (bbls) atton of dissolved (bbls) sed (bbls) sed (bbls)	nd Volume of sch calculations or specified chloride in the	Volume Recovered (bbls) Volume Recovered (bbls)	ois .

orReceived by OCD: 3/23/2023	9:27:3statwof New Mexico
age 2	Oil Conservation Division

Incident ID	Page 27 of 19
District RP	2RP-4644
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
	notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
The responsibl	Initial Response le party must undertake the following actions immediately unless they could create a safety hazard that would result in injury
☐ The impacted area l	elease has been stopped. has been secured to protect human health and the environment.
The state of the s	have been contained via the use of berms or dikes, absorbent pads, or other containment devices. recoverable materials have been removed and managed appropriately.
has begun, please attac	MAC 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 nent area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the in regulations all operators a public health or the envire failed to adequately inves-	information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and have required to report and/or file certain release notifications and perform corrective actions for releases which may endanger comment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have stigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In the of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws
Printed Name: Kyle	Littrell Title: SH&E Coordinator
Signature:	Date: 10/19/2018
email: Kyle L	Littrell@xtoenergy.com Telephone: 432-221-7331
OCD Only	
	Date:

For Received by OCD: 3/23/2023 9:27:33 at Mof New Mexico
Page 6 Oil Conservation Division

Incident ID	Page 28 of 19
District RP	2RP-4644
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 Attaci	iment Checkist. Luch of the f	following items must be included in the closure report.	
A scaled site and sa	impling diagram as described in	n 19.15.29.11 NMAC	
Photographs of the must be notified 2 days	remediated site prior to backfil prior to liner inspection)	ll or photos of the liner integrity if applicable (Note: appropri	iate OCD District office
□ Laboratory analyse	s of final sampling (Note: appro	opriate ODC District office must be notified 2 days prior to fit	nal sampling)
Description of rem	ediation activities		
and regulations all opera may endanger public he should their operations had numan health or the envi- compliance with any oth	alth or the environment. The active failed to adequately investification. In addition, OCD active federal, state, or local laws a	and complete to the best of my knowledge and understand the or file certain release notifications and perform corrective action compared of a C-141 report by the OCD does not relieve the origate and remediate contamination that pose a threat to ground compared of a C-141 report does not relieve the operator of research or regulations. The responsible party acknowledges they area to the conditions that existed prior to the release or their finition to the OCD when reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the conditions of the reclamation and re-vegetation are compared to the re-vegetation are co	operator of liability dwater, surface water, sponsibility for must substantially inal land use in
		Title: SH&E Coordinator	
Printed Name: Kyle		Date: 10/19/2018	
Printed Name:Kyle Signature:		Title: SH&E Coordinator	
Printed Name: Kyle I Signature: Kyle I email: Kyle L	Hellend	Date: 10/19/2018	
Printed Name: Kyle Signature:	Hellend	Date: 10/19/2018	
Printed Name:Kyle I Signature: email: Kyle L OCD Only Received by: Closure approval by the remediate contamination	e OCD does not relieve the response that poses a threat to groundwith any other federal, state, or local	Date: 10/19/2018 Telephone: 432-221-7331 Date: Date: Date: Date: Date: Date: Donsible party of liability should their operations have failed to water, surface water, human health, or the environment nor does ocal laws and/or regulations.	adequately investigate an
Printed Name:Kyle I Signature: email: Kyle L OCD Only Received by: Closure approval by the remediate contamination	ttrell@xtoenergy.com OCD does not relieve the response that poses a threat to groundwise	Date: 10/19/2018 Telephone: 432-221-7331 Date: Date: Date: Date: Date: Date: Donsible party of liability should their operations have failed to water, surface water, human health, or the environment nor does ocal laws and/or regulations.	adequately investigate an

Closure of release approved. Incident will remain open as release area is subject to 19.15.29.13 NMAC and will need to be addressed during P&A activities.





ANALYTICAL REPORT

January 03, 2018



XTO Energy - San Juan Division

Sample Delivery Group: L959663

Samples Received: 12/23/2017

Project Number: 30-015-27357

Description: Confirmation Soil Samples

JRU 19 BATTERY (2RP-3240) Site:

Report To: Kyle Littrell

382 County Road 3100

Aztec, NM 87410

Entire Report Reviewed By:

Dapline R Richards

Daphne Richards

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	JAIVIF LL 30		V 1	<u> </u>	2 2 3 1 1 1 1 1 1 3 1 1
			Collected by	Collected date/time	Received date/time
SS-1 L959663-01 Solid			Aaron Williamson	12/20/17 14:30	12/23/17 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Total Solids by Method 2540 G-2011	WG1058628	1	01/02/18 09:07	01/02/18 09:16	KDW
Wet Chemistry by Method 300.0	WG1057207	1	12/26/17 21:16	12/27/17 00:29	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1057816	1	12/27/17 12:23	12/27/17 23:46	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1058274	1	12/28/17 22:58	12/29/17 19:19	ACM
			Collected by	Collected date/time	Received date/time
SS-2 L959663-02 Solid			Aaron Williamson	12/20/17 14:32	12/23/17 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
T . 10 11 1 M . 1 10 740 0 2004	WOMOFOCOO		date/time	date/time	VDW
Total Solids by Method 2540 G-2011	WG1058628	1	01/02/18 09:07	01/02/18 09:16	KDW
Wet Chemistry by Method 300.0	WG1057207	1	12/26/17 21:16	12/27/17 00:46	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1057816	1	12/27/17 12:23	12/28/17 00:08	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1058274	1	12/28/17 22:58	12/29/17 19:06	ACM
			Collected by	Collected date/time	Received date/time
SS-3 L959663-03 Solid			Aaron Williamson	12/20/17 14:36	12/23/17 09:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Total Solids by Method 2540 G-2011	WG1058629	1	01/02/18 08:57	01/02/18 09:06	KDW
Wet Chemistry by Method 300.0	WG1057207	1	12/26/17 21:16	12/27/17 00:54	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1057763	1	12/27/17 12:23	12/28/17 12:14	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1058274	1	12/28/17 22:58	12/29/17 19:32	ACM
			Collected by	Collected date/time	Received date/time
SS-4 L959663-04 Solid			Aaron Williamson	12/20/17 14:38	12/23/17 09:45
Method	Batch	Dilution	Preparation	Analysis date/time	Analyst
Total Calida by Mathad 2E 10 C 2011	WC10E9630	1	date/time		KDW
Total Solids by Method 2540 G-2011	WG1058629 WG1057207		01/02/18 08:57	01/02/18 09:06	KDW
Wet Chemistry by Method 300.0		5 1	12/26/17 21:16 12/27/17 12:23	12/27/17 01:03 12/28/17 12:36	KCF JAH
Volatile Organic Compounds (GC) by Method 8015/8021 Semi-Volatile Organic Compounds (GC) by Method 8015	WG1057763 WG1058274	1	12/27/17 12:23	12/28/17 12:36	JAH ACM
Semi-volatile Organic Compounds (GC) by Method 8015	WG1058274	10	12/28/1/ 22.58	12/29/1/ 19:59	ACM
			Collected by	Collected date/time	Received date/time
SS-5 L959663-05 Solid			Aaron Williamson	12/20/17 14:40	12/23/17 09:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1058629	1	01/02/18 08:57	01/02/18 09:06	KDW
Wet Chemistry by Method 300.0	WG1058029 WG1057207	1	12/26/17 21:16	12/27/17 01:11	KCF
Victorianistry by Michiga 500.0	W01037207	!	12/20/1/ 21.10	12/2//1/ VI.II	NCI



















Volatile Organic Compounds (GC) by Method 8015/8021

Semi-Volatile Organic Compounds (GC) by Method 8015

WG1057763

WG1058274

1

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12/27/17 12:23

12/28/17 22:58

12/28/17 12:58

12/29/17 20:15

JAH

ACM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

²Tc

³Ss













reclinical Service Representative

Japhne R Richards

SAMPLE RESULTS - 01

ONE LAB. NATRAGE 34 of \$27

Collected date/time: 12/20/17 14:30

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	94.7		1	01/02/2018 09:16	WG1058628



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	242		10.6	1	12/27/2017 00:29	WG1057207



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Volatile Organic Compounds (GC) by Method 8015/8021

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.000528	1	12/27/2017 23:46	WG1057816
Toluene	ND		0.00528	1	12/27/2017 23:46	WG1057816
Ethylbenzene	ND		0.000528	1	12/27/2017 23:46	WG1057816
Total Xylene	ND		0.00158	1	12/27/2017 23:46	WG1057816
TPH (GC/FID) Low Fraction	ND		0.106	1	12/27/2017 23:46	WG1057816
(S) a,a,a-Trifluorotoluene(FID)	91.8		77.0-120		12/27/2017 23:46	WG1057816
(S) a,a,a-Trifluorotoluene(PID)	103		75.0-128		12/27/2017 23:46	WG1057816



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Semi-Volatile Organic Compounds (GC) by Method 8015

Telamo engamo compositos (e.e.) sy mesmos con								
	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>		
Analyte	mg/kg		mg/kg		date / time			
C10-C28 Diesel Range	24.4		4.22	1	12/29/2017 19:19	WG1058274		
C28-C40 Oil Range	26.9		4.22	1	12/29/2017 19:19	WG1058274		
(S) o-Terphenyl	54.3		18.0-148		12/29/2017 19:19	WG1058274		

SAMPLE RESULTS - 02

ONE LAB. NAT Raga 35 of 197

Collected date/time: 12/20/17 14:32

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	77.6		1	01/02/2018 09:16	WG1058628



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
Chloride	94.0		12.9	1	12/27/2017 00:46	WG1057207



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Volatile Organic Compounds (GC) by Method 8015/8021

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	0.000702	<u>B</u>	0.000644	1	12/28/2017 00:08	WG1057816
Toluene	ND		0.00644	1	12/28/2017 00:08	WG1057816
Ethylbenzene	ND		0.000644	1	12/28/2017 00:08	WG1057816
Total Xylene	ND		0.00193	1	12/28/2017 00:08	WG1057816
TPH (GC/FID) Low Fraction	ND		0.129	1	12/28/2017 00:08	WG1057816
(S) a,a,a-Trifluorotoluene(FID)	92.4		77.0-120		12/28/2017 00:08	WG1057816
(S) a,a,a-Trifluorotoluene(PID)	103		75.0-128		12/28/2017 00:08	WG1057816



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Semi-Volatile Organic Compounds (GC) by Method 8015

	 '	(/)				
	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		5.16	1	12/29/2017 19:06	WG1058274
C28-C40 Oil Range	ND		5.16	1	12/29/2017 19:06	WG1058274
(S) o-Terphenyl	62.0		18.0-148		12/29/2017 19:06	WG1058274



SAMPLE RESULTS - 03

ONE LAB. NATRAGE 36 of \$27

Collected date/time: 12/20/17 14:36

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	98.3		1	01/02/2018 09:06	WG1058629



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	91.6		10.2	1	12/27/2017 00:54	WG1057207



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Volatile Organic Compounds (GC) by Method 8015/8021

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
Benzene	0.00103		0.000509	1	12/28/2017 12:14	WG1057763
Toluene	ND		0.00509	1	12/28/2017 12:14	WG1057763
Ethylbenzene	ND		0.000509	1	12/28/2017 12:14	WG1057763
Total Xylene	ND		0.00153	1	12/28/2017 12:14	WG1057763
TPH (GC/FID) Low Fraction	ND		0.102	1	12/28/2017 12:14	WG1057763
(S) a,a,a-Trifluorotoluene(FID)	88.9		77.0-120		12/28/2017 12:14	WG1057763
(S) a,a,a-Trifluorotoluene(PID)	94.8		75.0-128		12/28/2017 12:14	WG1057763



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Semi-Volatile Organic Compounds (GC) by Method 8015

(
	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>		
Analyte	mg/kg		mg/kg		date / time			
C10-C28 Diesel Range	54.0		4.07	1	12/29/2017 19:32	WG1058274		
C28-C40 Oil Range	58.8		4.07	1	12/29/2017 19:32	WG1058274		
(S) o-Terphenyl	53.6		18.0-148		12/29/2017 19:32	WG1058274		

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Collected date/time: 12/20/17 14:38

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	96.2		1	01/02/2018 09:06	WG1058629



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	1890		52.0	5	12/27/2017 01:03	WG1057207



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Volatile Organic Compounds (GC) by Method 8015/8021

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND	<u>J3</u>	0.000520	1	12/28/2017 12:36	WG1057763
Toluene	ND	<u>J3 J6</u>	0.00520	1	12/28/2017 12:36	WG1057763
Ethylbenzene	ND	<u>J3 J6</u>	0.000520	1	12/28/2017 12:36	WG1057763
Total Xylene	ND	<u>J3 J6</u>	0.00156	1	12/28/2017 12:36	WG1057763
TPH (GC/FID) Low Fraction	ND	<u>J3</u>	0.104	1	12/28/2017 12:36	WG1057763
(S) a,a,a-Trifluorotoluene(FID)	79.3		77.0-120		12/28/2017 12:36	WG1057763
(S) a,a,a-Trifluorotoluene(PID)	85.1		75.0-128		12/28/2017 12:36	WG1057763



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		(/)				
	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	3390		41.6	10	12/29/2017 19:59	WG1058274
C28-C40 Oil Range	1690		41.6	10	12/29/2017 19:59	WG1058274
(S) o-Terphenyl	160	<u>J1</u>	18.0-148		12/29/2017 19:59	WG1058274



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Collected date/time: 12/20/17 14:40

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	97.8		1	01/02/2018 09:06	WG1058629



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	276		10.2	1	12/27/2017 01:11	WG1057207



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Volatile Organic Compounds (GC) by Method 8015/8021

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.000512	1	12/28/2017 12:58	WG1057763
Toluene	ND		0.00512	1	12/28/2017 12:58	WG1057763
Ethylbenzene	ND		0.000512	1	12/28/2017 12:58	WG1057763
Total Xylene	ND		0.00153	1	12/28/2017 12:58	WG1057763
TPH (GC/FID) Low Fraction	ND		0.102	1	12/28/2017 12:58	WG1057763
(S) a,a,a-Trifluorotoluene(FID)	88.8		77.0-120		12/28/2017 12:58	WG1057763
(S) a,a,a-Trifluorotoluene(PID)	94.7		75.0-128		12/28/2017 12:58	WG1057763



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Jenn Volume Organ	ne compounds	(CC) by ivi		,		
	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	514		40.9	10	12/29/2017 20:15	WG1058274
C28-C40 Oil Range	590		40.9	10	12/29/2017 20:15	WG1058274
(S) o-Terphenyl	70.9		18.0-148		12/29/2017 20:15	WG1058274

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L959663-01,02

Total Solids by Method 2540 G-2011

Method	Blank	(MB)

Total Solids

Analyte Total Solids

(MB) R3277136-1 01/02/	18 09:16			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%

Ss

L959544-07 Original Sample (OS) • Duplicate (DUP)

0.002

(OS) L959544-07 01/02/18 09:16 • (DUP) R3277136-3 01/02/18 09:16

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
%	%		%		%
9/17	96.1	1	2		5

[†]Cn

Laboratory Control Sample (LCS)

(LCS) R3277136-2 01/02/18 09:16

(L	200) NO277100 2 01/02/10	0 03.10				
		Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Α	nalyte	%	%	%	%	
T	otal Solids	50.0	50.0	100	85-115	





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L959663-03,04,05

Method Blank (MB)

Total Solids by Method 2540 G-2011

(MB) R3277134-1 O	1/02/18 09:06			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.002			



Ss

L959664-01 Original Sample (OS) • Duplicate (DUP)

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	94.6	94.2	1	0		5

[†]Cn





(LCS) R3277134-2 01/02/18 09:06

(LCS) R32//134-2 01/02/1	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85-115	





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Wet Chemistry by Method 300.0

L959663-01,02,03,04,05

Method Blank (MB)

(MB) R3275848-1 12/26/	17 23:29			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0





L959663-01 Original Sample (OS) • Duplicate (DUP)

(OS) L959663-01 12/27/17 00:29 • (DUP) R3275848-4 12/27/17 00:37	(OS) L959663-01	12/27/17 00:29	• (DUP) R3275848-4	12/27/17 00:37
--	-----------------	----------------	--------------------	----------------

	Original Result (dry)	DUP Result (dry)			DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	242	245	1	1.31		20





L959672-09 Original Sample (OS) • Duplicate (DUP)

(OS) L959672-09 12/27/17 04:10 • (DUP) R3275848-7 12/27/17 04:19

(03) 2303072 03 12/27/17	Original Result		Dilution		DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	63.5	62.2	1	2.06		20





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(100) 102/00/02 12/20/1	Spike Amount	,	LCSD Result		LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chloride	200	197	197	98.7	98.5	90-110			0.198	20

L959669-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959669-05 12/27/17 02:11 • (MS) R3275848-5 12/27/17 02:20 • (MSD) R3275848-6 12/27/17 02:28

(03) 1333003-03 1	2/2//// 02.11 • (1415) 10	32/30 7 0-3 12/	2//1/ 02.20	(IVISD) 1(32730	70-0 12/2//1	7 02.20							
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%	
Chloride	500	163	654	707	98.2	109	1	80-120			7.76	20	

Volatile Organic Compounds (GC) by Method 8015/8021

QUALITY CONTROL SUMMARY

ONE LAB. NATRAGE 12 of 127

L959663-03,04,05

Method Blank (MB)

(MB) R3276845-5 12/28/17	11:25			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000246	<u>J</u>	0.000150	0.00500
Ethylbenzene	0.000114	<u>J</u>	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0218	<u>J</u>	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.8			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	102			75.0-128

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276845-1 12/28/	/17 09:3/ • (CSF) P32768/15	-2 12/28/17 NO:F	56	· ·	, ,					 — ⁷ (
(100) 102/0040 1 12/20/	Spike Amount	•	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	L
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%	8
Benzene	0.0500	0.0450	0.0430	90.0	86.0	71.0-121			4.65	20	
Toluene	0.0500	0.0464	0.0434	92.8	86.9	72.0-120			6.56	20	9
Ethylbenzene	0.0500	0.0482	0.0455	96.5	90.9	76.0-121			5.94	20	
Total Xylene	0.150	0.143	0.133	95.2	88.9	75.0-124			6.81	20	
(S) a,a,a-Trifluorotoluene(FID)				94.4	94.7	77.0-120					
(S) a,a,a-Trifluorotoluene(PID)				99.7	99.9	75.0-128					

Laboratory Control Sample (LCS)

(LCS) R3276845-3 12/28	3/17 10:18				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
TPH (GC/FID) Low Fraction	5.50	4.92	89.4	70.0-136	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			113	75.0-128	















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L959663-03,04,05

Laboratory Control Sample (LCS)

Volatile Organic Compounds (GC) by Method 8015/8021

(LCS) R3276845-4 12/28/17 10:41 Spike Amount LCS Result LCS Rec. Rec. Limits LCS Qualifier Analyte mg/kg mg/kg % % TPH (GC/FID) Low Fraction 5.50 5.11 93.0 70.0-136 107 77.0-120 a,a,a-Trifluorotoluene(FID) 118 75.0-128 a,a,a-Trifluorotoluene(PID)



Ss

L959663-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959663-04 12/28/17 12:36 • (MS) R3276845-6 12/28/17 18:08 • (MSD) R3276845-7 12/28/17 18:30

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Benzene	0.0520	ND	0.00589	0.0225	10.8	42.8	1	10.0-146		<u>J3</u>	117	29
Toluene	0.0520	ND	0.00248	0.0152	3.96	28.4	1	10.0-143	<u>J6</u>	<u>J3</u>	144	30
Ethylbenzene	0.0520	ND	0.00139	0.00995	2.43	18.9	1	10.0-147	<u>J6</u>	<u>J3</u>	151	31
Total Xylene	0.156	ND	0.00453	0.0288	2.39	17.9	1	10.0-149	<u>J6</u>	<u>J3 J6</u>	146	30
(S) a,a,a-Trifluorotoluene(FID)					84.9	87.0		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					90.5	92.5		75.0-128				









L959663-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959663-04 12/28/17 12:36 • (MS) R3276845-8 12/28/17 18:52 • (MSD) R3276845-9 12/28/17 19:14

(/	()			,								
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.72	ND	0.683	0.983	10.4	15.7	1	10.0-147		<u>J3</u>	36.1	30
(S) a,a,a-Trifluorotoluene(FID)					89.8	89.9		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					94.0	93.9		75.0-128				

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Volatile Organic Compounds (GC) by Method 8015/8021 L959663-01,02

voidine organic compounds (oo, by method oors

Method Blank (MB)

(MB) R3276351-5 12/27/17	22:20			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Benzene	0.000267	<u> </u>	0.000120	0.000500
Toluene	0.000182	<u> </u>	0.000150	0.00500
Ethylbenzene	0.000118	<u> </u>	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0282	<u> </u>	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	93.9			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	105			75.0-128

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

			=								/
(LCS) R3276351-1 12/27/1	17 16:17 • (LCSD)	R3276351-2	12/27/17 16:40								
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	_
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%	8
Benzene	0.0500	0.0449	0.0480	89.9	96.1	71.0-121			6.67	20	
Toluene	0.0500	0.0477	0.0507	95.4	101	72.0-120			6.07	20	9
Ethylbenzene	0.0500	0.0465	0.0499	93.0	99.7	76.0-121			7.03	20	
Total Xylene	0.150	0.144	0.155	95.7	103	75.0-124			7.71	20	
(S) a,a,a-Trifluorotoluene(FID)				93.0	93.1	77.0-120					
(S) a,a,a-Trifluorotoluene(PID)				104	103	75.0-128					

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276351-3 12/27/	17 17:02 • (LCSD)) R3276351-4	12/27/17 17:25								
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%	
TPH (GC/FID) Low Fraction	5.50	5.67	5.59	103	102	70.0-136			1.51	20	
(S) a,a,a-Trifluorotoluene(FID)				112	112	77.0-120					
(S) a,a,a-Trifluorotoluene(PID)				122	123	75.0-128					

SDG:

L959663









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Volatile Organic Compounds (GC) by Method 8015/8021

L959663-01,02

L959672-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Benzene	0.0500	0.000797	0.0175	0.0151	33.5	28.7	1	10.0-146			14.6	29
Toluene	0.0500	ND	0.0190	0.0164	36.8	31.5	1	10.0-143			15.0	30
Ethylbenzene	0.0500	ND	0.0200	0.0173	39.3	33.8	1	10.0-147			14.8	31
Total Xylene	0.150	ND	0.0591	0.0527	38.9	34.6	1	10.0-149	<u>J6</u>	<u>J6</u>	11.4	30
(S) a,a,a-Trifluorotoluene(FID)					91.7	86.5		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					102	96.8		75.0-128				

L959672-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L959672-06 12/28/	17 04:39 • (MS) F	R3276351-8 12	/28/17 05:47	• (MSD) R32763	51-9 12/28/17	7 06:10						
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	2.05	0.985	36.7	17.4	1	10.0-147		<u>J3</u>	70.1	30
(S) a,a,a-Trifluorotoluene(FID)					95.0	80.6		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					106	91.0		75.0-128				

















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L959663-01,02,03,04,05 Semi-Volatile Organic Compounds (GC) by Method 8015

Method Blank (MB)

(MB) R3276614-1 12/29/	/17 11:10			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	43.6			18.0-148







Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3276614-2 12/29/1	(LCS) R3276614-2 12/29/17 11:24 • (LCSD) R3276614-3 12/29/17 11:37											
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%		
C10-C28 Diesel Range	60.0	31.2	34.2	52.0	57.0	50.0-150			9.22	20		
(S) o-Ternhenyl				58 1	65.6	18 0-148						













Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

В	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.





















ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.*** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey-NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio-VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
lowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee 14	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















ceived by OCD: 3/23/2023	9:27:33 AM	[Billing Infor	mation-					An	alysis / Conta	iner / Pres	ervative		Chain of Custody	Page 49 o
LTENVIO	nmenta	L	X	70		Pres Chk								ELA-B S-C-	SC
port to: Kyle Littrel		. ,	I A	Cyle_Littrell baker@LTer City/State	v.com		8021	8015	300.1					12065 Lebanon Rd Mount Juliet, TN 3712; Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859	
cription: Confirmation	Client Project a	1		Collected: Lab Project #	NM	1	100000000		Method					L# L95	
ne: 1-970-317-1867	30-01 Site/Facility ID	# /	2 Rp_3240	VP.O.#			Method	Moth	EPA M					G1	
aron Williamson	JRU 19	9 Batte ab MUST Be	Notified)	01291 Quote#	7057	1	EPA	V 4 0 0 0 0 1	3-6					Template:	arva
nediately ked on ice N Y	Next Day	y Five I 5 Day 10 Da	(Rad Only)	Date Resu	lts Needed	No.	EX - E	,	Chloride					TSR: PB:	
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTI	TPH	5					Shipped Via:	Sample # (lati only)
55-1	Grab	55	611	12/20/17	14:30		1	V	1			16			-01
65-2	Grab	55	611	12/20/17	14:32	1	V	/	V					_	02
55-3	6rab	55	6"	12/20/17	14:36	1	1	V	V	1000					03
55-4	Grab	55	60	12/20/17	14:38	1	V	V	V,						021
55-5	Grab	55	6"	12/20/17	14140	1	U	V	V			3100			69
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Non-Conformance Form **ESC Lab Sciences**

		ESC Lat Non-Confo	ESC Lab Sciences Non-Conformance Form	
Login #: L959663	Client:	Client: XTORNM	Date: 12/23/17	Evaluated by: Jeremy
Non-Conformance (check applicable items)	heck app	olicable items)		
Sample Integrity		Chain of Custody Clarification	fion	
Parameter(s) past holding time	, sui	-		
Improper		-		If Broken Container:
Improper container type		Please specify Metals requested.	ete	Insufficient packing material around container Insufficient packing material inside
Improper				cooler
preservation		Please specify TCLP requested.	ted.	Improper handling by carrier (RadEy 11105) 7
Insufficient sample volume.	me.	Received additional samples not listed on coc.	s not listed on coc.	Sample was
Sample is biphasic.		Sample ids on containers do not match ids on coc	not match ids on	Containoulid and lateral
Vials received with headspace.	space.	Trip Blank not received.		Ten chair for interest
Broken container		Client did not "X" analysis.		n no chain of custody:
Broken container:		Chain of Custody is missing		Received by:
Sufficient sample remains		9		Date/Time:
				Temp./Cont. Rec./pH;
				Carrier:
				- F

Login Comments: What TPH?

R Initials: NM Client Contact:	fail Date: 12/23/17	Email Voice Ma	Cliont Contact	SR Initials: NM
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These are logged correctly.

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ANALYTICAL REPORT

February 12, 2018



XTO Energy- Delaware Division

Sample Delivery Group: L967236

Samples Received: 02/02/2018

Project Number: 30-015-27735

Description: Soil Samples

JRU 29 SWD @ JRU 19 BATTERY Site:

Kyle Littrell Report To:

6401 N Holiday Hill Rd

Suite 200

Midland, TX 79707

Entire Report Reviewed By:

Naphne R Richards

Sc: Sample Chain of Custody

18

Cp: Cover Pa	ge	1				
Tc: Table of C	Contents	2				
Ss: Sample S	ummary	3				
Cn: Case Nar	rative	4				
Sr: Sample Re	esults	5				
SS1 L967	236-01	5				
SS2 L967	7236-02	6				
SS3 L967	7236-03	7				
SS4 L967	7236-04	8				
SS5 L967	7236-05	9				
Qc: Quality C	ontrol Summary	10				
Total Solid	s by Method 2540 G-2011	10				
Wet Chemi	istry by Method 300.0	12				
Volatile Organic Compounds (GC) by Method 8015/8021						
Semi-Volat	ile Organic Compounds (GC) by Method 8015	15				
GI: Glossary o	of Terms	16				
Al: Accreditat	tions & Locations	17				



















Volatile Organic Compounds (GC) by Method 8015/8021

Semi-Volatile Organic Compounds (GC) by Method 8015

			Collected by	Collected date/time	Received date/time
SS1 L967236-01 Solid			Aaron Williamson	01/31/18 16:32	02/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1070581	1	02/07/18 11:30	02/07/18 11:40	KDW
Wet Chemistry by Method 300.0	WG1069399	1	02/02/18 14:48	02/02/18 19:50	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065	1	02/02/18 13:41	02/09/18 16:12	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	20	02/10/18 06:21	02/10/18 19:51	AAT
			Collected by	Collected date/time	Received date/time
SS2 L967236-02 Solid			Aaron Williamson	01/31/18 16:35	02/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1070565	1	02/07/18 15:01	02/07/18 15:31	KDW
Wet Chemistry by Method 300.0	WG1069399	1	02/02/18 14:48	02/02/18 20:07	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065	1	02/02/18 13:41	02/09/18 15:49	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	1	02/10/18 06:21	02/10/18 18:16	AAT
			Collected by	Collected date/time	Received date/time
SS3 L967236-03 Solid			Aaron Williamson	01/31/18 16:38	02/02/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Total Solids by Method 2540 G-2011	WG1070565	1	02/07/18 15:01	02/07/18 15:31	KDW
Wet Chemistry by Method 300.0	WG1069399	1	02/02/18 14:48	02/02/18 20:49	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065	1	02/02/18 13:41	02/09/18 16:35	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	1	02/10/18 06:21	02/10/18 17:08	AAT
			Collected by	Collected date/time	Received date/time
SS4 L967236-04 Solid			Aaron Williamson	01/31/18 16:41	02/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1070565	1	02/07/18 15:01	02/07/18 15:31	KDW
	WG1070365 WG1069399	1	02/02/18 14:48	02/07/18 15.31	MAJ
Wet Chemistry by Method 300.0	WG1069399 WG1072065		02/02/18 14.48	02/11/18 20:09	DWR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065 WG1071963	2.29	02/10/18 06:21		
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	1	02/10/16 06.21	02/10/18 18:43	AAT
			Collected by	Collected date/time	Received date/time
SS5 L967236-05 Solid			Aaron Williamson	01/31/18 16:44	02/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1070565	1	02/07/18 15:01	02/07/18 15:31	KDW
Wet Chemistry by Method 300.0	WG1069399	1	02/02/18 14:48	02/02/18 17:51	MAJ
not onemony by memora occio	.,01003333	'	J21 J21 10 1 1. 10	02,02,10 11.01	HILD



















WG1072065

WG1071963

02/02/18 13:41

02/10/18 06:21

02/09/18 17:20

02/10/18 18:30

JAH

AAT

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Japhne R Richards

Technical Service Representative

Daphne Richards

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Ср

















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Collected date/time: 01/31/18 16:32

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	91.8		1	02/07/2018 11:40	WG1070581



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	242		10.9	1	02/02/2018 19:50	WG1069399



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Volatile Organic Compounds (GC) by Method 8015/8021/8021B

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	0.00172		0.000544	1	02/09/2018 16:12	WG1072065
Toluene	ND		0.00544	1	02/09/2018 16:12	WG1072065
Ethylbenzene	ND		0.000544	1	02/09/2018 16:12	WG1072065
Total Xylene	0.00198		0.00163	1	02/09/2018 16:12	WG1072065
TPH (GC/FID) Low Fraction	0.381		0.109	1	02/09/2018 16:12	WG1072065
(S) a,a,a-Trifluorotoluene(FID)	90.9		77.0-120		02/09/2018 16:12	WG1072065
(S) a,a,a-Trifluorotoluene(PID)	102		75.0-128		02/09/2018 16:12	WG1072065



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	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>	
Analyte	mg/kg		mg/kg		date / time		
C10-C28 Diesel Range	3400		87.1	20	02/10/2018 19:51	WG1071963	
C28-C40 Oil Range	2060		87.1	20	02/10/2018 19:51	WG1071963	
(S) o-Terphenyl	92.4	J7	18.0-148		02/10/2018 19:51	WG1071963	

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Collected date/time: 01/31/18 16:35

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	98.5		1	02/07/2018 15:31	WG1070565

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Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	43.5		10.1	1	02/02/2018 20:07	WG1069399



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Volatile Organic Compounds (GC) by Method 8015/8021/8021B

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.000507	1	02/09/2018 15:49	WG1072065
Toluene	ND		0.00507	1	02/09/2018 15:49	WG1072065
Ethylbenzene	ND		0.000507	1	02/09/2018 15:49	WG1072065
Total Xylene	ND		0.00152	1	02/09/2018 15:49	WG1072065
TPH (GC/FID) Low Fraction	ND		0.101	1	02/09/2018 15:49	WG1072065
(S) a,a,a-Trifluorotoluene(FID)	94.7		77.0-120		02/09/2018 15:49	WG1072065
(S) a,a,a-Trifluorotoluene(PID)	107		75.0-128		02/09/2018 15:49	WG1072065



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	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	5.42		4.06	1	02/10/2018 18:16	WG1071963
C28-C40 Oil Range	19.5		4.06	1	02/10/2018 18:16	WG1071963
(S) o-Terphenyl	111		18.0-148		02/10/2018 18:16	WG1071963

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Collected date/time: 01/31/18 16:38

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	96.6		1	02/07/2018 15:31	WG1070565



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	492		10.3	1	02/02/2018 20:49	WG1069399



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Volatile Organic Compounds (GC) by Method 8015/8021/8021B

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.000517	1	02/09/2018 16:35	WG1072065
Toluene	ND		0.00517	1	02/09/2018 16:35	WG1072065
Ethylbenzene	ND		0.000517	1	02/09/2018 16:35	WG1072065
Total Xylene	ND		0.00155	1	02/09/2018 16:35	WG1072065
TPH (GC/FID) Low Fraction	ND		0.103	1	02/09/2018 16:35	WG1072065
(S) a,a,a-Trifluorotoluene(FID)	95.4		77.0-120		02/09/2018 16:35	WG1072065
(S) a,a,a-Trifluorotoluene(PID)	108		75.0-128		02/09/2018 16:35	WG1072065



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	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	7.56		4.14	1	02/10/2018 17:08	WG1071963
C28-C40 Oil Range	9.72		4.14	1	02/10/2018 17:08	WG1071963
(S) o-Terphenyl	78.8		18.0-148		02/10/2018 17:08	WG1071963

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Collected date/time: 01/31/18 16:41

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	94.3		1	02/07/2018 15:31	WG1070565



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	62.5		10.6	1	02/02/2018 20:58	WG1069399



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Volatile Organic Compounds (GC) by Method 8015/8021/8021B

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.00121	2.29	02/11/2018 20:09	WG1072065
Toluene	ND		0.0121	2.29	02/11/2018 20:09	WG1072065
Ethylbenzene	ND		0.00121	2.29	02/11/2018 20:09	WG1072065
Total Xylene	ND		0.00365	2.29	02/11/2018 20:09	WG1072065
TPH (GC/FID) Low Fraction	ND		0.243	2.29	02/11/2018 20:09	WG1072065
(S) a,a,a-Trifluorotoluene(FID)	102		77.0-120		02/11/2018 20:09	WG1072065
(S) a,a,a-Trifluorotoluene(PID)	103		75.0-128		02/11/2018 20:09	WG1072065



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	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	35.5	<u>J3 J5</u>	4.24	1	02/10/2018 18:43	WG1071963
C28-C40 Oil Range	75.4		4.24	1	02/10/2018 18:43	WG1071963
(S) o-Ternhenyl	72.8		18 0-148		02/10/2018 18:43	WG1071963

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Collected date/time: 01/31/18 16:44

Total Solids by Method 2540 G-2011

	Result	Qualifier	Dilution	Analysis	Batch
Analyte	%			date / time	
Total Solids	99.5		1	02/07/2018 15:31	WG1070565



Wet Chemistry by Method 300.0

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Chloride	40.0	<u>P1</u>	10.1	1	02/02/2018 17:51	WG1069399



Volatile Organic Compounds (GC) by Method 8015/8021/8021B

	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
Analyte	mg/kg		mg/kg		date / time	
Benzene	ND		0.000503	1	02/09/2018 17:20	WG1072065
Toluene	ND		0.00503	1	02/09/2018 17:20	WG1072065
Ethylbenzene	ND		0.000503	1	02/09/2018 17:20	WG1072065
Total Xylene	ND		0.00151	1	02/09/2018 17:20	WG1072065
TPH (GC/FID) Low Fraction	ND		0.101	1	02/09/2018 17:20	WG1072065
(S) a,a,a-Trifluorotoluene(FID)	93.8		77.0-120		02/09/2018 17:20	WG1072065
(S) a,a,a-Trifluorotoluene(PID)	106		75.0-128		02/09/2018 17:20	WG1072065



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	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	<u>Batch</u>
Analyte	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	14.2		4.02	1	02/10/2018 18:30	WG1071963
C28-C40 Oil Range	48.9		4.02	1	02/10/2018 18:30	WG1071963
(S) o-Terphenyl	92.7		18.0-148		02/10/2018 18:30	WG1071963

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Total Solids by Method 2540 G-2011

L967236-02,03,04,05

Method Blank (MB)

(MB) R3284828-1 0	02/07/18 15:31			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.001			

Ss

L967236-02 Original Sample (OS) • Duplicate (DUP)

	Original Resu	It DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	98.5	98.6	1	0		5

[†]Cn





(LCS) R3284828-2 02/07/18 15:31

(LCS) R3284828-2 02/07	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85-115	





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Total Solids by Method 2540 G-2011

L967236-01

Method Blank (MB)

(MB) R3284810-1 02/0	07/18 11:40			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.002			

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Cn

L967297-01 Original Sample (OS) • Duplicate (DUP)

(OS) L96/29/-01 02	2/0//18 11:40 • (DUP) F	R3284810-3 C)2/0//18 11:	40		
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	81.7	81.8	1	0		5



Laboratory Control Sample (LCS)

(LCS) R3284810-2 02/07	/18 11:40				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS G
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85-115	





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Wet Chemistry by Method 300.0

L967236-01,02,03,04,05

Method Blank (MB)

(MB) R3283780-1 02/02/	18 16:21			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0





L967236-05 Original Sample (OS) • Duplicate (DUP)

(OS) L967236-05 02/02	(OS) L967236-05 02/02/18 17:51 • (DUP) R3283780-4 02/02/18 17:59												
	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits							
Analyte	mg/kg	mg/kg		%		%							
Chloride	40.0	5.77	1	150	<u>P1</u>	20							





L967236-01 Original Sample (OS) • Duplicate (DUP)

(OS) L967236-01 02/02/18	19:50 • (DUP)	R3283780-5 C	02/02/18 1	9:58			
	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits	
Analyte	mg/kg	mg/kg		%		%	
Chloride	242	242	1	0.271		20	





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3283780-2	02/02/18 16:29 •	(LCSD) R3283780-3	02/02/18 16:38

,	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chloride	200	205	209	102	104	90-110			1.87	20

L967236-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 1 967236-02 02/02/18 20:07 • (MS) R3283780-6 02/02/18 20:15 • (MSD) R3283780-7 02/02/18 20:41

(03) E301230-02 02/02/10 20:07 • (M3) N3203700-0 02/02/10 20:13 • (M3D) N3203700-7 02/02/10 20:41												
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	507	43.5	583	531	106	96.1	1	80-120			9.21	20

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Volatile Organic Compounds (GC) by Method 8015/8021

L967236-01,02,03,04,05

Method Blank (MB)

(MB) R3285489-5 02/09/18 12:37									
	MB Result	MB Qualifier	MB MDL	MB RDL					
Analyte	mg/kg		mg/kg	mg/kg					
Benzene	0.000134	<u>J</u>	0.000120	0.000500					
Toluene	0.000246	<u>J</u>	0.000150	0.00500					
Ethylbenzene	U		0.000110	0.000500					
Total Xylene	U		0.000460	0.00150					
TPH (GC/FID) Low Fraction	U		0.0217	0.100					
(S) a,a,a-Trifluorotoluene(FID)	96.0			77.0-120					
(S) a,a,a-Trifluorotoluene(PID)	108			75.0-128					

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285489-1 02/09/18 10:05 • (LCSD) R3285489-2 02/09/18 10:29												
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%		
Benzene	0.0500	0.0442	0.0410	88.4	82.0	71.0-121			7.58	20		
Toluene	0.0500	0.0487	0.0447	97.3	89.5	72.0-120			8.39	20		
Ethylbenzene	0.0500	0.0474	0.0437	94.9	87.5	76.0-121			8.09	20		
Total Xylene	0.150	0.145	0.134	96.6	89.2	75.0-124			7.97	20		
(S) a,a,a-Trifluorotoluene(FID)				94.4	94.4	77.0-120						
(S) a,a,a-Trifluorotoluene(PID)				105	105	75.0-128						

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285489-3 02/09/18 11:09 • (LCSD) R3285489-4 02/09/18 11:31												
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%		
TPH (GC/FID) Low Fraction	5.50	5.29	5.10	96.3	92.8	70.0-136			3.70	20		
(S) a,a,a-Trifluorotoluene(FID)				113	113	77.0-120						
(S) a,a,a-Trifluorotoluene(PID)				126	126	75.0-128						



















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Volatile Organic Compounds (GC) by Method 8015/8021

L967236-01,02,03,04,05

L969083-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969083-01 02/09/	` '			,								
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Benzene	0.0500	0.00392	0.762	0.727	60.7	57.8	25	10.0-146			4.73	29
Toluene	0.0500	0.00739	0.821	0.783	65.1	62.1	25	10.0-143			4.65	30
Ethylbenzene	0.0500	0.00318	0.816	0.774	65.0	61.7	25	10.0-147			5.21	31
Total Xylene	0.150	0.0154	2.50	2.38	66.3	63.0	25	10.0-149	<u>J6</u>	<u>J6</u>	5.12	30
(S) a,a,a-Trifluorotoluene(FID)					96.7	97.9		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					108	109		75.0-128				



L969084-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969084-01 02/09/18 19:35 • (MS) R3285489-8 02/09/18 20:42 • (MSD) R3285489-9 02/09/18 21:05												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	0.651	124	114	89.5	82.5	25	10.0-147			8.12	30
(S) a,a,a-Trifluorotoluene(FID)					105	106		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					118	119		75.0-128				







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Semi-Volatile Organic Compounds (GC) by Method 8015

L967236-01,02,03,04,05

Method Blank (MB)

(MB) R3285550-1 02/10/	/18 16:27			
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	96.2			18.0-148





Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285550-2 02/	10/18 16:41 • (LCSI	D) R3285550-	3 02/10/18 16:5	54							
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits	
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%	
C10-C28 Diesel Range	50.0	49.0	47.2	98.0	94.4	50.0-150			3.75	20	
(S) o-Terphenyl				102	96.6	18.0-148					









(OS) | 967236 04 02/00/18 18:43 - (MS) P3285550 4 02/10/18 18:57 - (MSD) P3285550 5 02/10/18 19:10

(03) 196/236-04 02/10/1	0 10.43 · (IVIS) R	3203330-4 02	2/10/10 10.5/ • (M3D) K3Z633	50-5 02/10/16	19.10						
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	53.0	35.5	95.1	117	112	155	1	50.0-150		<u>J3 J5</u>	21.0	20
(S) o-Terphenyl					81.8	89.9		18.0-148				







XTO Energy- Delaware Division

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

Appreviations and	Definitions
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.







Cn















ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky 1	90010
Kentucky ²	16
Louisiana	Al30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05

Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina 1	DW21704
North Carolina ²	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee 1 4	2006
Texas	T 104704245-07-TX
Texas ⁵	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA - ISO 17025 5	1461.02
Canada	1461.01
EPA-Crypto	TN00003

DOD 1461.01	100789	
1461.01	1461.01	
USDA S-67674	S-67674	

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



















Analytical Report 578897

for

LT Environmental, Inc.

