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. Free-standing 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

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Maria Pruett, NMOCD
Ryan Mann, SLO

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

FIGURES

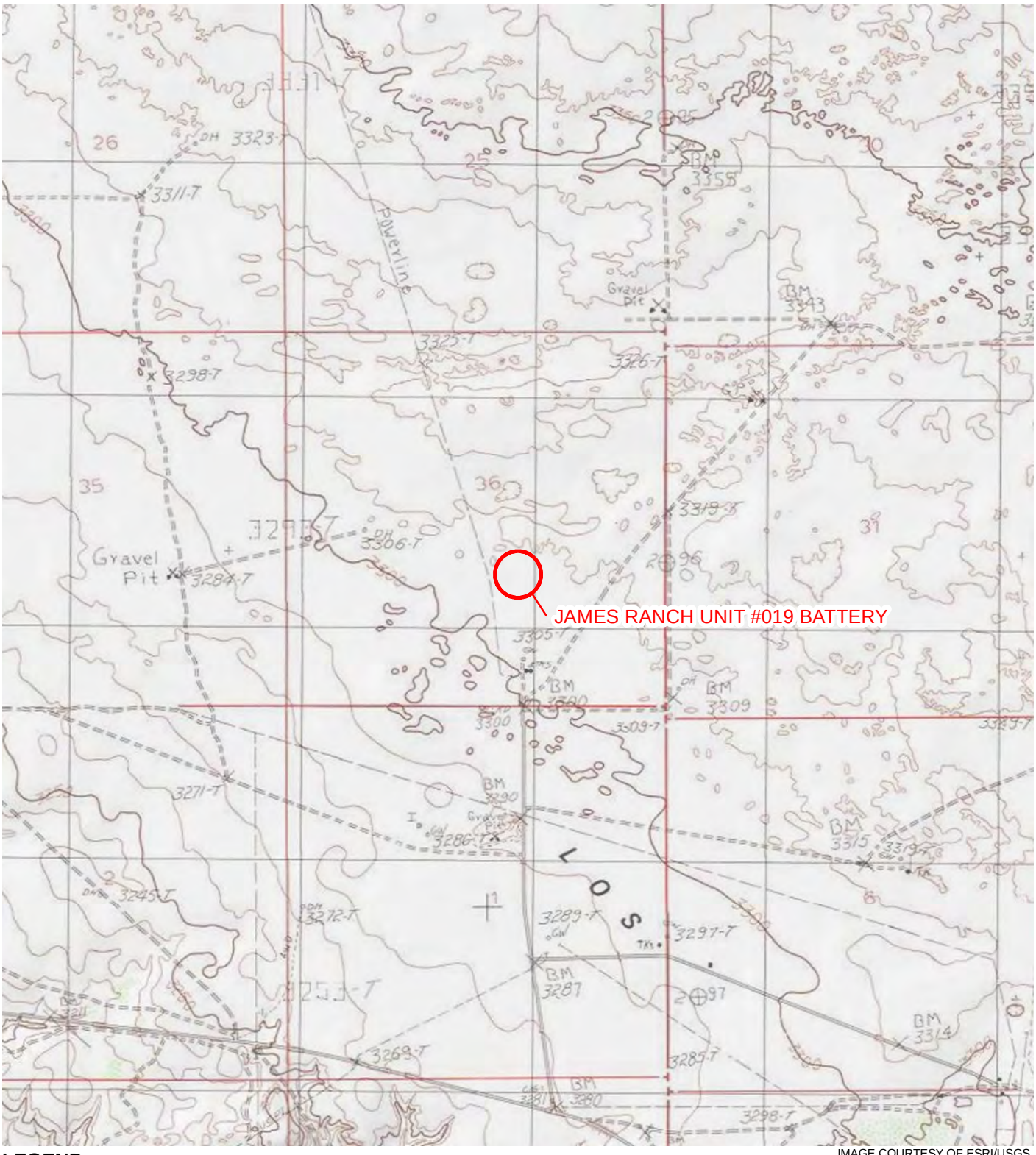

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBERS 2RP-3240, 2RP-3466, & 2RP-4644

FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT #019 BATTERY
UNIT J SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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