Project Manager: Adrian Baker
JRU #19

17-MAR-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

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

> Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-14)
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)
Xenco-Atlanta (LELAP Lab ID #04176)





17-MAR-18

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

Reference: XENCO Report No(s): 578897

JRU #19

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) 578897. 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. 578897 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.

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

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



Sample Cross Reference 578897



LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX1-1	S	03-09-18 12:00	12 In	578897-001
EX1-2	S	03-09-18 12:10	12 In	578897-002
EX1-3	S	03-09-18 12:22	16 In	578897-003

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU #19

Project ID: Report Date: 17-MAR-18 Work Order Number(s): 578897 Date Received: 03/10/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043793 Inorganic Anions by EPA 300

Lab Sample ID 578897-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 578897-001, -002, -003.

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

Batch: LBA-3043914 BTEX by EPA 8021B

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

Batch: LBA-3043921 BTEX by EPA 8021B

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



Certificate of Analysis Summary 578897

LT Environmental, Inc., Arvada, CO

Project Name: JRU #19



Project Id: Contact:

Adrian Baker

Project Location: NM

Date Received in Lab: Sat Mar-10-18 12:21 pm

Report Date: 17-MAR-18

Project Manager: Jessica Kramer

	Lab Id:	578897-0	001	578897-0	002	578897-0	03		
Analysis Requested	Field Id:	EX1-1		EX1-2	:	EX1-3			
Anaiysis Kequesieu	Depth:	12- In		12- In		16- In			
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Mar-09-18	12:00	Mar-09-18	12:10	Mar-09-18	12:22		
BTEX by EPA 8021B	Extracted:	Mar-15-18	08:00	Mar-14-18	16:45	Mar-14-18	16:45		
	Analyzed:	Mar-16-18	10:10	Mar-15-18	07:56	Mar-15-18 (07:18		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		< 0.00332	0.00332	< 0.00201	0.00201	< 0.00202	0.00202		
Toluene		< 0.00332	0.00332	< 0.00201	0.00201	< 0.00202	0.00202		
Ethylbenzene		< 0.00332	0.00332	< 0.00201	0.00201	< 0.00202	0.00202		
m,p-Xylenes		< 0.00664	0.00664	< 0.00402	0.00402	0.00528	0.00404		
o-Xylene		< 0.00332	0.00332	< 0.00201	0.00201	0.0108	0.00202		
Total Xylenes		< 0.00332	0.00332	< 0.00201	0.00201	0.0161	0.00202		
Total BTEX		< 0.00332	0.00332	< 0.00201	0.00201	0.0161	0.00202		
Inorganic Anions by EPA 300	Extracted:	Mar-14-18	11:00	Mar-14-18	11:00	Mar-14-18	11:00		
	Analyzed:	Mar-14-18	17:27	Mar-14-18	17:43	Mar-14-18	17:48		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<4.95	4.95	<4.93	4.93	<4.97	4.97		
TPH by SW8015 Mod	Extracted:	Mar-14-18	07:00	Mar-14-18	07:00	Mar-14-18 (07:00		
	Analyzed:	Mar-15-18	09:52	Mar-15-18	11:10	Mar-15-18	11:36		
	Units/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		
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0		

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

JRU #19

Soil

Sample Id: **EX1-1**

Matrix:

Date Received:03.10.18 12.21

Lab Sample Id: 578897-001

Date Collected: 03.09.18 12.00

Sample Depth: 12 In

Analytical Method: Inorganic Anions by EPA 300

Date Collected, 03.09.16 12.00

Prep Method: E300P

Taabı

ou. morganie i mions cy

% Moisture:

Tech: Analyst: OJS OJS

Date Prep:

03.14.18 11.00

Basis:

Wet Weight

Seq Number: 3043793

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 03.14.18 17.27 U <4.95 4.95 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech:

ARM

% Moisture:

Analyst: ARM

Date Prep: 03.14.18 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	03.15.18 09.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	03.15.18 09.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	03.15.18 09.52	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	03.15.18 09.52	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	109	%	70-135	03.15.18 09.52		
o-Terphenyl		84-15-1	110	%	70-135	03.15.18 09.52		





LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id: **EX1-1**

Matrix:

Soil

Date Received:03.10.18 12.21

Lab Sample Id: 578897-001

Date Collected: 03.09.18 12.00

Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B % Moisture:

Tech: ALJ

Analyst:

ALJ

Date Prep:

03.15.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
Toluene	108-88-3	< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
Ethylbenzene	100-41-4	< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
m,p-Xylenes	179601-23-1	< 0.00664	0.00664		mg/kg	03.16.18 10.10	U	1
o-Xylene	95-47-6	< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
Total Xylenes	1330-20-7	< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
Total BTEX		< 0.00332	0.00332		mg/kg	03.16.18 10.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	123	%	70-130	03.16.18 10.10		
1,4-Difluorobenzene		540-36-3	98	%	70-130	03.16.18 10.10		





LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id: EX1-2

Matrix:

Soil

Date Received:03.10.18 12.21

Lab Sample Id: 578897-002

Date Collected: 03.09.18 12.10

Sample Depth: 12 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Wet Weight

Analyst:

OJS

Date Prep:

03.14.18 11.00

Basis:

Seq Number: 3043793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.93	4.93	mg/kg	03.14.18 17.43	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 03.14.18 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	03.15.18 11.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	03.15.18 11.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	03.15.18 11.10	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	03.15.18 11.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	100	%	70-135	03.15.18 11.10		
o-Terphenyl		84-15-1	101	%	70-135	03.15.18 11.10		





LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id: EX1-2

Matrix:

Soil

Date Received:03.10.18 12.21

Lab Sample Id: 578897-002

Date Collected: 03.09.18 12.10

Sample Depth: 12 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Basis:

Tech:

ALJ

Date Prep: 03.14.18 16.45

% Moisture:

Wet Weight

Analyst: ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	03.15.18 07.56	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	03.15.18 07.56	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	84	%	70-130	03.15.18 07.56		
1,4-Difluorobenzene		540-36-3	89	%	70-130	03.15.18 07.56		





LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id: EX1-3

Matrix:

Result

<4.97

Cas Number

16887-00-6

Soil

Date Received:03.10.18 12.21

Lab Sample Id: 578897-003

Date Collected: 03.09.18 12.22

Sample Depth: 16 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

Parameter

Chloride

OJS

RL

4.97

% Moisture:

Wet Weight

Analyst: OJS

Seq Number: 3043793

Date Prep: 03.

03.14.18 11.00

Basis:

Units

mg/kg

Flag

U

Dil

1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Analysis Date

03.14.18 17.48

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 03.14.18 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	03.15.18 11.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	03.15.18 11.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	03.15.18 11.36	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	03.15.18 11.36	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	03.15.18 11.36		
o-Terphenyl		84-15-1	94	%	70-135	03.15.18 11.36		





LT Environmental, Inc., Arvada, CO

JRU #19

Soil

Sample Id: EX1-3

Matrix:

Date Received:03.10.18 12.21

Lab Sample Id: 578897-003

Date Collected: 03.09.18 12.22

Sample Depth: 16 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

ALJ

% Moi

% Moisture:

Analyst: ALJ

Date Prep:

03.14.18 16.45

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	03.15.18 07.18	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	03.15.18 07.18	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	03.15.18 07.18	U	1
m,p-Xylenes	179601-23-1	0.00528	0.00404		mg/kg	03.15.18 07.18		1
o-Xylene	95-47-6	0.0108	0.00202		mg/kg	03.15.18 07.18		1
Total Xylenes	1330-20-7	0.0161	0.00202		mg/kg	03.15.18 07.18		1
Total BTEX		0.0161	0.00202		mg/kg	03.15.18 07.18		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	112	%	70-130	03.15.18 07.18		
1,4-Difluorobenzene		540-36-3	98	%	70-130	03.15.18 07.18		



Flagging Criteria



Page 80 of 197

- 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

^{**} Surrogate recovered outside laboratory control limit.



QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: Inorganic Anions by EPA 300

3043793

Matrix: Solid

250

LCSD

251

Prep Method: Date Prep: 03.14.18

E300P

LCS Sample Id: 7640799-1-BKS MB Sample Id: 7640799-1-BLK

LCSD Sample Id: 7640799-1-BSD

20

Parameter

MR Spike Result Amount

< 5.00

LCS LCS Result %Rec

250

LCSD Result %Rec

100

Limits %RPD RPD Limit Units 0

Analysis Date

03.14.18 15:40

Flag

Analytical Method: Inorganic Anions by EPA 300

3043793

Matrix: Soil

Prep Method:

E300P

mg/kg

Seq Number:

Seq Number:

Chloride

100

Date Prep:

03.14.18

Parent Sample Id:

578842-001

MS Sample Id: 578842-001 S MSD Sample Id:

578842-001 SD

Parameter

Spike Parent

MS MS %Rec **MSD MSD**

Limits

90-110

%RPD RPD Limit Units

Analysis Flag

Chloride

Result Amount <4.95 248 Result 257 104

Result 246 %Rec 99 90-110

20 mg/kg Date

Analytical Method: Inorganic Anions by EPA 300

Matrix: Soil

111

Prep Method: Date Prep: E300P

Seq Number: Parent Sample Id: 3043793 578897-001

MS Sample Id:

578897-001 S

MSD Sample Id: 578897-001 SD

5

03.14.18

03.14.18 17:32

03.14.18 15:55

Parameter

Chloride

Spike Parent Result Amount

<4.95

MS MS Result %Rec

275

MSD Result

MSD Limits %Rec 117

%RPD RPD Limit Units

Analysis

Flag Date

X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3043812

Matrix: Solid

248

7640872-1-BKS

290

Prep Method:

20

TX1005P

03.14.18

Date Prep:

mg/kg

MB Sample Id: LCS Sample Id: 7640872-1-BLK MB Spike LCS LCS Limits LCSD LCSD **Parameter** Result Result %Rec Amount %Rec Result

LCSD Sample Id: %RPD RPD Limit Units

7640872-1-BSD Analysis

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

<15.0 <15.0

997 1000 1030 1000

100 103 1190 1180

70-135 119 70-135

90-110

18 35

03.15.18 07:39 mg/kg

Flag

Surrogate

1-Chlorooctane

o-Terphenyl

MB MB %Rec Flag

104

105

LCS LCS %Rec Flag

111

111

118 LCSD LCSD

Flag

%Rec

126

128

14 35 Limits

70-135

70-135

mg/kg

%

03.15.18 07:39 Analysis

Date

Units Date % 03.15.18 07:39

03.15.18 07:39

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



QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3043812 Matrix: Soil

MS Sample Id: 578897-001 S Parent Sample Id: 578897-001

TX1005P Prep Method:

Date Prep: 03.14.18 MSD Sample Id: 578897-001 SD

Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
<15.0	998	1140	114	969	97	70-135	16	35	mg/kg	03.15.18 10:18	
<15.0	998	1140	114	988	99	70-135	14	35	mg/kg	03.15.18 10:18	
	Result <15.0	Result Amount <15.0 998	Result Amount Result <15.0	Result Amount Result %Rec <15.0	Result Amount Result %Rec Result <15.0	Result Amount Result %Rec Result %Rec <15.0	Result Amount Result %Rec Result %Rec Date <15.0				

MS MS **MSD MSD** Limits Units Analysis **Surrogate** Flag %Rec Date Flag %Rec 1-Chlorooctane 117 110 70-135 % 03.15.18 10:18 o-Terphenyl 115 106 70-135 % 03.15.18 10:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043914

MB Sample Id:

7640818-1-BLK

Matrix: Solid

LCS Sample Id: 7640818-1-BKS

SW5030B

Flag

Flag

Date Prep: 03.14.18 LCSD Sample Id: 7640818-1-BSD

Prep Method:

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date
Benzene	< 0.00201	0.100	0.115	115	0.0834	83	70-130	32	35	mg/kg	03.15.18 00:30
Toluene	< 0.00201	0.100	0.111	111	0.0819	81	70-130	30	35	mg/kg	03.15.18 00:30
Ethylbenzene	< 0.00201	0.100	0.114	114	0.0873	86	70-130	27	35	mg/kg	03.15.18 00:30
m,p-Xylenes	< 0.00402	0.201	0.223	111	0.169	84	70-130	28	35	mg/kg	03.15.18 00:30
o-Xylene	< 0.00201	0.100	0.114	114	0.0882	87	70-130	26	35	mg/kg	03.15.18 00:30

LCSD MB MB LCS LCS LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag Flag Date %Rec 03.15.18 00:30 1.4-Difluorobenzene 87 73 71 70-130 % 03.15.18 00:30 4-Bromofluorobenzene 123 129 127 70-130 %

Analytical Method: BTEX by EPA 8021B

Seq Number: 3043921

MB Sample Id:

7640920-1-BLK

Matrix: Solid LCS Sample Id:

7640920-1-BKS

Prep Method: Date Prep:

SW5030B

03.15.18 LCSD Sample Id: 7640920-1-BSD

LCS LCS %RPD RPD Limit Units MB Spike LCSD LCSD Limits Analysis **Parameter** Result Amount Result %Rec %Rec Date Result 03.15.18 11:44 0.101 0.095695 0.107 70-130 Benzene < 0.00202 107 11 35 mg/kg Toluene < 0.00202 0.101 0.0982 97 0.102 102 70-130 4 35 mg/kg 03.15.18 11:44 03.15.18 11:44 Ethylbenzene < 0.00202 0.101 0.102 101 0.107 107 70-130 5 35 mg/kg 0.202 0.208 03.15.18 11:44 < 0.00403 0.200 99 103 70-130 4 35 m,p-Xylenes mg/kg 0.101 03.15.18 11:44 < 0.00202 0.103 102 0.105 70-130 35 o-Xylene 105 2 mg/kg

MB LCS LCS LCSD MB LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag %Rec Flag Date 1,4-Difluorobenzene 88 101 108 70-130 % 03.15.18 11:44 4-Bromofluorobenzene 119 116 119 70-130 % 03.15.18 11:44

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

Flag

Flag

SW5030B



QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: BTEX by EPA 8021B

Prep Method: Seq Number: 3043914 Matrix: Soil Date Prep: 03.14.18

MS Sample Id: 578896-001 S MSD Sample Id: 578896-001 SD Parent Sample Id: 578896-001

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date
Benzene	< 0.00201	0.100	0.0831	83	0.0961	96	70-130	15	35	mg/kg	03.15.18 01:05
Toluene	< 0.00201	0.100	0.0816	82	0.0938	94	70-130	14	35	mg/kg	03.15.18 01:05
Ethylbenzene	< 0.00201	0.100	0.0870	87	0.0977	98	70-130	12	35	mg/kg	03.15.18 01:05
m,p-Xylenes	< 0.00402	0.201	0.168	84	0.191	96	70-130	13	35	mg/kg	03.15.18 01:05
o-Xylene	< 0.00201	0.100	0.0878	88	0.0963	97	70-130	9	35	mg/kg	03.15.18 01:05

MSD MS MS **MSD** Limits Units Analysis **Surrogate** %Rec Flag Flag Date %Rec 71 88 70-130 03.15.18 01:05 1,4-Difluorobenzene % 03.15.18 01:05 119 4-Bromofluorobenzene 127 70-130 %

Analytical Method: BTEX by EPA 8021B

SW5030B Prep Method: Seq Number: 3043921 Matrix: Soil Date Prep: 03.15.18 MS Sample Id: 579173-003 S MSD Sample Id: 579173-003 SD Parent Sample Id: 579173-003

Spike MS %RPD RPD Limit Units MS Limits Analysis **Parent MSD MSD Parameter** Result Amount Result %Rec Date Result %Rec 03.15.18 12:27 70-130 2 Benzene < 0.00199 0.0996 0.0872 88 0.0856 86 35 mg/kg

Toluene < 0.00199 0.0996 0.0842 85 0.0875 88 70-130 4 35 03.15.18 12:27 mg/kg Ethylbenzene < 0.00199 0.0996 0.0876 88 0.0890 89 70-130 2 35 03.15.18 12:27 mg/kg < 0.00398 87 70-130 03.15.18 12:27 m,p-Xylenes 0.199 0.174 87 0 35 mg/kg 0.174 0.0888 70-130 03.15.18 12:27 o-Xylene < 0.00199 0.0996 0.088489 89 35 mg/kg

MS MS **MSD** Limits Units Analysis MSD **Surrogate** %Rec Flag %Rec Flag Date 03.15.18 12:27 1,4-Difluorobenzene 102 95 70-130 % 03.15.18 12:27 4-Bromofluorobenzene 123 117 70-130 %

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

XENCO LABORATORIES Setting the Standard since 1990

CHAIN OF CUSTODY

CHAIN

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Next Day EMERGENCY	Same Day TAT	5 Day TAT		Leve	I II Std QC		Level N	/ (Full Data F	kg /raw dat	-					
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 D Relinquished by Sampler: Relinquished by Sampler: Date Time: JAMA Received By: Received By: Relinquished By: Received By: Received By: Received By: Received By: Received By: Received By: Relinquished By: Received	Next Day EMERGENCY	7 Day TAT		Leve	IIII Std QC+ F	orms [TRRP L	evelIV							
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 D Relinquished by Sampler: Relinquished by: Relinquished By: Relinquished By: Relinquished By: Relinquished By:	3 Day EMERGENCY			Leve	III Report wi	th TRRP che	cklist								
Relinquished by Sampler: Date Time: Date Time: Post School By: Relinquished By: Relinquished By:	TAT Starts Day received by La	/ Lab, if received by 5:00 p	m —	TED BEI OW EA										FED-EX / UPS: Tracking #	
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Released to Imaging: 3/24/2023 11:12:23 AM



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 03/10/2018 12:21:00 PM

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

Work Order #: 578897

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		1.9
#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		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		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)?		N/A
#18 Water VOC samples have zero head	space?	N/A
* Must be completed for after-hours de Analyst:	livery of samples prior to placing in	n the refrigerator
Checklist completed by: Checklist reviewed by:	Katie Lowe Jessica Vermer Jessica Kramer	Date: 03/10/2018 Date: 03/12/2018

Analytical Report 587530

for

LT Environmental, Inc.

Project Manager: Adrian Baker JRU-19 Battery/ 012917057

04-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-14)
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)
Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)





04-JUN-18

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

Reference: XENCO Report No(s): 587530

JRU-19 Battery/ 012917057

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) 587530. 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. 587530 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

Jessian beamer

Project Assistant

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

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Sample Cross Reference 587530



LT Environmental, Inc., Arvada, CO

JRU-19 Battery/ 012917057

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS6	S	05-25-18 10:15	6 In	587530-001

CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: JRU-19 Battery/ 012917057

Project ID: Report Date: 04-JUN-18 Work Order Number(s): 587530 Date Received: 05/30/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052094 BTEX by EPA 8021B

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



Certificate of Analysis Summary 587530

LT Environmental, Inc., Arvada, CO

Project Name: JRU-19 Battery/ 012917057



Project Id: Contact:

Adrian Baker

Project Location: NM

Date Received in Lab: Wed May-30-18 10:40 am

Report Date: 04-JUN-18
Project Manager: Jessica Kramer

Lab Id:	587530-001					
Field Id:	SS6					
Depth:	6- In					
Matrix:	SOIL					
Sampled:	May-25-18 10:15					
Extracted:	May-31-18 15:00					
Analyzed:	May-31-18 23:44					
Units/RL:	mg/kg RL					
	< 0.00200 0.00200					
	< 0.00200 0.00200					
	0.0113 0.00200					
	0.0368 0.00399					
	0.0404 0.00200					
	0.0772 0.00200					
	0.0885 0.00200					
Extracted:	May-31-18 08:30					
Analyzed:	May-31-18 11:56					
Units/RL:	mg/kg RL					
	919 4.99					
Extracted:	May-31-18 07:00					
Analyzed:	May-31-18 13:07					
Units/RL:	mg/kg RL					
	91.7 15.0					
	1870 15.0					
	54.7 15.0					
	2020 15.0					
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL: Extracted: Analyzed: Units/RL:	Field Id: SS6 Depth: 6- In Matrix: SOIL Sampled: May-25-18 10:15 Extracted: May-31-18 15:00 Analyzed: May-31-18 23:44 Units/RL: mg/kg RL <0.00200	Field Id: SS6 Depth: 6- In Matrix: SOIL Sampled: May-25-18 10:15 Extracted: May-31-18 15:00 Analyzed: May-31-18 23:44 Units/RL: mg/kg RL <0.00200 0.00200 0.0113 0.00200 0.0368 0.00399 0.0404 0.00200 0.0772 0.00200 Extracted: May-31-18 08:30 Analyzed: May-31-18 11:56 Units/RL: mg/kg RL 919 4.99 Extracted: May-31-18 07:00 Analyzed: May-31-18 13:07 Units/RL: mg/kg RL 91.7 15.0 1870 15.0 54.7 15.0	Field Id: SS6 Depth: 6- In Matrix: SOIL Sampled: May-25-18 10:15 Extracted: May-31-18 15:00 Analyzed: May-31-18 23:44 Units/RL: mg/kg RL <0.00200 0.00200 0.0113 0.00200 0.0368 0.00399 0.0404 0.00200 0.0772 0.00200 0.0885 0.00200 Extracted: May-31-18 08:30 Analyzed: May-31-18 11:56 Units/RL: mg/kg RL 919 4.99 Extracted: May-31-18 13:07 Units/RL: mg/kg RL 91.7 15.0 1870 15.0 54.7 15.0	Field Id: SS6 Depth: 6- In Matrix: SOIL May-25-18 10:15 Extracted: May-31-18 15:00 Analyzed: May-31-18 23:44 Units/RL: mg/kg RL <0.00200 0.00200 0.0113 0.00200 0.0368 0.00399 0.0404 0.00200 0.0772 0.00200 Extracted: May-31-18 08:30 Analyzed: May-31-18 11:56 Units/RL: mg/kg RL 919 4.99 Extracted: May-31-18 07:00 Analyzed: May-31-18 13:07 Units/RL: mg/kg RL 91.7 15.0 1870 15.0 54.7 15.0	Field Id: SS6 Depth: 6- In Matrix: Sampled: May-25-18 10:15 Extracted: May-31-18 15:00 Analyzed: May-31-18 23:44 Units/RL: mg/kg RL <0.00200 0.00200 0.00200 0.0113 0.00200 0.00200 0.0368 0.00399 0.0040 0.0772 0.00200 0.00200 Extracted: May-31-18 08:30 Analyzed: Units/RL: mg/kg RL 919 4.99 Extracted: Analyzed: May-31-18 13:07 Units/RL: mg/kg RL Units/RL: mg/kg RL 91.7 15.0 Units/RL: mg/kg RL 91.7 15.0 Units/RL: 1870 15.0 1870 15.0 1870 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

Jessia Mannee

Jessica Kramer Project Assistant





LT Environmental, Inc., Arvada, CO

JRU-19 Battery/ 012917057

05.31.18 08.30

Sample Id: **SS6** Lab Sample Id: 587530-001

Soil Matrix:

Date Received:05.30.18 10.40

Date Collected: 05.25.18 10.15

Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

SCM

% Moisture:

Tech: SCM Analyst:

Date Prep:

Basis:

Wet Weight

Seq Number: 3051902

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 919 05.31.18 11.56 4.99 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

05.31.18 07.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	91.7	15.0		mg/kg	05.31.18 13.07		1
Diesel Range Organics (DRO)	C10C28DRO	1870	15.0		mg/kg	05.31.18 13.07		1
Oil Range Hydrocarbons (ORO)	PHCG2835	54.7	15.0		mg/kg	05.31.18 13.07		1
Total TPH	PHC635	2020	15.0		mg/kg	05.31.18 13.07		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	91	%	70-135	05.31.18 13.07		
o-Terphenyl		84-15-1	113	%	70-135	05.31.18 13.07		





LT Environmental, Inc., Arvada, CO

JRU-19 Battery/ 012917057

Sample Id: SS6

Lab Sample Id: 587530-001

Matrix: Soil
Date Collected: 05.25.18 10.15

Date Received:05.30.18 10.40

Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B % Moisture:

Tech: JUM

Analyst:

JUM

Date Prep: 05.31.18 15.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	05.31.18 23.44	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	05.31.18 23.44	U	1
Ethylbenzene	100-41-4	0.0113	0.00200		mg/kg	05.31.18 23.44		1
m,p-Xylenes	179601-23-1	0.0368	0.00399		mg/kg	05.31.18 23.44		1
o-Xylene	95-47-6	0.0404	0.00200		mg/kg	05.31.18 23.44		1
Total Xylenes	1330-20-7	0.0772	0.00200		mg/kg	05.31.18 23.44		1
Total BTEX		0.0885	0.00200		mg/kg	05.31.18 23.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	127	%	70-130	05.31.18 23.44		
1,4-Difluorobenzene		540-36-3	89	%	70-130	05.31.18 23.44		



Flagging Criteria



Page 93 of 197

- 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

^{**} Surrogate recovered outside laboratory control limit.



QC Summary 587530

LT Environmental, Inc.

JRU-19 Battery/ 012917057

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3051902

MR

Matrix: Solid

E300P Prep Method:

Date Prep:

05.31.18

LCS Sample Id: 7655767-1-BKS LCSD Sample Id: 7655767-1-BSD MB Sample Id: 7655767-1-BLK

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

05.31.18 09:22 Chloride < 5.00 250 269 108 269 108 90-110 0 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3051902

Parent Sample Id:

587377-005

Matrix: Soil MS Sample Id: 587377-005 S Prep Method: Date Prep:

E300P

05.31.18

MSD Sample Id: 587377-005 SD

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

Chloride 5.25 250 277 109 278 109 90-110 0 20 mg/kg 05.31.18 09:38

Analytical Method: Inorganic Anions by EPA 300

3051902 Seq Number:

Matrix: Soil

Prep Method: Date Prep: E300P

05.31.18

Flag

Flag

MS Sample Id: 587528-001 S MSD Sample Id: 587528-001 SD 587528-001 Parent Sample Id:

MS Parent Spike MS **MSD**

%RPD RPD Limit Units **Analysis**

Parameter Result Date Result %Rec Amount Result %Rec Chloride <4.92 271 110 271 90-110 0 20 05.31.18 10:52 246 110 mg/kg

Analytical Method: TPH by SW8015 Mod

Seq Number:

3052046

Matrix: Solid

MSD

Limits

Prep Method:

TX1005P

Date Prep: 05.31.18

LCSD Sample Id: 7655868-1-BSD LCS Sample Id: 7655868-1-BKS MB Sample Id: 7655868-1-BLK

%RPD RPD Limit Units MB Spike LCS LCS LCSD Limits Analysis LCSD **Parameter** Result %Rec Date Result Amount %Rec Result Gasoline Range Hydrocarbons (GRO) 920 92 70-135 4 20 05.31.18 10:15 <15.0 1000 953 95 mg/kg 05.31.18 10:15 993 99 70-135 5 20 Diesel Range Organics (DRO) 1000 1040 104 <15.0 mg/kg

LCS LCSD MB MB LCS LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag Flag Date %Rec 1-Chlorooctane 86 126 128 70-135 % 05.31.18 10:15 05.31.18 10:15 o-Terphenyl 92 119 121 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



Seq Number:

Parameter

Parent Sample Id:

QC Summary 587530

LT Environmental, Inc.

JRU-19 Battery/ 012917057

MSD

Result

Limits

MSD

%Rec

Analytical Method: TPH by SW8015 Mod

3052046 Matrix: Soil

Spike

Amount

Parent

Result

MS Sample Id: 587529-001 S 587529-001

MS

Result

TX1005P Prep Method:

Date Prep: 05.31.18

MSD Sample Id: 587529-001 SD

%RPD RPD Limit Units Analysis Flag Date

Gasoline Range Hydrocarbons (GRO) 05.31.18 11:19 <15.0 999 896 90 894 90 70-135 0 20 mg/kg 979 98 980 20 05.31.18 11:19 Diesel Range Organics (DRO) <15.0 999 98 70-135 0 mg/kg

MS

%Rec

MS MS **MSD MSD** Limits Units Analysis **Surrogate** Flag %Rec %Rec Flag Date 1-Chlorooctane 102 103 70-135 % 05.31.18 11:19 o-Terphenyl 103 104 70-135 % 05.31.18 11:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052094

Matrix: Solid

Prep Method:

SW5030B

Flag

Date Prep: 05.31.18

LCS Sample Id: 7655894-1-BKS LCSD Sample Id: 7655894-1-BSD 7655894-1-BLK MB Sample Id:

%RPD RPD Limit Units LCS LCS MB Spike Limits Analysis **LCSD** LCSD **Parameter** Date Result Amount Result %Rec Result %Rec 102 05.31.18 18:01 Benzene < 0.00200 0.100 0.102 0.0961 96 70-130 6 35 mg/kg Toluene < 0.00200 0.100 0.0948 95 0.0990 99 70-130 35 mg/kg 05.31.18 18:01 4 05.31.18 18:01 0.0949 95 70-130 35 Ethylbenzene < 0.00200 0.100 0.0962 96 1 mg/kg m,p-Xylenes < 0.00401 0.200 0.201 101 0.202 100 70-130 0 35 mg/kg 05.31.18 18:01 0.109 70-130 35 05.31.18 18:01 o-Xylene < 0.00200 0.100 109 0.107 mg/kg

LCSD MB MB LCS LCS LCSD Limits Units Analysis **Surrogate** %Rec %Rec Flag Flag Flag Date %Rec 1.4-Difluorobenzene 101 93 91 70-130 % 05.31.18 18:01 05.31.18 18:01 4-Bromofluorobenzene 86 103 70-130 % 125

Matrix: Soil

Analytical Method: BTEX by EPA 8021B

Seq Number: 3052094

Parent Sample Id:

587374-002

SW5030B

Date Prep: 05.31.18

Prep Method:

MS Sample Id: 587374-002 S

MS Parent Spike MS Limits Units Analysis Flag **Parameter** Result Amount Result %Rec Date 05.31.18 18:35 0.0992 20 70-130 Benzene 0.00616 0.0262 mg/kg X Toluene 0.0459 0.0992 0.0540 8 70-130 05.31.18 18:35 X mg/kg 05.31.18 18:35 Ethylbenzene 0.0117 0.0992 0.0177 6 70-130 X mg/kg 05.31.18 18:35 X 0.0893 0.198 0.0957 3 70-130 m,p-Xylenes mg/kg 05.31.18 18:35 0.0334 2 X o-Xylene 0.0314 0.0992 70-130 mg/kg

MS MS Limits Units Analysis **Surrogate** %Rec Flag Date 1,4-Difluorobenzene 81 70-130 % 05.31.18 18:35 4-Bromofluorobenzene 102 70-130 % 05.31.18 18:35

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

Setting the Standard since 1990.

1.1. Unit #153, Middland, TX, 79705 Project Special Control (1.7. 1970) Project Special Control (1.7.	Stafford, Texas (281-240-4200)		San	San Antonio, Texas (210-509-3334)	Texas (2	10-509-3	334)					Ph	Phoenix, Arizona (480-355-0900)	rizona (480-35	-0900)					
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TO SHOULD BE CONTROLLED TO SHO	property exhausted montage by the change in agency	of the same of the first months and the	valid junches	e cided from	client comp	any in Xu	no, de all	litte ontid	Huconine	miors. If as	riets subin	dand James	Hend Date	s to endin	AX GOLVIE	do will h	s littible or	ly for the	cost of a	ant eaglan	to to Allights transported manages and parts p



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 05/30/2018 10:40:00 AM

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

Work Order #: 587530

Temperature Measuring device used: R8

VVOIR Older #. 307330	-	_	
	Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		3	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on shipping contain	ner/ 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 relinquish	ed/ received?	Yes	
#10 Chain of Custody agrees with sample la	abels/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 to	test(s)?	Yes	
#16 All samples received within hold time?		Yes	
#17 Subcontract of sample(s)?		No	
#18 Water VOC samples have zero headsp	ace?	N/A	
* Must be completed for after-hours delive	ery of samples prior to placing in	the refriger	ator
Analyst:	PH Device/Lot#:		

#18 Water VOC samples have zero hea	adspace?	N/A
Must be completed for after-hours d	lelivery of samples prior to placing PH Device/Lot#:	in the refrigerator
Checklist completed by:	Martie Lowe	Date: 05/30/2018
Checklist reviewed by:	Jessica Warner Jessica Kramer	Date: 05/30/2018

Analytical Report 587531

for

LT Environmental, Inc.

Project Manager: Adrian Baker
JRU 29 SWD @ JRU 19/ 012917057

06-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-14)
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)
Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)





06-JUN-18

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

Reference: XENCO Report No(s): 587531

JRU 29 SWD @ JRU 19/012917057

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) 587531. 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. 587531 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

Jessich Werner

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 587531



LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW1	S	05-25-18 11:30	1 ft	587531-001
SW2	S	05-25-18 11:35	1 ft	587531-002
SW3	S	05-25-18 11:40	1 ft	587531-003
SW4	S	05-25-18 11:45	1 ft	587531-004
SW5	S	05-25-18 11:50	1 ft	587531-005
SW6	S	05-25-18 11:55	1 ft	587531-006
SW7	S	05-25-18 12:00	1 ft	587531-007
SW8	S	05-25-18 12:05	1 ft	587531-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 29 SWD @ JRU 19/012917057

Project ID: Report Date: 06-JUN-18 Work Order Number(s): 587531 Date Received: 05/30/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3052091 Inorganic Anions by EPA 300

Lab Sample ID 587531-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 587531-007, -008.

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

Batch: LBA-3052345 BTEX by EPA 8021B

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



Certificate of Analysis Summary 587531

LT Environmental, Inc., Arvada, CO

Project Name: JRU 29 SWD @ JRU 19/012917057

Project Id: Contact:

Adrian Baker

Project Location: NM

Date Received in Lab: Wed May-30-18 10:48 am

Report Date: 06-JUN-18

Project Manager: Jessica Kramer

	1									ı	1		
	Lab Id:	587531-0	001	587531-0	002	587531-0	003	587531-	004	587531-	005	587531-0	006
Analysis Requested	Field Id:	SW1		SW2		SW3		SW4		SW5		SW6	
Analysis Requesieu	Depth:	1- ft		1- ft		1- ft		1- ft		1- ft		1- ft	
	Matrix:	SOIL	,	SOIL	,	SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	May-25-18	11:30	May-25-18	11:35	May-25-18	11:40	May-25-18	11:45	May-25-18	11:50	May-25-18	11:55
BTEX by EPA 8021B	Extracted:	Jun-05-18	08:00	Jun-05-18	08:00	Jun-05-18 (08:00	Jun-05-18	08:00	Jun-05-18	08:00	Jun-05-18	08:00
	Analyzed:	Jun-05-18	19:29	Jun-05-18	17:59	Jun-05-18	18:17	Jun-05-18	18:35	Jun-05-18	18:53	Jun-05-18	19:11
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene	·	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200
Toluene		< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200
Ethylbenzene		< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200
m,p-Xylenes		< 0.00402	0.00402	< 0.00401	0.00401	< 0.00398	0.00398	< 0.00399	0.00399	0.00438	0.00402	< 0.00401	0.00401
o-Xylene		< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	0.00314	0.00201	< 0.00200	0.00200
Total Xylenes		< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	0.00752	0.00201	< 0.00200	0.00200
Total BTEX		< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	< 0.00200	0.00200	0.00752	0.00201	< 0.00200	0.00200
Inorganic Anions by EPA 300	Extracted:	May-31-18	12:00	May-31-18	12:00	May-31-18	12:00	May-31-18	12:00	May-31-18	12:00	May-31-18	12:00
	Analyzed:	Jun-01-18	11:42	Jun-01-18	11:48	Jun-01-18	11:53	Jun-01-18	11:58	Jun-01-18	12:04	Jun-01-18	12:09
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		38.6	4.98	34.2	4.99	13.2	4.96	163	4.96	261	4.99	28.9	5.00
TPH by SW8015 Mod	Extracted:	May-31-18	07:00	May-31-18	07:00	May-31-18	07:00	May-31-18	07:00	May-31-18	07:00	May-31-18	07:00
	Analyzed:	May-31-18	13:26	Jun-01-18	04:49	Jun-01-18 (05:10	Jun-01-18	05:31	May-31-18	14:39	May-31-18	17:03
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	111	74.7	<14.9	14.9
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	9330	74.7	140	14.9
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	311	74.7	<14.9	14.9
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	9750	74.7	140	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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Certificate of Analysis Summary 587531

LT Environmental, Inc., Arvada, CO

Project Name: JRU 29 SWD @ JRU 19/012917057



Project Id: Contact:

Adrian Baker

Project Location: NM

Date Received in Lab: Wed May-30-18 10:48 am

Report Date: 06-JUN-18

Project Manager: Jessica Kramer

	Lab Id:	587531-0	007	587531-0	800			
Analysis Requested	Field Id:	SW7		SW8				
Analysis Requesieu	Depth:	1- ft		1- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	May-25-18	12:00	May-25-18	12:05			
BTEX by EPA 8021B	Extracted:	Jun-05-18 (08:00	Jun-05-18 0	08:00			
	Analyzed:	Jun-05-18 2	20:06	Jun-05-18 1	9:48			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		< 0.00200	0.00200	< 0.00199	0.00199			
Toluene		< 0.00200	0.00200	< 0.00199	0.00199			
Ethylbenzene		< 0.00200	0.00200	< 0.00199	0.00199			
m,p-Xylenes		< 0.00399	0.00399	< 0.00398	0.00398			
o-Xylene		< 0.00200	0.00200	< 0.00199	0.00199			
Total Xylenes		< 0.00200	0.00200	< 0.00199	0.00199			
Total BTEX		< 0.00200	0.00200	< 0.00199	0.00199			
Inorganic Anions by EPA 300	Extracted:	May-31-18	15:00	May-31-18	15:00			
	Analyzed:	Jun-01-18	12:42	Jun-01-18 1	2:58			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		77.0	4.98	23.9	4.97			
TPH by SW8015 Mod	Extracted:	May-31-18	07:00	May-31-18	07:00			
	Analyzed:	May-31-18	18:08	May-31-18	18:27			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		82.4	15.0	<15.0	15.0			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0			
Total TPH		82.4	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.

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Jessia Mannee

Jessica Kramer Project Assistant





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW1

Matrix: Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-001

Date Collected: 05.25.18 11.30

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

SCM

% Moisture:

Analyst: SCM

Date Prep:

05.31.18 12.00

Basis:

Wet Weight

Seq Number: 3052090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.6	4.98	mg/kg	06.01.18 11.42		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 05.31.18 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	05.31.18 13.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	05.31.18 13.26	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	05.31.18 13.26	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.31.18 13.26	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	90	%	70-135	05.31.18 13.26		
o-Terphenyl		84-15-1	90	%	70-135	05.31.18 13.26		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

Soil

Sample Id: SW1

Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-001

Date Collected: 05.25.18 11.30

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.05.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	06.05.18 19.29	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	06.05.18 19.29	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	110	%	70-130	06.05.18 19.29		
1,4-Difluorobenzene		540-36-3	100	%	70-130	06.05.18 19.29		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW2

Matrix:

Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-002

Date Collected: 05.25.18 11.35

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

SCM

% Moisture:

Tech:

Analyst:

SCM SCM

Date Prep:

05.31.18 12.00

Basis:

Wet Weight

Seq Number: 3052090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.2	4.99	mg/kg	06.01.18 11.48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

AR

ARM

% Moisture:

Analyst: ARM

Tech:

Date Prep: 05.31.18 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	06.01.18 04.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.01.18 04.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.01.18 04.49	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.01.18 04.49	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	87	%	70-135	06.01.18 04.49		
o-Terphenyl		84-15-1	84	%	70-135	06.01.18 04.49		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

Soil

Sample Id: SW2

Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-002

Date Collected: 05.25.18 11.35

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.05.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	06.05.18 17.59	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.05.18 17.59	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	97	%	70-130	06.05.18 17.59		
4-Bromofluorobenzene		460-00-4	94	%	70-130	06.05.18 17.59		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW3 Matrix: Soil Date Received:05.30.18 10.48

Lab Sample Id: 587531-003

Date Collected: 05.25.18 11.40

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

SCM

% Moisture:

SCM Analyst:

Seq Number: 3052090

Date Prep:

05.31.18 12.00

Basis:

Wet Weight

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 06.01.18 11.53 13.2 4.96 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech:

ARM

% Moisture:

ARM Analyst:

05.31.18 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	06.01.18 05.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.01.18 05.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.01.18 05.10	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.01.18 05.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	99	%	70-135	06.01.18 05.10		
o-Terphenyl		84-15-1	96	%	70-135	06.01.18 05.10		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW3 Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-003

Soil Date Collected: 05.25.18 11.40

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Seq Number: 3052345

Date Prep:

06.05.18 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1
Toluene	108-88-3	< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398	mg/kg	06.05.18 18.17	U	1
o-Xylene	95-47-6	< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1
Total BTEX		< 0.00199	0.00199	mg/kg	06.05.18 18.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	06.05.18 18.17	
4-Bromofluorobenzene	460-00-4	112	%	70-130	06.05.18 18.17	





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW4

Matrix:

Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-004

Date Collected: 05.25.18 11.45

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: Analyst: SCM SCM

Date Prep: 05.31.18 12.00

% Moisture:

Basis:

Wet Weight

Seq Number: 3052090

Seq Number. 3032070

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	163	4.96	mg/kg	06.01.18 11.58		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ARM ARM

Date Prep: 05.31.18 07.00

Basis: We

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.01.18 05.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.01.18 05.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.01.18 05.31	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.01.18 05.31	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	06.01.18 05.31		
o-Terphenyl		84-15-1	87	%	70-135	06.01.18 05.31		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

Soil

06.05.18 08.00

Sample Id: SW4

Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-004

Date Collected: 05.25.18 11.45

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ 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	06.05.18 18.35	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.05.18 18.35	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.05.18 18.35	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	06.05.18 18.35	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.05.18 18.35	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.05.18 18.35	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.05.18 18.35	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	120	%	70-130	06.05.18 18.35		
1,4-Difluorobenzene		540-36-3	92	%	70-130	06.05.18 18.35		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW5

Matrix:

Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-005

Date Collected: 05.25.18 11.50

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:
Analyst:

SCM SCM

Date Prep:

05.31.18 12.00

% Moisture: Basis:

Wet Weight

Seq Number: 3052090

 Parameter
 Cas Number
 Result
 RL
 Units
 Analysis Date
 Flag
 Dil

 Chloride
 16887-00-6
 261
 4.99
 mg/kg
 06.01.18 12.04
 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep:

05.31.18 07.00

Basis: Wet

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	111	74.7		mg/kg	05.31.18 14.39		5
Diesel Range Organics (DRO)	C10C28DRO	9330	74.7		mg/kg	05.31.18 14.39		5
Oil Range Hydrocarbons (ORO)	PHCG2835	311	74.7		mg/kg	05.31.18 14.39		5
Total TPH	PHC635	9750	74.7		mg/kg	05.31.18 14.39		5
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	87	%	70-135	05.31.18 14.39		
o-Terphenyl		84-15-1	116	%	70-135	05.31.18 14.39		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

06.05.18 08.00

Sample Id: SW5

Matrix: Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-005

Date Collected: 05.25.18 11.50

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

ALJ

% Moisture:

Analyst: ALJ

Date Prep:

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	06.05.18 18.53	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	06.05.18 18.53	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	06.05.18 18.53	U	1
m,p-Xylenes	179601-23-1	0.00438	0.00402		mg/kg	06.05.18 18.53		1
o-Xylene	95-47-6	0.00314	0.00201		mg/kg	06.05.18 18.53		1
Total Xylenes	1330-20-7	0.00752	0.00201		mg/kg	06.05.18 18.53		1
Total BTEX		0.00752	0.00201		mg/kg	06.05.18 18.53		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	115	%	70-130	06.05.18 18.53		
1,4-Difluorobenzene		540-36-3	100	%	70-130	06.05.18 18.53		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW6

Matrix:

Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-006

Date Collected: 05.25.18 11.55

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

SCM

% Moisture:

Analyst: SCM

Date Prep:

05.31.18 12.00

Basis:

Wet Weight

Seq Number: 3052090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.9	5.00	mg/kg	06.01.18 12.09		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

ARM ARM

Date Prep: 05.31.18 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	05.31.18 17.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	140	14.9		mg/kg	05.31.18 17.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9		mg/kg	05.31.18 17.03	U	1
Total TPH	PHC635	140	14.9		mg/kg	05.31.18 17.03		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	78	%	70-135	05.31.18 17.03		
o-Terphenyl		84-15-1	77	%	70-135	05.31.18 17.03		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

Sample Id: SW6

Matrix: Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-006

Date Collected: 05.25.18 11.55

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.05.18 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	06.05.18 19.11	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.05.18 19.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	88	%	70-130	06.05.18 19.11		
4-Bromofluorobenzene		460-00-4	110	%	70-130	06.05.18 19.11		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Soil

Sample Id: SW7

Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-007

Date Collected: 05.25.18 12.00

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SC

SCM

% Moisture:

Analyst: SCM

Date Prep:

05.31.18 15.00

Basis:

Wet Weight

Seq Number: 3052091

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	77.0	4.98	mg/kg	06.01.18 12.42		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 05.31.18 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	05.31.18 18.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	82.4	15.0		mg/kg	05.31.18 18.08		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	05.31.18 18.08	U	1
Total TPH	PHC635	82.4	15.0		mg/kg	05.31.18 18.08		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	83	%	70-135	05.31.18 18.08		
o-Terphenyl		84-15-1	83	%	70-135	05.31.18 18.08		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

06.05.18 08.00

Sample Id: SW7

Matrix: Soil

Date Received:05.30.18 10.48

Lab Sample Id: 587531-007 Date Collected: 05.25.18 12.00

Sample Depth: 1 ft

Basis:

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Wet Weight

Tech: ALJ

% Moisture:

Seq Number: 3052345

Analyst:

ALJ

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1
Toluene	108-88-3	< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399	mg/kg	06.05.18 20.06	U	1
o-Xylene	95-47-6	< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1
Total BTEX		< 0.00200	0.00200	mg/kg	06.05.18 20.06	U	1

Date Prep:

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	06.05.18 20.06	
4-Bromofluorobenzene	460-00-4	94	%	70-130	06.05.18 20.06	





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/012917057

Sample Id: SW8 Matrix: Soil Date Received:05.30.18 10.48

Lab Sample Id: 587531-008 Date Collected: 05.25.18 12.05 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

SCM

% Moisture:

Tech: SCM Analyst:

Date Prep: 05.31.18 15.00 Basis:

Wet Weight

Seq Number: 3052091

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.97	mg/kg	06.01.18 12.58		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARMARM

05.31.18 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	05.31.18 18.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	05.31.18 18.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	05.31.18 18.27	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.31.18 18.27	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	71	%	70-135	05.31.18 18.27		
o-Terphenyl		84-15-1	71	%	70-135	05.31.18 18.27		





LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

Soil

Sample Id: SW8

Matrix:

Date Received:05.30.18 10.48

Lab Sample Id: 587531-008

Date Collected: 05.25.18 12.05

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.05.18 08.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	06.05.18 19.48	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	06.05.18 19.48	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	124	%	70-130	06.05.18 19.48		
1,4-Difluorobenzene		540-36-3	112	%	70-130	06.05.18 19.48		



Flagging Criteria



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- 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.
- RPD exceeded lab control limits.
- The target analyte was positively identified below the quantitation limit and above the detection limit.
- Analyte was not detected.
- 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.

Reporting Limit RL

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

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

Method Detection Limit \mathbf{DL}

NC Non-Calculable

BLK Method Blank **SMP** Client Sample

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

^{**} Surrogate recovered outside laboratory control limit.



QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/ 012917057

Analytical Method:Inorganic Anions by EPA 300Prep Method:E300PSeq Number:3052090Matrix:SolidDate Prep:05.31.18

MB Sample Id: 7655801-1-BLK LCS Sample Id: 7655801-1-BKS LCSD Sample Id: 7655801-1-BSD

MR Spike LCS LCS Limits %RPD RPD Limit Units LCSD LCSD Analysis Flag **Parameter** Result Amount Result %Rec Date %Rec Result 06.01.18 09:33 Chloride < 5.00 250 275 110 274 110 90-110 0 20 mg/kg

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

Seq Number: 3052091 Matrix: Solid Date Prep: 05.31.18

MB Sample Id: 7655802-1-BLK LCS Sample Id: 7655802-1-BKS LCSD Sample Id: 7655802-1-BSD

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis Flag **Parameter** Result Date Result Amount %Rec Result %Rec Chloride < 5.00 250 275 110 274 110 90-110 0 20 mg/kg 06.01.18 12:31

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

 Seq Number:
 3052090
 Matrix:
 Soil
 Date Prep:
 05.31.18

 Parent Sample Id:
 587510-004
 MS Sample Id:
 587510-004 S
 MSD Sample Id:
 587510-004 SD

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

Analytical Method: Inorganic Anions by EPA 300 Prep Method:

 Seq Number:
 3052090
 Matrix:
 Soil
 Date Prep:
 05.31.18

 Parent Sample Id:
 587532-003
 MS Sample Id:
 587532-003 SD
 MSD Sample Id:
 587532-003 SD

MS %RPD RPD Limit Units Parent Spike MS **MSD MSD** Limits Analysis Flag **Parameter** Result %Rec Date Result Amount Result %Rec Chloride 74.1 249 356 113 354 90-110 20 06.01.18 09:49 112 mg/kg X 1

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3052091 Matrix: Soil Date Prep: 05.31.18

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 Seq Number:
 3052091
 Matrix:
 Soil
 Date Prep:
 05.31.18

 Parent Sample Id:
 587381-009
 MS Sample Id:
 587381-009 SD
 MSD Sample Id:
 587381-009 SD

118

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

291

118

90-110

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

Log Difference

Chloride

$$\begin{split} [D] &= 100*(C\text{-A}) \, / \, B \\ RPD &= 200* \mid (C\text{-E}) \, / \, (C\text{+E}) \mid \\ [D] &= 100*(C) \, / \, [B] \end{split}$$

<4.94

247

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

LCS = Laboratory Control Sample A = Parent Result

0

20

mg/kg

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

05.31.18 18:32

X

E300P

Flag

Flag



QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/012917057

Analytical Method: Inorganic Anions by EPA 300

3052091 Matrix: Soil

E300P Prep Method:

Date Prep: 05.31.18

Seq Number: MS Sample Id: 587531-007 S MSD Sample Id: 587531-007 SD Parent Sample Id: 587531-007

Spike MS MS Limits %RPD RPD Limit Units Parent **MSD MSD** Analysis Flag **Parameter** Result Amount Result Date %Rec %Rec Result 06.01.18 12:47 Chloride 77.0 249 374 119 369 117 90-110 20 mg/kg X

Analytical Method: TPH by SW8015 Mod

Seq Number:

3052046

Matrix: Solid

TX1005P Prep Method:

Date Prep: 05.31.18

MB Sample Id: 7655868-1-BLK LCS Sample Id: 7655868-1-BKS

LCSD Sample Id: 7655868-1-BSD

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis **Parameter** Result %Rec Date Result Amount Result %Rec Gasoline Range Hydrocarbons (GRO) 1000 920 92 953 95 70-135 4 20 05.31.18 10:15 <15.0 mg/kg Diesel Range Organics (DRO) 1000 993 99 1040 70-135 5 20 05.31.18 10:15 <15.0 104 mg/kg

MB MB LCS LCS LCSD LCSD Limits Units Analysis Surrogate %Rec Flag %Rec Flag %Rec Flag Date 05.31.18 10:15 1-Chlorooctane 86 126 128 70-135 % 92 119 121 70-135 05.31.18 10:15 o-Terphenyl %

Analytical Method: TPH by SW8015 Mod

Seq Number: 3052046

Matrix: Soil

Prep Method: TX1005P

Date Prep: 05.31.18

Parent Sample Id:

MS Sample Id: 587529-001 S MSD Sample Id: 587529-001 SD 587529-001

MS MS %RPD RPD Limit Units Analysis Parent Spike **MSD** MSD Limits **Parameter** Result Amount Result %Rec Date Result %Rec Gasoline Range Hydrocarbons (GRO) 05.31.18 11:19 <15.0 999 896 90 894 90 70-135 0 20 mg/kg 999 979 98 980 70-135 0 20 05.31.18 11:19 Diesel Range Organics (DRO) <15.0 98 mg/kg

MS MS **MSD** Limits Units Analysis **MSD Surrogate** %Rec Flag %Rec Flag Date 05.31.18 11:19 102 103 1-Chlorooctane 70-135 % 05.31.18 11:19 o-Terphenyl 103 104 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



QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/ 012917057

Analytical Method:BTEX by EPA 8021BPrep Method:SW5030BSeq Number:3052345Matrix:SolidDate Prep:06.05.18

MB Sample Id: 7656015-1-BLK LCS Sample Id: 7656015-1-BKS LCSD Sample Id: 7656015-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date
Benzene	< 0.00200	0.0998	0.0933	93	0.0941	94	70-130	1	35	mg/kg	06.05.18 10:10
Toluene	< 0.00200	0.0998	0.0961	96	0.0985	99	70-130	2	35	mg/kg	06.05.18 10:10
Ethylbenzene	< 0.00200	0.0998	0.0955	96	0.0965	97	70-130	1	35	mg/kg	06.05.18 10:10
m,p-Xylenes	< 0.00399	0.200	0.196	98	0.199	99	70-130	2	35	mg/kg	06.05.18 10:10
o-Xylene	< 0.00200	0.0998	0.0940	94	0.0959	96	70-130	2	35	mg/kg	06.05.18 10:10
Surragata	MB	MB	L	CS I	LCS	LCSI	LCS	D L	imits	Units	Analysis

Surrogate Flag %Rec Flag Flag Date %Rec %Rec 1,4-Difluorobenzene 99 91 101 06.05.18 10:10 70-130 % 93 06.05.18 10:10 4-Bromofluorobenzene 125 104 70-130 %

Analytical Method:BTEX by EPA 8021BPrep Method:SW 5030BSeq Number:3052345Matrix: SoilDate Prep:06.05.18

Parent Sample Id: 587449-001 MS Sample Id: 587449-001 S MSD Sample Id: 587449-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Benzene	< 0.00199	0.0996	0.0716	72	0.0778	78	70-130	8	35	mg/kg	06.05.18 11:04	
Toluene	< 0.00199	0.0996	0.0556	56	0.0769	77	70-130	32	35	mg/kg	06.05.18 11:04	X
Ethylbenzene	< 0.00199	0.0996	0.0367	37	0.0623	62	70-130	52	35	mg/kg	06.05.18 11:04	XF
m,p-Xylenes	< 0.00398	0.199	0.0717	36	0.137	69	70-130	63	35	mg/kg	06.05.18 11:04	XF
o-Xylene	< 0.00199	0.0996	0.0345	35	0.0653	65	70-130	62	35	mg/kg	06.05.18 11:04	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		90		70-130	%	06.05.18 11:04
4-Bromofluorobenzene	122		96		70-130	%	06.05.18 11:04

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference
$$\begin{split} [D] &= 100*(\text{C-A}) \, / \, B \\ RPD &= 200* \mid (\text{C-E}) \, / \, (\text{C+E}) \mid \\ [D] &= 100*(\text{C}) \, / \, [B] \end{split}$$

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

LCS = Laboratory Control Sample A = Parent Result

C = MS/LCS Result

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

Dallas Texas (214-902-0300)	Stafford, Texas (281-240-420	Setting the Standard strice 199	NA NA NA NA NA NA NA NA NA NA NA NA NA N
2-0300)	240-4200)	Shipe 1990	BORATORIES

Setting the Standard store (990 Stafford, Texas (281-240-4200)	San Antonio, Texas (210-509-3334)	Phoenix, Arizona (480-356-0900)	
Dalids (exas (214-202-500))	midiand, rexas (452-404-6261)	Xence Quote # Xence Job # 5	553
		Analytical Information	Matrix Codes
Company Name / Branch: LY Environmental. Inc Permian Office	Project Name/Number: TRU 29	013417057	W = Water
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705	Project Location:		GW =Ground Water DW = Drinking Water P = Product
Email:	Phono No: Invoice To: XTO Energy - Kyla Littell		SW = Surface water SL = Sludge
Project Contact:	(192) 101-0(10	(Wi = Wipe
Adrian Baker	PONUMBER ARP-3466	· su	O = Oil
Sample of the same	To K	1	A = Air
No. Field ID / Point of Collection	Sample Sample Time Matrix bottles E	H2SO4 N#OH N#HSO4 MEOH NONE RT	Field Comments
1 SW)	5-35-1130 500		
2 SWJ	•		
	1/40		
4 SWH	7. 1145		
s Sw5	J' N54		
9 SWS .	J. 1155		
7 SW7	2' \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
e SWS	た き とり	+ + +	
σ			
10			
Same Day TAT	SON TAT	Pared IV/Edil Total Block Services	
RGENCY	Level III Std QC+ Forms	TRRP Level IV	
	Contract TAT Level 3 (CLP Forms)	UST/RG-411	
3 Day EMERGENCY	Applicated TRRP Chockist		
TAT Starts Day received by Lab, if received by 5:00 pm	eceived by 5:00 pm	FED-EX/UPS: Tracking #	
Relinquished by Sampler:	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COUNTER DELIVERY Regived By: Raijingvichod By: 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Radinquishod By: Date Time: 550 Racewadby:	P. Celiga
Relinguistified by:		1040 4 BONDE	
Relinguished by:	Date Time: Received By:	On loc	Cooler Temp. Thermo, Corr., Factor



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 05/30/2018 10:48:46 AM

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

Work Order #: 587531

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments							
#1 *Temperature of cooler(s)?		3							
#2 *Shipping container in good condition	?	Yes							
#3 *Samples received on ice?		Yes							
#4 *Custody Seals intact on shipping 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?		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: Checklist reviewed by:	Matie Lowe Jessica Mamer	Date: 05/30/2018							
	Jessica Kramer	Date: <u>05/30/2018</u>							

Analytical Report 590546

for

LT Environmental, Inc.

Project Manager: Adrian Baker
JRU19

05-JUL-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)





05-JUL-18

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

Reference: XENCO Report No(s): 590546

JRU19

Project Address: NM 2RP-4644

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) 590546. 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. 590546 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 beamer

Project Assistant

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

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Sample Cross Reference 590546



LT Environmental, Inc., Arvada, CO

JRU19

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW8	S	06-20-18 11:00	2 ft	590546-001
SW9	S	06-20-18 11:48	1.5 ft	590546-002
SS3A	S	06-20-18 12:00	1.5 ft	590546-003
SS6	S	06-20-18 12:30	.5 ft	590546-004
SS7	S	06-20-18 13:37	.5 ft	590546-005
SS8	S	06-20-18 13:48	.5 ft	590546-006
FS01	S	06-21-18 11:30	1 ft	590546-007

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU19

Project ID: Report Date: 05-JUL-18 Work Order Number(s): 590546 Date Received: 06/27/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3055148 BTEX by EPA 8021B

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

Batch: LBA-3055149 BTEX by EPA 8021B

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



Certificate of Analysis Summary 590546

LT Environmental, Inc., Arvada, CO

Project Name: JRU19

Page 1.

Project Id: Contact:

Project Location:

Adrian Baker NM 2RP-4644 **Date Received in Lab:** Wed Jun-27-18 10:15 am

Report Date: 05-JUL-18 **Project Manager:** Jessica Kramer

										l			
	Lab Id:	590546-0	001	590546-0	002	590546-0	003	590546-0	004	590546-	005	590546-0	006
Analysis Requested	Field Id:	SW8		SW9		SS3A		SS6		SS7		SS8	
Anaiysis Kequesieu	Depth:	2- ft		1.5- ft		1.5- ft		.5- ft		.5- ft		.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL	,	SOIL	,
	Sampled:	Jun-20-18	11:00	Jun-20-18 11:48 Jun-20-18 12:00		Jun-20-18	12:30	Jun-20-18	Jun-20-18 13:37		13:48		
BTEX by EPA 8021B	Extracted:	Jun-29-18	10:00	Jun-29-18	0:00	Jun-29-18 1	10:00	Jun-29-18	15:45	Jun-29-18	15:45	Jun-29-18	15:45
	Analyzed:	Jun-29-18	14:10	Jun-29-18	14:29	Jun-29-18 1	14:48	Jun-29-18	23:28	Jun-29-18	23:47	Jun-30-18	00:05
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
Toluene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
Ethylbenzene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
m,p-Xylenes		<0.00401 0.00401		< 0.00402	0.00402	< 0.00404	0.00404	< 0.00403	0.00403	< 0.00398	0.00398	< 0.00397	0.00397
o-Xylene		<0.00200 0.00200		< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
Total Xylenes		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
Total BTEX		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00202	0.00202	< 0.00202	0.00202	< 0.00199	0.00199	< 0.00198	0.00198
Inorganic Anions by EPA 300	Extracted:	Jun-29-18	10:30	Jun-29-18 10:30		Jun-29-18 1	10:30	Jun-29-18	10:30	Jun-29-18 10:30		Jun-29-18 10:30	
	Analyzed:	Jun-29-18	14:18	Jun-29-18	14:23	Jun-29-18 1	14:28	Jun-29-18	14:45	Jun-29-18	14:50	Jun-29-18	15:06
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		197	5.00	<4.92	4.92	<4.92	4.92	111	4.97	56.8	4.97	6.09	4.94
TPH by SW8015 Mod	Extracted:	Jun-29-18 (08:00	Jun-29-18 (08:00	Jun-29-18 (08:00	Jun-29-18	08:00	Jun-29-18	08:00	Jun-28-18	11:00
	Analyzed:	Jun-29-18	11:50	Jun-29-18	2:11	Jun-29-18 1	12:32	Jun-29-18	12:53	Jun-29-18	13:14	Jun-28-18	19:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	206	15.0	24.7	15.0	<15.0	15.0	142	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	15.2	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	221	15.0	24.7	15.0	<15.0	15.0	142	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.

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Version: 1.%

Jessica Weamer

Jessica Kramer Project Assistant



Certificate of Analysis Summary 590546

LT Environmental, Inc., Arvada, CO

Project Name: JRU19



Project Id: Contact:

Project Location:

Adrian Baker

NM 2RP-4644

Date Received in Lab: Wed Jun-27-18 10:15 am

Report Date: 05-JUL-18

Project Manager: Jessica Kramer

	Lab Id:	590546-007			
Analysis Paguastad	Field Id:	FS01			
Analysis Requested	Depth:	1- ft			
	Matrix:	SOIL			
	Sampled:	Jun-21-18 11:30			
BTEX by EPA 8021B	Extracted:	Jun-29-18 15:45			
	Analyzed:	Jun-30-18 08:20			
	Units/RL:	mg/kg RL			
Benzene		< 0.00201 0.00201			
Toluene		< 0.00201 0.00201			
Ethylbenzene		< 0.00201 0.00201			
n,p-Xylenes		< 0.00402 0.00402			
Xylene		< 0.00201 0.00201			
Total Xylenes		< 0.00201 0.00201			
Total BTEX		< 0.00201 0.00201			
Inorganic Anions by EPA 300	Extracted:	Jun-29-18 10:30			
	Analyzed:	Jun-29-18 15:12			
	Units/RL:	mg/kg RL			
Chloride		8.48 4.98			
TPH by SW8015 Mod	Extracted:	Jun-28-18 11:00			
	Analyzed:	Jun-28-18 19:31			
	Units/RL:	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0			
Diesel Range Organics (DRO)		<15.0 15.0			
Oil Range Hydrocarbons (ORO)		<15.0 15.0			
Total TPH		<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.

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Version: 1.%

Jessica Kramer
Project Assistant





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: SW8 Lab Sample Id: 590546-001

Matrix:

Soil

Date Received:06.27.18 10.15

Date Collected: 06.20.18 11.00

Sample Depth: 2 ft

Prep Method: E300P

% Moisture:

Tech:

SCM

Analytical Method: Inorganic Anions by EPA 300

SCM Analyst:

Date Prep:

06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 197 06.29.18 14.18 5.00 mg/kg 1

Analytical Method: TPH by SW8015 Mod

JUM

JUM Analyst:

Tech:

06.29.18 08.00 Date Prep:

% Moisture:

Basis:

Prep Method: TX1005P

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 11.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.29.18 11.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 11.50	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.29.18 11.50	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	06.29.18 11.50		
o-Terphenyl		84-15-1	99	%	70-135	06.29.18 11.50		





LT Environmental, Inc., Arvada, CO

JRU19

Soil

Sample Id: SW8

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590546-001

Date Collected: 06.20.18 11.00

Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst:

ALJ

Date Prep:

06.29.18 10.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	06.29.18 14.10	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.29.18 14.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	91	%	70-130	06.29.18 14.10		
1.4-Difluorobenzene		540-36-3	93	%	70-130	06.29.18 14.10		





LT Environmental, Inc., Arvada, CO

JRU19

Soil

Sample Id: SW9 Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590546-002

Date Collected: 06.20.18 11.48

Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: Analyst: SCM SCM

% Moisture: Basis:

Wet Weight

Seq Number: 3055169

Date Prep: 06.29.18 10.30

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 <4.92 06.29.18 14.23 U 4.92 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

06.29.18 08.00 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	06.29.18 12.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	206	15.0		mg/kg	06.29.18 12.11		1
Oil Range Hydrocarbons (ORO)	PHCG2835	15.2	15.0		mg/kg	06.29.18 12.11		1
Total TPH	PHC635	221	15.0		mg/kg	06.29.18 12.11		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	06.29.18 12.11		
o-Terphenyl		84-15-1	99	%	70-135	06.29.18 12.11		





LT Environmental, Inc., Arvada, CO

JRU19

Soil

Sample Id: SW9 Lab Sample Id: 590546-002

Matrix:

Date Received:06.27.18 10.15

Date Collected: 06.20.18 11.48

Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B % Moisture:

Tech: ALJ

Analyst:

ALJ

06.29.18 10.00 Date Prep:

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	06.29.18 14.29	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	06.29.18 14.29	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	90	%	70-130	06.29.18 14.29		
1,4-Difluorobenzene		540-36-3	96	%	70-130	06.29.18 14.29		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: SS3A

Matrix: Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590546-003

Date Collected: 06.20.18 12.00

Sample Depth: 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: Analyst: SCM SCM

Date Prep: 06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	06.29.18 14.28	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

Date Prep: 06.29.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 12.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	24.7	15.0		mg/kg	06.29.18 12.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 12.32	U	1
Total TPH	PHC635	24.7	15.0		mg/kg	06.29.18 12.32		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	106	%	70-135	06.29.18 12.32		
o-Terphenyl		84-15-1	112	%	70-135	06.29.18 12.32		





LT Environmental, Inc., Arvada, CO

JRU19

Soil

Sample Id: SS3A

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590546-003

Date Collected: 06.20.18 12.00

Sample Depth: 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: Analyst: ALJ ALJ

Date Prep: 06.29.18 10.00

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
m,p-Xylenes	179601-23-1	< 0.00404	0.00404		mg/kg	06.29.18 14.48	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	06.29.18 14.48	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	70-130	06.29.18 14.48		
4-Bromofluorobenzene		460-00-4	102	%	70-130	06.29.18 14.48		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: **SS6**

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590546-004

Soil Date Collected: 06.20.18 12.30

Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P % Moisture:

Tech: Analyst: SCM SCM

Date Prep:

06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 06.29.18 14.45 111 4.97 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

Date Prep:

06.29.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 12.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.29.18 12.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 12.53	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.29.18 12.53	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	96	%	70-135	06.29.18 12.53		
o-Terphenyl		84-15-1	100	%	70-135	06.29.18 12.53		





LT Environmental, Inc., Arvada, CO

JRU19

Soil

Sample Id: **SS6**

Matrix:

Date Prep:

Date Received:06.27.18 10.15

Lab Sample Id: 590546-004

Date Collected: 06.20.18 12.30

Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

Analyst:

ALJ ALJ

06.29.18 15.45 Basis:

% Moisture:

Wet Weight

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403		mg/kg	06.29.18 23.28	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	06.29.18 23.28	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	115	%	70-130	06.29.18 23.28		
4-Bromofluorobenzene		460-00-4	97	%	70-130	06.29.18 23.28		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: **SS7**

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590546-005

Date Collected: 06.20.18 13.37

Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Basis:

SCM SCM

06.29.18 10.30

% Moisture:

Wet Weight

Seq Number: 3055169

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.8	4.97	mg/kg	06.29.18 14.50		1

Date Prep:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst:

Tech:

Analyst:

JUM JUM

06.29.18 08.00 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	06.29.18 13.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	142	15.0		mg/kg	06.29.18 13.14		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 13.14	U	1
Total TPH	PHC635	142	15.0		mg/kg	06.29.18 13.14		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	06.29.18 13.14		
o-Terphenyl		84-15-1	101	%	70-135	06.29.18 13.14		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: SS7

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590546-005

Date Collected: 06.20.18 13.37

Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B % Moisture:

Tech: ALJ

Analyst:

ALJ

Date Prep: 06.29.18 15.45

Basis: Wet Weight

Parameter	Cas Number	Result	RL	1	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
Toluene	108-88-3	< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398	n	ng/kg	06.29.18 23.47	U	1
o-Xylene	95-47-6	< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
Total BTEX		< 0.00199	0.00199	n	ng/kg	06.29.18 23.47	U	1
			%					

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	06.29.18 23.47	
1,4-Difluorobenzene	540-36-3	93	%	70-130	06.29.18 23.47	





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: SS8

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590546-006

Date Collected: 06.20.18 13.48

Sample Depth: .5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

SCM Tech:

% Moisture:

Analyst:

SCM

Date Prep:

06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 06.29.18 15.06 6.09 4.94 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: Analyst: ARM ARM

Date Prep:

06.28.18 11.00

Basis:

% Moisture:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.28.18 19.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.28.18 19.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.28.18 19.10	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.28.18 19.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	06.28.18 19.10		
o-Terphenyl		84-15-1	99	%	70-135	06.28.18 19.10		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: SS8

8

Matrix: Soil

Date Received:06.27.18 10.15

Date Collected: 06.20.18 13.48

Sample Depth: .5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

Lab Sample Id: 590546-006

70

% Moisture:

Analyst: AI

ALJ

Date Prep: 06.29.18 15.45

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
m,p-Xylenes	179601-23-1	< 0.00397	0.00397		mg/kg	06.30.18 00.05	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	06.30.18 00.05	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	98	%	70-130	06.30.18 00.05		
1,4-Difluorobenzene		540-36-3	94	%	70-130	06.30.18 00.05		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: **FS01** Lab Sample Id: 590546-007

Matrix:

Date Received:06.27.18 10.15

Soil Date Collected: 06.21.18 11.30

Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P % Moisture:

SCM Tech:

Analyst:

SCM

Date Prep:

06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 06.29.18 15.12 8.48 4.98 mg/kg 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

06.28.18 11.00 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	06.28.18 19.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.28.18 19.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.28.18 19.31	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.28.18 19.31	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	06.28.18 19.31		
o-Terphenyl		84-15-1	102	%	70-135	06.28.18 19.31		





LT Environmental, Inc., Arvada, CO

JRU19

Sample Id: FS01

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590546-007

Date Collected: 06.21.18 11.30

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

Analyst:

ALJ

Date Prep: 06.29.18 15.45

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	06.30.18 08.20	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	06.30.18 08.20	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	101	%	70-130	06.30.18 08.20		
1,4-Difluorobenzene		540-36-3	93	%	70-130	06.30.18 08.20		



Flagging Criteria



Page 146 of 197

- 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

^{**} Surrogate recovered outside laboratory control limit.

Flag



QC Summary 590546

LT Environmental, Inc.

JRU19

Result

Analytical Method: Inorganic Anions by EPA 300

7657603-1-BLK

Matrix: Solid

%Rec

Prep Method: Date Prep: E300P

Seq Number: 3055169

Result

06.29.18 LCSD Sample Id: 7657603-1-BSD

LCS Sample Id: 7657603-1-BKS MB Sample Id: MR Spike LCS LCS LCSD LCSD

Amount

%RPD RPD Limit Units Analysis Date

06.29.18 13:02 Chloride <4.99 250 250 100 246 98 90-110 2 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300

3055169

Matrix: Soil

Prep Method:

E300P

Seq Number:

Date Prep: 06.29.18

Parent Sample Id:

590546-003

MS Sample Id: 590546-003 S MSD Sample Id:

590546-003 SD

Parameter

Parameter

Spike Parent Result Amount

MS MS Result %Rec

Result

MSD MSD %Rec

Limits

Limits

%Rec

%RPD RPD Limit Units

Analysis Flag

Chloride

<4.92 246

Result

836

<15.0

247 100 Result 243

590553-001 S

1020

99 90-110

2 20 mg/kg

Date 06.29.18 14:34

Analytical Method: Inorganic Anions by EPA 300

Seq Number: Parent Sample Id: 3055169

Matrix: Soil

Prep Method:

E300P

Date Prep:

06.29.18 MSD Sample Id: 590553-001 SD

Parameter

Chloride

590553-001 Parent

Spike Amount

250

MS Sample Id: MS MS Result %Rec

1020

MSD MSD Result

Limits %Rec

90-110

74

%RPD RPD Limit Units

20

Analysis

Flag Date 06.29.18 13:18 X

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number:

3054940

Matrix: Solid

TX1005P Prep Method:

mg/kg

Date Prep:

06.28.18

MB Sample Id: 7657513-1-BLK LCS Sample Id:

74

7657513-1-BKS

LCSD Sample Id:

0

7657513-1-BSD

mg/kg

%RPD RPD Limit Units MB Spike LCS LCS LCSD Limits Analysis LCSD **Parameter** Result %Rec Date Result Amount Result %Rec Gasoline Range Hydrocarbons (GRO) 1000 978 98 1020 70-135 4 20 06.28.18 10:29 <15.0 102 mg/kg 1070 107 70-135 20 06.28.18 10:29 Diesel Range Organics (DRO) 1000 1130 113 5

Surrogate	MB MB %Rec Flag	LCS LCS %Rec Flag	LCSD LCSD %Rec Flag	Limits	Units	Analysis Date
1-Chlorooctane	82	115	127	70-135	%	06.28.18 10:29
o-Terphenyl	86	124	127	70-135	%	06.28.18 10:29

Flag



QC Summary 590546

LT Environmental, Inc.

JRU19

Analytical Method: TPH by SW8015 Mod
Seq Number: 3055311 Matrix: Solid

Prep Method: TX1005P Date Prep: 06.29.18

MB Sample Id: 7657729-1-BLK LCS Sample Id: 7657729-1-BKS

LCSD Sample Id: 7657729-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RF	D RPD Lim	it Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	976	98	70-135	5	20	mg/kg	06.29.18 09:19	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1060	106	70-135	5	20	mg/kg	06.29.18 09:19	
Surrogate	MB	MB	LC		LCS	LCSE			Limits	Units	Analysis	

%Rec Flag %Rec Flag 1-Chlorooctane 90 113 109 70-135 % 06.29.18 09:19 o-Terphenyl 94 122 116 70-135 % 06.29.18 09:19

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

 Seq Number:
 3054940
 Matrix:
 Soil
 Date Prep:
 06.28.18

 Parent Sample Id:
 590434-020
 MS Sample Id:
 590434-020 S
 MSD Sample Id:
 590434-020 SD

%RPD RPD Limit Units MS MS **Parent** Spike Limits Analysis **MSD** MSD **Parameter** Result Date Result Amount %Rec %Rec Result Gasoline Range Hydrocarbons (GRO) <15.0 998 888 89 922 70-135 20 06.28.18 11:31 92 4 mg/kg 06.28.18 11:31 Diesel Range Organics (DRO) <15.0 998 962 1010 101 70-135 20 96 5 mg/kg

MS MS **MSD** MSD Limits Units Analysis **Surrogate** Flag %Rec Flag Date %Rec 1-Chlorooctane 118 118 70-135 % 06.28.18 11:31 06.28.18 11:31 o-Terphenyl 109 109 70-135 %

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

 Seq Number:
 3055311
 Matrix:
 Soil
 Date Prep:
 06.29.18

 Parent Sample Id:
 590435-001
 MS Sample Id:
 590435-001 S
 MSD Sample Id:
 590435-001 SD

%RPD RPD Limit Units MS MS Spike Limits Analysis Parent **MSD** MSD Flag **Parameter** Result Amount Result %Rec %Rec Date Result Gasoline Range Hydrocarbons (GRO) 06.29.18 10:24 <15.0 1000 974 97 960 96 70-135 1 20 mg/kg 1050 105 1030 70-135 2 20 06.29.18 10:24 Diesel Range Organics (DRO) <15.0 1000 103 mg/kg

MS MS **MSD** MSD Limits Units Analysis Surrogate Flag %Rec Flag Date %Rec 1-Chlorooctane 98 97 70-135 06.29.18 10:24 % 106 104 70-135 06.29.18 10:24 o-Terphenyl %

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference
$$\begin{split} [D] &= 100*(C\text{-A}) \, / \, B \\ RPD &= 200* \mid (C\text{-E}) \, / \, (C\text{+E}) \mid \\ [D] &= 100*(C) \, / \, [B] \end{split}$$

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

LCS = Laboratory Control Sample

A = Parent Result C = MS/LCS Result

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



4-Bromofluorobenzene

111

QC Summary 590546

LT Environmental, Inc.

JRU19

113

70-130

%

06.29.18 10:04

Flag

Analytical Method:BTEX by EPA 8021BPrep Method:SW5030BSeq Number:3055148Matrix:SolidDate Prep:06.29.18MB Sample Id:7657599-1-BLKLCS Sample Id:7657599-1-BKSLCSD Sample Id:7657599-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.0998	0.0916	92	0.0970	97	70-130	6	35	mg/kg	06.29.18 10:04	
Toluene	< 0.00200	0.0998	0.0957	96	0.103	103	70-130	7	35	mg/kg	06.29.18 10:04	
Ethylbenzene	< 0.00200	0.0998	0.0979	98	0.104	104	70-130	6	35	mg/kg	06.29.18 10:04	
m,p-Xylenes	< 0.00399	0.200	0.203	102	0.216	107	70-130	6	35	mg/kg	06.29.18 10:04	
o-Xylene	< 0.00200	0.0998	0.0944	95	0.100	100	70-130	6	35	mg/kg	06.29.18 10:04	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSI %Re		_	Limits	Units	Analysis Date	
1,4-Difluorobenzene	100		Ģ	94		98		7	70-130	%	06.29.18 10:04	

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

87

Seq Number: 3055149 Matrix: Solid Date Prep: 06.29.18

MB Sample Id: 7657621-1-BLK LCS Sample Id: 7657621-1-BKS LCSD Sample Id: 7657621-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00200	0.0998	0.0864	87	0.0905	91	70-130	5	35	mg/kg	06.29.18 19:49
Toluene	< 0.00200	0.0998	0.0898	90	0.0957	96	70-130	6	35	mg/kg	06.29.18 19:49
Ethylbenzene	< 0.00200	0.0998	0.0916	92	0.0977	98	70-130	6	35	mg/kg	06.29.18 19:49
m,p-Xylenes	< 0.00399	0.200	0.191	96	0.205	102	70-130	7	35	mg/kg	06.29.18 19:49
o-Xylene	< 0.00200	0.0998	0.0891	89	0.0965	97	70-130	8	35	mg/kg	06.29.18 19:49

Surrogate	MB %Rec	MB Flag	LCS %Rec	Flag	LCSD %Rec	Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		90		96		70-130	%	06.29.18 19:49
4-Bromofluorobenzene	88		84		97		70-130	%	06.29.18 19:49

Analytical Method:BTEX by EPA 8021BPrep Method:SW 5030BSeq Number:3055148Matrix: SoilDate Prep:06.29.18

Parent Sample Id: 590434-001 MS Sample Id: 590434-001 S MSD Sample Id: 590434-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Benzene	< 0.00199	0.0994	0.0608	61	0.0773	77	70-130	24	35	mg/kg	06.29.18 10:42	X
Toluene	< 0.00199	0.0994	0.0639	64	0.0817	82	70-130	24	35	mg/kg	06.29.18 10:42	X
Ethylbenzene	< 0.00199	0.0994	0.0640	64	0.0818	82	70-130	24	35	mg/kg	06.29.18 10:42	X
m,p-Xylenes	< 0.00398	0.199	0.134	67	0.169	85	70-130	23	35	mg/kg	06.29.18 10:42	X
o-Xylene	< 0.00199	0.0994	0.0635	64	0.0787	79	70-130	21	35	mg/kg	06.29.18 10:42	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		100		70-130	%	06.29.18 10:42
4-Bromofluorobenzene	99		97		70-130	%	06.29.18 10:42

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

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

LCS = Laboratory Control Sample

A = Parent Result
C = MS/LCS Result

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



Seq Number:

Parent Sample Id:

QC Summary 590546

LT Environmental, Inc.

JRU19

Analytical Method: BTEX by EPA 8021B

590434-021

3055149 Matrix: Soil

Prep Method: SW5030B Date Prep: 06.29.18

Date Prep: 06.29.18 MSD Sample Id: 590434-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Benzene	< 0.00202	0.101	0.0633	63	0.0648	64	70-130	2	35	mg/kg	06.29.18 20:27	X
Toluene	< 0.00202	0.101	0.0651	64	0.0650	64	70-130	0	35	mg/kg	06.29.18 20:27	X
Ethylbenzene	< 0.00202	0.101	0.0655	65	0.0618	61	70-130	6	35	mg/kg	06.29.18 20:27	X
m,p-Xylenes	< 0.00403	0.202	0.133	66	0.130	65	70-130	2	35	mg/kg	06.29.18 20:27	X
o-Xylene	< 0.00202	0.101	0.0618	61	0.0611	60	70-130	1	35	mg/kg	06.29.18 20:27	X

MS Sample Id: 590434-021 S

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		86		70-130	%	06.29.18 20:27
4-Bromofluorobenzene	87		90		70-130	%	06.29.18 20:27

Setting the Standard since 1990

CHAIN OF CUSTODY

Sample was with which dropped off

Stafford, Texas (281-240-4200) San Antonio, Texas (210-509-3334) Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300)	Midland, Texas (432-704-5251)	Xanco Outta #		
	<u>www</u>	www.xenco.com		S S S S S S S S S S S S S S S S S S S
Client / Benorting Information	By local information		Analytical information	Matrix Codes
Company Name / Branch: LT Environmental, Inc Permian Office	Project Name/Number:	(3) P	> is	W = Water
Company Address:	Project Location:	5) 8	GW = Orinking Water
North "A" Street, Building 1, Unit #103, I		12011644 ly	ORO O,O	DW = Drinking Water P = Product
Email: Ph	Phone No: Invoice To: XTO Energy - Kyle Littrell	On	100	SW = Surface water SL = Sludge
IV.com	432) 704-5178	10	3R(3	OW ≔Ocean/Sea Water
Project Contact: Adrian Baker	PO Number:	02) <u>(</u>	WI = Wipe
Samplers's Name	BAND	80	de —	WW= Waste Water
	Collection	Number of preserved bottles	(M	A = Air
No. Field ID / Point of Collection	Sample Sample Time Matrix bo	be # of	TPH Chlo	Field Comments
1 5W8	06/20/A 1/00 V		Х У	
2 5 W 9	1.5/			
3 555A	151 (700)			
4 556	0.51 1230 1			
5 557	0, Š'			
° 270°	0,51 135 4 1			
7 F501	3 1,09 8 11 80 8	- WW	4	
0	The DISTRICTOR			
9				
10				
Turnaround Time (Business days)	Data	Data Deliverable information	Notes:	
Same Day TAT	∑ 5 Day TAT Level II Std QC	Level IV (Full Data Pkg /raw data)	(ta)	
Next Day EMERGENCY	7 Day TAT Level III Std QC+ Forms	C+ Forms TRRP Level IV		
2 Day EMERGENCY	Contract TAT Level 3 (CLP Forms)	orms) UST / RG -411	The state of the s	
3 Day EMERGENCY	TRRP Checklist	54		Ma
TAT Starts Day received by Lab, if rece	If received by 5:00 pm		FED-EX/UBS: Tracking# (C	十一路6000
	CUMENTED	MPLES CHANGE POSSESSION, INCLUDING COURIER DELIV		
Relightsheday Sampler:	Data Time: / W. Anocoived/By/	Relinquished By: / 22 72/	Date Time RecoffeyBy	My M
Relinguisted by:	OSTRECEIVED BY:	COX (Fritanushed By:)	bate Time 4:30 Received by	1/ 6/27
Relinquished by:	Date Time: Received By:	Custody Seal # ✓ F	Preserved where applicable On Ige	1, 9 PS
Notice: Notice: Signature of this document and relinquishment of samples constitutionsses or expenses incurred by the Client if such loses are due to circumstances be losses or expenses incurred by the Client if such loses are due to circumstances by will be enforced unless provided client contract.	Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assign any responsibility for any losses or expenses incurred by the Client it such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms in the project is a sample of the cost of samples. The samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms in the project is a sample of this document and relinquishment of samples constitutes a valid purchase or samples. The samples control of the cost of samples only for the cost of samples only for the cost of samples and shall be invoiced at \$5 per sample. These terms in the cost of samples are constituted by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms in the cost of samples and the cost	nco, its affiliates and subcontractors. It assigns standard terms and will be applied to each project. Xenco's liability will be limited to to	I conditions of service. Xenco will be liable only for the cost o he cost of samples. Any samples received by Xenco but not a	samples and shall not assume nalyzed will be invoiced at \$5 pe
		dente i		ture .





XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/27/2018 10:15:00 AM

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

Date: 06/27/2018

Work Order #: 590546

Temperature Measuring device used: R8

Work Order #. 590540	·	_
	Sample Receipt Checklis	st Comments
#1 *Temperature of cooler(s)?		1.9
#2 *Shipping container in good	condition?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shi	ipping container/ cooler?	N/A
#5 Custody Seals intact on san	nple 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 wh	en relinquished/ received?	Yes
#10 Chain of Custody agrees w	rith sample labels/matrix?	Yes
#11 Container label(s) legible a	and intact?	Yes
#12 Samples in proper contained	er/ bottle?	Yes
#13 Samples properly preserve	d?	Yes
#14 Sample container(s) intact	?	Yes
#15 Sufficient sample amount f	for indicated test(s)?	Yes
#16 All samples received within	n hold time?	Yes
#17 Subcontract of sample(s)?		No
#18 Water VOC samples have	zero headspace?	N/A
* Must be completed for after-	-hours delivery of samples prior to placi	ing in the refrigerator
Analyst:	PH Device/Lot#:	
Checklist comp	leted by: Attacher Katie Lowe	Date: 06/27/2018
	1 - Warning	

Jessica Kramer

Checklist reviewed by:

Analytical Report 590547

for

LT Environmental, Inc.

Project Manager: Adrian Baker
JRU 19

17-JUL-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)

Page 1 of 30





17-JUL-18

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

Reference: XENCO Report No(s): 590547

JRU 19

Project Address: JRU19 API-30-015-27357

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) 590547. 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. 590547 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 bramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 590547



LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW10	S	06-25-18 13:00	4 ft	590547-001
SW11	S	06-25-18 13:05	4 ft	590547-002
FS01@4'	S	06-25-18 13:10	4 ft	590547-003
FS02@4'	S	06-25-18 15:30	4 ft	590547-004
SW12	S	06-25-18 15:35	4 ft	590547-005
SW13	S	06-25-18 15:40	4 ft	590547-006
SW15	S	06-25-18 15:50		590547-007
SW16	S	06-25-18 15:55		590547-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 19

Project ID: Report Date: 17-JUL-18
Work Order Number(s): 590547
Date Received: 06/27/2018

Sample receipt non conformances and comments:

Per client (Danny Burns) requested to add 2 samples to WO. SW15 & SW16 JKR 06/28/18 Per client email, sample depth corrected JKR 07/17/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3055149 BTEX by EPA 8021B

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

Batch: LBA-3055318 BTEX by EPA 8021B

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



Certificate of Analysis Summary 590547

LT Environmental, Inc., Arvada, CO

590547-002

SW11

4- ft

SOIL

Jun-25-18 13:05

Jun-29-18 15:45

Jun-30-18 09:34

RL

0.00200

0.00200

0.00200

0.00399

0.00200

0.00200

0.00200

RL

mg/kg

< 0.00200

< 0.00200

< 0.00200

< 0.00399

< 0.00200

< 0.00200

< 0.00200

mg/kg

Jun-29-18 10:30

Jun-29-18 15:22

Project Name: JRU 19

590547-003

FS01@4'

4- ft

SOIL Jun-25-18 13:10

Jun-29-18 15:45

Jun-30-18 09:53

mg/kg

< 0.00199

< 0.00199

< 0.00199

< 0.00398

< 0.00199

< 0.00199

< 0.00199

mg/kg

Jun-29-18 14:00

Jun-29-18 16:32

RL

0.00199

0.00199

0.00199

0.00398

0.00199

0.00199

0.00199

RL

< 0.00200

mg/kg

Jun-29-18 14:00

Jun-29-18 16:38

0.00200

RL

Page 158 of 197

< 0.00199 0.00199

RL

Jun-29-18 14:00

Jun-29-18 16:48

mg/kg

Project Id: Contact:

Benzene Toluene

Ethylbenzene

m,p-Xylenes

Total Xylenes
Total BTEX

o-Xylene

Adrian Baker

Lab Id:

Field Id:

Depth:

Matrix:

Sampled:

Extracted: Analyzed:

Units/RL:

Extracted:

Analyzed:

Units/RL:

590547-001

SW10

4- ft

SOIL

Jun-25-18 13:00

Jun-29-18 15:45

Jun-30-18 09:16

mg/kg

< 0.00202

< 0.00202

< 0.00202

< 0.00403

< 0.00202

< 0.00202

< 0.00202

mg/kg

Jun-29-18 10:30

Jun-29-18 15:17

RL

0.00202

0.00202

0.00202

0.00403

0.00202

0.00202

0.00202

RL

Project Location: JRU19 API-30-015-27357

BTEX by EPA 8021B

Inorganic Anions by EPA 300

Analysis Requested

Date Received in Lab: Wed Jun-27-18 10:15 am

Report Date: 17-JUL-18 **Project Manager:** Jessica Kramer

590547-	004	590547-0	005	590547-0	006			
FS02@	4'	SW12		SW13	3			
4- ft		4- ft		4- ft				
SOIL	,	SOIL		SOIL				
Jun-25-18	15:30	Jun-25-18	15:35	Jun-25-18 15:40				
Jun-29-18 15:45		Jun-29-18	15:45	Jun-29-18 15:45				
Jun-30-18 10:12								
Jun-30-18	10:12	Jun-30-18	10:30	Jun-30-18	10:49			
Jun-30-18 mg/kg	10:12 RL	Jun-30-18 mg/kg	10:30 RL	Jun-30-18 mg/kg	10:49 RL			
	10.12							
mg/kg	RL	mg/kg	RL	mg/kg	RL			
mg/kg <0.00200	RL 0.00200	mg/kg <0.00201	RL 0.00201	mg/kg <0.00199	RL 0.00199			
mg/kg <0.00200 <0.00200	RL 0.00200 0.00200	mg/kg <0.00201 <0.00201	RL 0.00201 0.00201	mg/kg <0.00199 <0.00199	RL 0.00199 0.00199			
mg/kg <0.00200 <0.00200 <0.00200	RL 0.00200 0.00200 0.00200	mg/kg <0.00201 <0.00201 <0.00201	RL 0.00201 0.00201 0.00201	mg/kg <0.00199 <0.00199 <0.00199	RL 0.00199 0.00199 0.00199			

0.00201

RL

< 0.00201

mg/kg

Jun-29-18 14:00

Jun-29-18 16:43

Chloride		9.81	4.99	151	4.99	<4.94	4.94	179	4.93	156	4.94	19.4	4.94
TPH by SW8015 Mod	Extracted:	Jun-29-18 (08:00	Jun-29-18 0	08:00	Jun-29-18 0	8:00	Jun-29-18 0	8:00	Jun-29-18 0	8:00	Jun-29-18 (08:00
	Analyzed:	Jun-29-18	3:35	Jun-29-18 1	3:56	Jun-29-18 1	4:59	Jun-29-18 1	5:20	Jun-29-18 1	5:41	Jun-29-18 1	16:02
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	631	15.0	68.4	15.0	467	15.0	110	15.0	688	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	31.9	15.0	<15.0	15.0	18.6	15.0	<15.0	15.0	33.2	15.0
Total TPH		<15.0	15.0	663	15.0	68.4	15.0	486	15.0	110	15.0	721	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 Weamer



Certificate of Analysis Summary 590547

LT Environmental, Inc., Arvada, CO

Project Name: JRU 19



Project Id: Contact:

Adrian Baker

Project Location: JRU19 API-30-015-27357

Date Received in Lab: Wed Jun-27-18 10:15 am

Report Date: 17-JUL-18 **Project Manager:** Jessica Kramer

	Lab Id:	590547-0	07	590547-0	108			
Analysis Requested	Field Id:	SW15		SW16				
Anatysis Requestea	Depth:							
	Matrix:	SOIL		SOIL				
	Sampled:	Jun-25-18 1	5:50	Jun-25-18 1	15:55			
BTEX by EPA 8021B	Extracted:	Jun-29-18 1	5:45	Jul-02-18 1	6:00			
	Analyzed:	Jun-30-18 0	7:25	Jul-03-18 0	6:04			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene	<		0.00199	< 0.00199	0.00199			
uene		< 0.00199	0.00199	< 0.00199	0.00199			
Ethylbenzene		< 0.00199	0.00199	< 0.00199	0.00199			
m,p-Xylenes		< 0.00398	0.00398	< 0.00398	0.00398			
o-Xylene		< 0.00199	0.00199	< 0.00199	0.00199			
Total Xylenes		< 0.00199	0.00199	< 0.00199	0.00199			
Total BTEX		< 0.00199	0.00199	< 0.00199	0.00199			
Inorganic Anions by EPA 300	Extracted:	Jun-29-18 1	4:00	Jun-29-18 1	4:00			
	Analyzed:	Jun-29-18 1	7:05	Jun-29-18 1	7:10			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		88.9	4.91	3240	24.8			
TPH by SW8015 Mod	Extracted:	Jun-29-18 0	08:00	Jun-29-18 (08:00			
	Analyzed:	Jun-29-18 1	6:23	Jun-29-18 1	6:44			
	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

Jessia Mannee

Jessica Kramer Project Assistant





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: **SW10** Lab Sample Id: 590547-001

Date Received:06.27.18 10.15

Soil Date Collected: 06.25.18 13.00

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: Analyst: SCM

SCM

Date Prep: 06.29.18 10.30 Basis:

Wet Weight

Seq Number: 3055169

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.81	4.99	mg/kg	06.29.18 15.17		1

Matrix:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

06.29.18 08.00 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	06.29.18 13.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.29.18 13.35	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 13.35	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.29.18 13.35	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	89	%	70-135	06.29.18 13.35		
o-Terphenyl		84-15-1	90	%	70-135	06.29.18 13.35		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: **SW10**

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-001

Date Collected: 06.25.18 13.00

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: Analyst: ALJ ALJ

06.29.18 15.45 Basis: Date Prep:

% Moisture:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403		mg/kg	06.30.18 09.16	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	06.30.18 09.16	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	101	%	70-130	06.30.18 09.16		
1,4-Difluorobenzene		540-36-3	93	%	70-130	06.30.18 09.16		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: SW11

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-002

Date Collected: 06.25.18 13.05

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

SCM

% Moisture:

:

Analyst:

SCM

Date Prep:

06.29.18 10.30

Basis:

Wet Weight

Seq Number: 3055169

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	151	4.99	mg/kg	06.29.18 15.22		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

Date Prep:

06.29.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 13.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	631	15.0		mg/kg	06.29.18 13.56		1
Oil Range Hydrocarbons (ORO)	PHCG2835	31.9	15.0		mg/kg	06.29.18 13.56		1
Total TPH	PHC635	663	15.0		mg/kg	06.29.18 13.56		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	93	%	70-135	06.29.18 13.56		
o-Terphenyl		84-15-1	96	%	70-135	06.29.18 13.56		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

06.29.18 15.45

Sample Id: **SW11**

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-002

Date Collected: 06.25.18 13.05

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

Date Prep:

% Moisture:

Basis:

Wet Weight

ALJ Analyst:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	06.30.18 09.34	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.30.18 09.34	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	119	%	70-130	06.30.18 09.34		
4-Bromofluorobenzene		460-00-4	97	%	70-130	06.30.18 09.34		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: FS01@4'

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-003

Date Collected: 06.25.18 13.10

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: Analyst: SCM SCM

Date Prep:

% Moisture:

iie.

Seq Number: 3055174

06.29.18 14.00

Basis:

-

Wet Weight

rarameter	Cas Number	Resuit	KL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	06.29.18 16.32	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: JUM JUM

Date Prep: 06.29.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 14.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	68.4	15.0		mg/kg	06.29.18 14.59		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 14.59	U	1
Total TPH	PHC635	68.4	15.0		mg/kg	06.29.18 14.59		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	06.29.18 14.59		
o-Terphenyl		84-15-1	101	%	70-135	06.29.18 14.59		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: FS01@4'

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-003

Date Collected: 06.25.18 13.10

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.29.18 15.45

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	06.30.18 09.53	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	06.30.18 09.53	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	91	%	70-130	06.30.18 09.53		
4-Bromofluorobenzene		460-00-4	103	%	70-130	06.30.18 09.53		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: FS02@4'

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-004

Date Collected: 06.25.18 15.30

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

SCM

SCM

06.29.18 14.00

% Moisture:

Basis:

Wet Weight

Seq Number: 3055174

seq Number. 3033174

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	179	4.93	mg/kg	06.29.18 16.38		1

Date Prep:

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

Tech:

Analyst:

JUM JUM

Date Prep:

06.29.18 08.00

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 15.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	467	15.0		mg/kg	06.29.18 15.20		1
Oil Range Hydrocarbons (ORO)	PHCG2835	18.6	15.0		mg/kg	06.29.18 15.20		1
Total TPH	PHC635	486	15.0		mg/kg	06.29.18 15.20		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	90	%	70-135	06.29.18 15.20		
o-Terphenyl		84-15-1	94	%	70-135	06.29.18 15.20		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: FS02@4'

Matrix: Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-004

Date Collected: 06.25.18 15.30

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep:

06.29.18 15.45

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	06.30.18 10.12	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	06.30.18 10.12	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	92	%	70-130	06.30.18 10.12		
1,4-Difluorobenzene		540-36-3	89	%	70-130	06.30.18 10.12		





1

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: SW12

12

16887-00-6

Matrix: Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-005

Date Collected: 06.25.18 15.35

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

SCM SCM

Date Prep: 06.29.18 14.00

156

Date Prep:

% Moisture: Basis:

mg/kg

Wet Weight

Seq Number: 3055174

Analyst:

Parameter

Chloride

seq rumber.

Cas Number Result RL Units Analysis Date Flag Dil

4.94

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

06.29.18 16.43

Tech: Analyst: JUM JUM

rep: 06.29.18 08.00 B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 15.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	110	15.0		mg/kg	06.29.18 15.41		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 15.41	U	1
Total TPH	PHC635	110	15.0		mg/kg	06.29.18 15.41		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	89	%	70-135	06.29.18 15.41		
o-Terphenyl		84-15-1	89	%	70-135	06.29.18 15.41		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: **SW12**

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-005

1,4-Difluorobenzene

Date Collected: 06.25.18 15.35

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

ALJ ALJ

70-130

% Moisture:

06.30.18 10.30

Analyst:

Seq Number: 3055149

Date Prep: 06.29.18 15.45

103

Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	06.30.18 10.30	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	06.30.18 10.30	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	100	%	70-130	06.30.18 10.30		

540-36-3





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: SW13

13

Matrix: Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-006

Date Collected: 06.25.18 15.40

Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P % Moisture:

Tech: Analyst: SCM SCM

Date Prep:

06.29.18 14.00

Basis:

Wet Weight

Seq Number: 3055174

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Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.4	4.94	mg/kg	06.29.18 16.48		1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

JUM JUM

Date Prep:

06.29.18 08.00

Basis: V

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 16.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	688	15.0		mg/kg	06.29.18 16.02		1
Oil Range Hydrocarbons (ORO)	PHCG2835	33.2	15.0		mg/kg	06.29.18 16.02		1
Total TPH	PHC635	721	15.0		mg/kg	06.29.18 16.02		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	90	%	70-135	06.29.18 16.02		
o-Terphenyl		84-15-1	92	%	70-135	06.29.18 16.02		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: **SW13** Matrix:

Soil

06.29.18 15.45

Date Received:06.27.18 10.15

Lab Sample Id: 590547-006

ALJ

ALJ

Date Collected: 06.25.18 15.40

Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

Analyst:

Date Prep:

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	06.30.18 10.49	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	06.30.18 10.49	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	06.30.18 10.49		
4-Bromofluorobenzene		460-00-4	97	%	70-130	06.30.18 10.49		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: SW15

Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590547-007

Date Collected: 06.25.18 15.50

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

% Moisture:

Tech: Analyst: SCM SCM

Date Prep:

06.29.18 14.00

Basis:

Wet Weight

Seq Number: 3055174

 Parameter
 Cas Number
 Result
 RL
 Units
 Analysis Date
 Flag
 Dil

 Chloride
 16887-00-6
 88.9
 4.91
 mg/kg
 06.29.18 17.05
 1

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:
Analyst:

JUM JUM

Date Prep:

06.29.18 08.00

Basis: We

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	06.29.18 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.29.18 16.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 16.23	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.29.18 16.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	96	%	70-135	06.29.18 16.23		
o-Terphenyl		84-15-1	100	%	70-135	06.29.18 16.23		





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: SW15

Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-007

Date Collected: 06.25.18 15.50

Prep Method: SW5030B

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Analytical Method: BTEX by EPA 8021B

% Moisture:

Tech: ALJ
Analyst: ALJ

ALJ

06.29.18 15.45

Basis: Wet Weight

Seq Number: 3055149

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	06.30.18 07.25	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	06.30.18 07.25	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	96	%	70-130	06.30.18 07.25		
1,4-Difluorobenzene		540-36-3	94	%	70-130	06.30.18 07.25		

Date Prep:





LT Environmental, Inc., Arvada, CO

JRU 19

Soil

Sample Id: **SW16** Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590547-008

Date Collected: 06.25.18 15.55

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech:

SCM

% Moisture:

Analyst: SCM

Date Prep:

Seq Number: 3055174

06.29.18 14.00

Basis: Wet Weight

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil 16887-00-6 Chloride 24.8 06.29.18 17.10 5 3240 mg/kg

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech:

JUM

% Moisture:

JUM Analyst:

06.29.18 08.00 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	06.29.18 16.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	06.29.18 16.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	06.29.18 16.44	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	06.29.18 16.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	93	%	70-135	06.29.18 16.44		
o-Terphenyl		84-15-1	97	%	70-135	06.29.18 16.44		





LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id: **SW16**

Matrix: Soil Date Received:06.27.18 10.15

Lab Sample Id: 590547-008

Date Collected: 06.25.18 15.55

Prep Method: SW5030B

% Moisture:

Tech:

ALJ

Analytical Method: BTEX by EPA 8021B

07.02.18 16.00 Date Prep:

Basis:

Wet Weight

ALJ Analyst:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	07.03.18 06.04	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	07.03.18 06.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	117	%	70-130	07.03.18 06.04		
1,4-Difluorobenzene		540-36-3	129	%	70-130	07.03.18 06.04		



Flagging Criteria



Page 176 of 197

- 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

^{**} Surrogate recovered outside laboratory control limit.



QC Summary 590547

LT Environmental, Inc.

JRU 19

E300P Analytical Method: Inorganic Anions by EPA 300 Prep Method: Seq Number: 3055169 Matrix: Solid Date Prep: 06.29.18 LCS Sample Id: 7657603-1-BKS LCSD Sample Id: 7657603-1-BSD MB Sample Id: 7657603-1-BLK

MR Spike LCS LCS Limits %RPD RPD Limit Units LCSD LCSD Analysis Flag **Parameter** Result Amount Result %Rec Date %Rec Result 06.29.18 13:02 Chloride <4.99 250 250 100 246 98 90-110 2 20 mg/kg

Analytical Method: Inorganic Anions by EPA 300 E300P Prep Method: Seq Number: 3055174 Matrix: Solid Date Prep: 06.29.18

MB Sample Id: 7657604-1-BLK LCS Sample Id: 7657604-1-BKS LCSD Sample Id: 7657604-1-BSD

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis Flag **Parameter** Result Date Result Amount %Rec Result %Rec Chloride < 5.00 250 249 100 249 100 90-110 0 20 mg/kg 06.29.18 16:05

Analytical Method: Inorganic Anions by EPA 300

Prep Method: 3055169 Matrix: Soil Seq Number: Date Prep: 06.29.18

MS Sample Id: 590546-003 S MSD Sample Id: 590546-003 SD 590546-003 Parent Sample Id:

Spike MS %RPD RPD Limit Units Parent MS **MSD MSD** Limits Analysis Flag **Parameter** Result Date Result %Rec Amount Result %Rec Chloride <4.92 247 100 243 99 90-110 2 20 06.29.18 14:34 246 mg/kg

Analytical Method: Inorganic Anions by EPA 300

E300P Prep Method: 3055169 Seq Number: Matrix: Soil Date Prep: 06.29.18 MSD Sample Id: 590553-001 MS Sample Id: 590553-001 S 590553-001 SD 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 836 250 1020 74 1020 74 90-110 0 20 06.29.18 13:18 X mg/kg

Analytical Method: Inorganic Anions by EPA 300

E300P Prep Method: 3055174 Matrix: Soil Seq Number: Date Prep: 06.29.18

Parent Sample Id: 590732-004 MS Sample Id: 590732-004 S MSD Sample Id: 590732-004 SD

Parent Spike MS MS Limits %RPD RPD Limit Units Analysis **MSD MSD** Flag **Parameter** Result Date Result Amount %Rec Result %Rec Chloride 25.6 246 266 98 269 99 90-110 20 mg/kg 06.29.18 17:42

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

E300P



Seq Number:

Seq Number:

QC Summary 590547

LT Environmental, Inc.

JRU 19

Analytical Method: Inorganic Anions by EPA 300

3055174 Matrix: Soil

MS Sample Id: 590816-001 S Parent Sample Id: 590816-001

E300P Prep Method:

> Date Prep: 06.29.18

MSD Sample Id: 590816-001 SD

Spike MS MS Limits %RPD RPD Limit Units Parent **MSD MSD** Analysis Flag **Parameter** Result Amount Result Date %Rec %Rec Result 839 06.29.18 16:21 Chloride 249 1070 93 1060 89 90-110 20 mg/kg X

Analytical Method: TPH by SW8015 Mod

3055311

Matrix: Solid

Prep Method:

TX1005P

Date Prep: 06.29.18

MB Sample Id: 7657729-1-BLK LCS Sample Id: 7657729-1-BKS LCSD Sample Id: 7657729-1-BSD

Flag

MB Spike LCS LCS %RPD RPD Limit Units LCSD LCSD Limits Analysis **Parameter** Result %Rec Date Result Amount Result %Rec Gasoline Range Hydrocarbons (GRO) 1000 1030 103 976 98 70-135 5 20 06.29.18 09:19 <15.0 mg/kg Diesel Range Organics (DRO) 1000 1110 111 1060 70-135 5 20 06.29.18 09:19 <15.0 106 mg/kg

MB MB LCS LCS LCSD LCSD Limits Units Analysis Surrogate %Rec %Rec Flag Flag %Rec Flag Date 06.29.18 09:19 1-Chlorooctane 90 113 109 70-135 % 94 122 70-135 06.29.18 09:19 o-Terphenyl 116 %

Analytical Method: TPH by SW8015 Mod

Seq Number: 3055311

Parent Sample Id:

590435-001

Matrix: Soil

MS Sample Id:

590435-001 S

TX1005P Prep Method:

Date Prep:

06.29.18

MSD Sample Id: 590435-001 SD

MS MS %RPD RPD Limit Units Analysis Parent Spike **MSD** MSD Limits Flag **Parameter** Result Result %Rec Date Amount Result %Rec Gasoline Range Hydrocarbons (GRO) 974 06.29.18 10:24 <15.0 1000 97 960 96 70-135 1 20 mg/kg 1000 1050 105 1030 70-135 2 20 06.29.18 10:24 Diesel Range Organics (DRO) <15.0 103 mg/kg

MS MS **MSD** Limits Units Analysis **MSD Surrogate** %Rec Flag %Rec Flag Date 06.29.18 10:24 98 97 1-Chlorooctane 70-135 % 06.29.18 10:24 o-Terphenyl 106 104 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

Flag

Flag X

X

X

X

X



QC Summary 590547

LT Environmental, Inc.

JRU 19

SW5030B Analytical Method: BTEX by EPA 8021B Prep Method: Seq Number: 3055149 Matrix: Solid Date Prep: 06.29.18

LCS Sample Id: 7657621-1-BKS LCSD Sample Id: 7657621-1-BSD MB Sample Id: 7657621-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00200	0.0998	0.0864	87	0.0905	91	70-130	5	35	mg/kg	06.29.18 19:49
Toluene	< 0.00200	0.0998	0.0898	90	0.0957	96	70-130	6	35	mg/kg	06.29.18 19:49
Ethylbenzene	< 0.00200	0.0998	0.0916	92	0.0977	98	70-130	6	35	mg/kg	06.29.18 19:49
m,p-Xylenes	< 0.00399	0.200	0.191	96	0.205	102	70-130	7	35	mg/kg	06.29.18 19:49
o-Xylene	< 0.00200	0.0998	0.0891	89	0.0965	97	70-130	8	35	mg/kg	06.29.18 19:49

MB LCSD MB LCS LCS LCSD Limits Units Analysis **Surrogate** Flag %Rec Flag Flag Date %Rec %Rec 98 90 96 70-130 06.29.18 19:49 1,4-Difluorobenzene % 97 06.29.18 19:49 4-Bromofluorobenzene 88 84 70-130 %

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

Seq Number: 3055318 Matrix: Solid Date Prep: 07.02.18 7657705-1-BLK LCS Sample Id: 7657705-1-BKS LCSD Sample Id: 7657705-1-BSD MB Sample Id:

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00202	0.101	0.0897	89	0.0871	87	70-130	3	35	mg/kg	07.03.18 03:20
Toluene	< 0.00202	0.101	0.0929	92	0.0929	93	70-130	0	35	mg/kg	07.03.18 03:20
Ethylbenzene	< 0.00202	0.101	0.0922	91	0.0903	90	70-130	2	35	mg/kg	07.03.18 03:20
m,p-Xylenes	< 0.00403	0.202	0.191	95	0.188	94	70-130	2	35	mg/kg	07.03.18 03:20
o-Xylene	< 0.00202	0.101	0.0901	89	0.0879	88	70-130	2	35	mg/kg	07.03.18 03:20

Surrogate	MB %Rec	MB Flag	LCS %Rec	Flag	LCSD %Rec	Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		95		106		70-130	%	07.03.18 03:20
4-Bromofluorobenzene	101		89		88		70-130	%	07.03.18 03:20

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

Seq Number: 3055149 Matrix: Soil Date Prep: 06.29.18

Parent Sample Id:		MS Sample Id: 390434-021 S						MSD Sample Id: 590434-021 SD				
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	0.0633	63	0.0648	64	70-130	2	35	mg/kg	06.29.18 20:27	

0.101 0.0650 0 06.29.18 20:27 Toluene < 0.00202 0.0651 64 70-130 35 mg/kg Ethylbenzene < 0.00202 0.101 0.0655 65 0.0618 70-130 6 35 mg/kg 06.29.18 20:27 m,p-Xylenes < 0.00403 0.202 0.133 0.130 70-130 35 06.29.18 20:27 66 65 2 mg/kg o-Xylene < 0.00202 0.101 0.0618 0.0611 70-130 35 06.29.18 20:27 61 60 1 mg/kg

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		86		70-130	%	06.29.18 20:27
4-Bromofluorobenzene	87		90		70-130	%	06.29.18 20:27

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

07.03.18 03:56

07.03.18 03:56



1,4-Difluorobenzene

4-Bromofluorobenzene

QC Summary 590547

LT Environmental, Inc.

JRU 19

95

86

70-130

70-130

%

%

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B Seq Number: 3055318 Matrix: Soil Date Prep: 07.02.18

Parent Sample Id: 590680-001 MS Sample Id: 590680-001 S MSD Sample Id: 590680-001 SD

120

112

raient Sample Id.	390080-001	370000-00	<i>J</i> 1 <i>J</i>		171	13D Sample Id. 370000-001 SD						
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD RPD Limit Units			Analysis Date	Flag
Benzene	< 0.00199	0.0996	0.0776	78	0.0585	59	70-130	28	35	mg/kg	07.03.18 03:56	X
Toluene	< 0.00199	0.0996	0.0653	66	0.0508	51	70-130	25	35	mg/kg	07.03.18 03:56	X
Ethylbenzene	< 0.00199	0.0996	0.0524	53	0.0362	36	70-130	37	35	mg/kg	07.03.18 03:56	XF
m,p-Xylenes	< 0.00398	0.199	0.105	53	0.0741	37	70-130	35	35	mg/kg	07.03.18 03:56	X
o-Xylene	< 0.00199	0.0996	0.0469	47	0.0322	32	70-130	37	35	mg/kg	07.03.18 03:56	XF
Surrogate					MS Flag	MSI %Re			Limits	Units	Analysis Date	

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

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Dallas Texas (214-902-0300)	Midlan	Midland, Texas (432-704-5251)				
		www.xenco.com	Xenco Quote #	Xenco Job #	でつりカナ	
				Analytical Information	Matrix Codes	
Client / Reporting Information	1	Project Information				
Company Name / Branch: LT Environmental, Inc Permian Office	Project I	Project Name/Number:	which solved	· CONTRACTOR ·	W = Water	Ē
Company Address:	Project Location:	70	5	<u>ク.</u> 	GW =Ground Water	ater
North "A" Street, Building 1, Unit #103, I	, TX 79705		2757	300	DW = Drinking Water P = Product	Water
Email: Phone No:		Invoice To: XTO Energy - Kyle Littrell	80		SW = Surface water	vater
Abaker@ltenv.com (432) 704-5178					OW =Ocean/Sea Water	a Water
Project Contact: Adrian Baker	PO Number:			<i>e</i>	WI = Wipe	
Samplers's Name NAMAY SACING		した。アップント	X	10	WW Waste M	+
	Collection		Deserved bottles EPH		A = Air	ale
No. Field ID / Point of Collection	Sample	## 95, DH/Zn etate	DH HSO4 OH NE B1	<i>Ch</i>		
250	X Y Sales	_^	N N		Fleid Comments	
٥ 2						
- 10 SOL	£ .	5				
	ż	1580				
5 SW12		38.8				
6 SW 3	~	SHO	**			
7						
8						
9						
10						
Turnaround Time (Business days)		Data Deliverable Information		Notes:		
Same Day TAT Spay TATOK	TATOK	Level II Std QC	Level IV (Full Data Pkg /raw data)			
Next Day EMERGENCY 7 Day TAT	AT	Level III Std QC+ Forms	TRRP Level IV			
2 Day EMERGENCY Contract TAT	:t TAT	Level 3 (CLP Forms)	UST / RG -411			
3 Day EMERGENCY		TRRP Checklist				
TAT Starts Day received by Lab, if received by 5:00 pm	by 5:00 pm			FED-EX / UPS: Tracking #	。 サイチ2ST 2233	R
Relinquished by Symple:	Date Time:	Date Time: Received by: M Religion R	MV	Date Times Reperved B	3010 M	(
Relinduished by:	Date Time:	Received By:		Date Time: Received By	Å, Company of the Com	
Relinquished by:	Date Time:	Received By:	Custody Seal # Prese	Preserved where applicable	On Ice Cooler Temp. Thermo. Corr. F	Factor
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XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/27/2018 10:15:00 AM

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

Work Order #: 590547

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		1.4
#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 indicate	ed test(s)?	Yes
#16 All samples received within hold time	e?	Yes
#17 Subcontract of sample(s)?		No
#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#:	n the refrigerator
Checklist completed by: Checklist reviewed by:	Katie Lowe Jessica Kramer	Date: 06/27/2018 Date: 06/27/2018

Analytical Report 590548

for

LT Environmental, Inc.

Project Manager: Adrian Baker
JRU-19

28-JUN-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-17-16), 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 (T104704400-18-15)
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)
Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429) Xenco-Lakeland: Florida (E84098)





28-JUN-18

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

Reference: XENCO Report No(s): 590548

JRU-19

Project Address: JRU-19 API:30-015-27357

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) 590548. 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. 590548 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 bramer

Project Assistant

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Sample Cross Reference 590548



LT Environmental, Inc., Arvada, CO

JRU-19

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW14	S	06-25-18 15:45	ft	590548-001

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU-19

Project ID: Report Date: 28-JUN-18 Work Order Number(s): 590548 Date Received: 06/27/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3054831 BTEX by EPA 8021B

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

Final 1.000



Certificate of Analysis Summary 590548

LT Environmental, Inc., Arvada, CO

Project Name: JRU-19



Project Id:

Contact: Adrian Baker

Project Location: JRU-19 API:30-015-27357

Date Received in Lab: Wed Jun-27-18 10:15 am

Report Date: 28-JUN-18 **Project Manager:** Jessica Kramer

	Lab Id:	590548-001			
Analysis Paguested	Field Id:	SW14			
Analysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-25-18 15:45			
BTEX by EPA 8021B	Extracted:	Jun-27-18 15:00			
	Analyzed:	Jun-28-18 03:44			
	Units/RL:	mg/kg RL			
Benzene		< 0.00199 0.00199			
Toluene		<0.00199 0.00199			
Ethylbenzene		< 0.00199 0.00199			
m,p-Xylenes		0.00470 0.00398			
o-Xylene		< 0.00199 0.00199			
Total Xylenes		0.00470 0.00199			
Total BTEX		0.00470 0.00199			
Inorganic Anions by EPA 300	Extracted:	Jun-27-18 14:30			
	Analyzed:	Jun-27-18 15:34			
	Units/RL:	mg/kg RL			
Chloride		477 4.96			
TPH by SW8015 Mod	Extracted:	Jun-27-18 17:00			
	Analyzed:	Jun-28-18 08:13			
	Units/RL:	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)	·	28.3 15.0			
Diesel Range Organics (DRO)		1930 15.0			
Oil Range Hydrocarbons (ORO)		72.7 15.0			
Total TPH		2030 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 beest judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

Jessica Vernee

Jessica Kramer Project Assistant



Certificate of Analytical Results 590548



LT Environmental, Inc., Arvada, CO

JRU-19

Sample Id: **SW14** Matrix:

Soil

Date Received:06.27.18 10.15

Lab Sample Id: 590548-001

Date Collected: 06.25.18 15.45

Tech:

Analytical Method: Inorganic Anions by EPA 300

SCM

SCM Analyst:

Date Prep:

Date Prep:

06.27.18 14.30

06.27.18 17.00

% Moisture:

Basis:

Prep Method: E300P

Wet Weight

Seq Number: 3054850

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 06.27.18 15.34 477 4.96 mg/kg 1

Analytical Method: TPH by SW8015 Mod

ARM Tech:

ARM Analyst:

Seq Number: 3054927

Prep Method: TX1005P

% Moisture:

Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	28.3	15.0		mg/kg	06.28.18 08.13		1
Diesel Range Organics (DRO)	C10C28DRO	1930	15.0		mg/kg	06.28.18 08.13		1
Oil Range Hydrocarbons (ORO)	PHCG2835	72.7	15.0		mg/kg	06.28.18 08.13		1
Total TPH	PHC635	2030	15.0		mg/kg	06.28.18 08.13		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	84	%	70-135	06.28.18 08.13		
o-Terphenyl		84-15-1	101	%	70-135	06.28.18 08.13		



Certificate of Analytical Results 590548



LT Environmental, Inc., Arvada, CO

JRU-19

Soil

Sample Id: **SW14** Matrix:

Date Received:06.27.18 10.15

Lab Sample Id: 590548-001

Date Collected: 06.25.18 15.45

Prep Method: SW5030B

% Moisture:

Tech:

ALJ ALJ

Analytical Method: BTEX by EPA 8021B

06.27.18 15.00 Date Prep:

Basis:

Wet Weight

Analyst: Seq Number: 3054831

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	06.28.18 03.44	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	06.28.18 03.44	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	06.28.18 03.44	U	1
m,p-Xylenes	179601-23-1	0.00470	0.00398		mg/kg	06.28.18 03.44		1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	06.28.18 03.44	U	1
Total Xylenes	1330-20-7	0.00470	0.00199		mg/kg	06.28.18 03.44		1
Total BTEX		0.00470	0.00199		mg/kg	06.28.18 03.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	84	%	70-130	06.28.18 03.44		
1,4-Difluorobenzene		540-36-3	103	%	70-130	06.28.18 03.44		



Flagging Criteria



Page 191 of 197

- 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

^{**} Surrogate recovered outside laboratory control limit.



Seq Number:

Parameter

Parent Sample Id:

Parent Sample Id:

MB Sample Id:

QC Summary 590548

LT Environmental, Inc.

JRU-19

LCSD

LCSD

Analytical Method: Inorganic Anions by EPA 300

3054850 Matrix: Solid

Spike

LCS

LCS Sample Id: 7657470-1-BKS MB Sample Id: 7657470-1-BLK

MR

Prep Method: Date Prep: 06.27.18

LCSD Sample Id: 7657470-1-BSD

Limits %RPD RPD Limit Units Analysis Flag Date

E300P

Result Amount Result %Rec %Rec Result 06.27.18 14:56 Chloride < 5.00 250 238 95 238 95 90-110 0 20 mg/kg

LCS

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3054850

590094-022

Matrix: Soil

MS Sample Id: 590094-022 S Prep Method:

E300P

Date Prep: 06.27.18

MSD Sample Id: 590094-022 SD

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

Chloride 5.48 250 238 93 238 93 90-110 0 20 mg/kg 06.27.18 15:13

Analytical Method: Inorganic Anions by EPA 300

3054850 Seq Number:

590514-002

Matrix: Soil

Prep Method:

E300P

Date Prep: 06.27.18 MSD Sample Id: 590514-002 SD

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

590514-002 S

Chloride 9.14 250 252 97 252 97 90-110 0 20 06.27.18 16:28 mg/kg

MS Sample Id:

LCS Sample Id:

Analytical Method: TPH by SW8015 Mod

Seq Number: 3054927

7657505-1-BLK

Matrix: Solid

7657505-1-BKS

Prep Method: Date Prep: TX1005P

06.27.18

LCSD Sample Id: 7657505-1-BSD

%RPD RPD Limit Units MB Spike LCS LCS LCSD LCSD Limits Analysis Flag **Parameter** Result %Rec Date Result Amount Result %Rec Gasoline Range Hydrocarbons (GRO) 955 96 70-135 14 20 06.27.18 08:29 <15.0 1000 1100 110 mg/kg 06.27.18 08:29 945 95 70-135 16 20 Diesel Range Organics (DRO) 1000 1110 <15.0 111 mg/kg

LCS LCSD MB MB LCS LCSD Limits Units Analysis **Surrogate** %Rec Flag %Rec Flag %Rec Flag Date 1-Chlorooctane 70 122 126 70-135 % 06.27.18 08:29 06.27.18 08:29 o-Terphenyl 75 112 130 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



QC Summary 590548

LT Environmental, Inc.

JRU-19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3054927 Matrix: Soil

MS Sample Id: 590434-001 S Parent Sample Id: 590434-001

TX1005P Prep Method:

Date Prep: 06.27.18 MSD Sample Id: 590434-001 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)	<15.0	1000	831	83	824	82	70-135	1	20	mg/kg	06.27.18 09:30	
Diesel Range Organics (DRO)	<15.0	1000	927	93	896	90	70-135	3	20	mg/kg	06.27.18 09:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		123		70-135	%	06.27.18 09:30
o-Terphenyl	98		98		70-135	%	06.27.18 09:30

Analytical Method: BTEX by EPA 8021B

MB Sample Id:

Seq Number: 3054831

LCS Sample Id: 7657458-1-BKS 7657458-1-BLK

SW5030B 06.27.18

Flag

Date Prep: LCSD Sample Id: 7657458-1-BSD

Prep Method:

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00199	0.0994	0.0976	98	0.0897	90	70-130	8	35	mg/kg	06.27.18 21:55
Toluene	< 0.00199	0.0994	0.101	102	0.0922	92	70-130	9	35	mg/kg	06.27.18 21:55
Ethylbenzene	< 0.00199	0.0994	0.102	103	0.0929	93	70-130	9	35	mg/kg	06.27.18 21:55
m,p-Xylenes	< 0.00398	0.199	0.210	106	0.192	96	70-130	9	35	mg/kg	06.27.18 21:55
o-Xylene	< 0.00199	0.0994	0.0976	98	0.0907	91	70-130	7	35	mg/kg	06.27.18 21:55

Matrix: Solid

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		105		102		70-130	%	06.27.18 21:55
4-Bromofluorobenzene	94		101		95		70-130	%	06.27.18 21:55

Analytical Method: BTEX by EPA 8021B

Seq Number: 3054831 Parent Sample Id: 590094-001

Matrix: Soil MS Sample Id: 590094-001 S Prep Method: SW5030B Date Prep:

06.27.18 MSD Sample Id: 590094-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0606	61	0.0578	58	70-130	5	35	mg/kg	06.27.18 22:32	X
Toluene	< 0.00200	0.100	0.0433	43	0.0463	46	70-130	7	35	mg/kg	06.27.18 22:32	X
Ethylbenzene	0.0158	0.100	0.0445	29	0.0469	31	70-130	5	35	mg/kg	06.27.18 22:32	X
m,p-Xylenes	0.0441	0.200	0.0937	25	0.0913	24	70-130	3	35	mg/kg	06.27.18 22:32	X
o-Xylene	0.0553	0.100	0.0786	23	0.0703	15	70-130	11	35	mg/kg	06.27.18 22:32	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		98		70-130	%	06.27.18 22:32
4-Bromofluorobenzene	89		111		70-130	%	06.27.18 22:32

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 will be enforced unless previously negotiated under a fully executed client contract.

Setting the Standard since 1990 Stafford, Texas (281-240-4200)

CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334)

Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300)	Midland, Texas (432-704-5251)
	www.xenco.com
	Analytical Information Matrix Codes
Client / Reporting Information	et Information O
LT Environmental, Inc Permian Office	Project Name/Number: The W = Water S = Soli/Sed/Solid S = Solid S = Soli/Sed/Solid S = Solid S = S
Company Address:	Project Location: JR1) - 19 API: 30-015- 6 5 0 DW = Drinking Water
Email: Phone No:	PA 8
Abaker@ltenv.com (432) 704-5178	
	 -2A
Adrian Baker	
Samplers's Name Sta Stall	121 - 1615 X X
•	Collection Number of preserved bottles
No. Field ID / Point of Collection Sample Depth	Date Time Matrix bottles of HCI NaOH/Zn Acetate HNO3 H2SO4 NaOH NaHSO4 NEOH NONE
- SEIF	8 S 1
2	
Δ .	
4	
5	
6	
7	
8	
9	
10	
Turnaround Time (Business days)	Data Deliverable information Notes:
Same Day TAT 5 Day TAT	Level II Std QC Level IV (Full Data Pkg /raw data)
Next-Bay EMERGENCY 7 Day TAT	Level III Std QC+ Forms TRRP Level IV
2 Day EMERGENCY Contract TAT	Level 3 (CLP Forms) UST / RG 411
3 Day EMERGENCY	TRRP Checklist
TAT Starts Day received by Lab, if received by 5:00 pm	,
Relinquished by Sampler: Relinquished by Sa	Received by AME SAMPLES CHANGE POSS
Relinquished by: Date Time:	1742 Received By: Relinquished By: Date Time:
Relinquished by:	Received By: 4
5	Custody Seal # Preserved where applicable On Ice Cooler Temp. Thermo. Corr. Factor
review: review, signature or into document, and reindustriterit or sattliptes constitutes and losses or expenses incurred by the Client if such loses are due to circumstances beyond the will be enforced unless previously neophiated under a fully executed client contract.	To a subject the control of the cont
Will be enforced unless previously negotiated under a fully executed client contract	the second confirme and a second confirme to the second confirment to t



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.

Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 06/27/2018 10:15:00 AM

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

Work Order #: 590548

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments		
#1 *Temperature of cooler(s)?		1.4		
#2 *Shipping container in good condition?		Yes		
#3 *Samples received on ice?		Yes		
#4 *Custody Seals intact on shipping container/ cooler?		N/A		
#5 Custody Seals intact on sample bottles?		N/A		
#6*Custody Seals Signed and dated?		N/A		
#7 *Chain of Custody present?		Yes		
#8 Any missing/extra samples?		No		
#9 Chain of Custody signed when relinquished/ received?		Yes		
#10 Chain of Custody agrees with sample	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 indicated test(s)?		Yes		
#16 All samples received within hold time?		Yes		
#17 Subcontract of sample(s)?		No		
#18 Water VOC samples have zero headspace?		N/A		
* Must be completed for after-hours delivery of samples prior to placing in the refrigerator Analyst: PH Device/Lot#:				
Checklist completed by:		Date: <u>06/27/2018</u>		
Checklist reviewed by:	Jessica Kramer	Date: <u>06/27/2018</u>		

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 200107

CONDITIONS

Normal and the second s			
Operator:	OGRID:		
BOPCO, L.P.	260737		
6401 Holiday Hill Rd	Action Number:		
Midland, TX 79707	200107		
	Action Type:		
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)		

CONDITIONS

Created By		Condition Date
amaxwell	Closure of release approved. Incident will remain open as release area is subject to 19.15.29.13 NMAC and will need to be addressed during P&A activities.	3/24/2023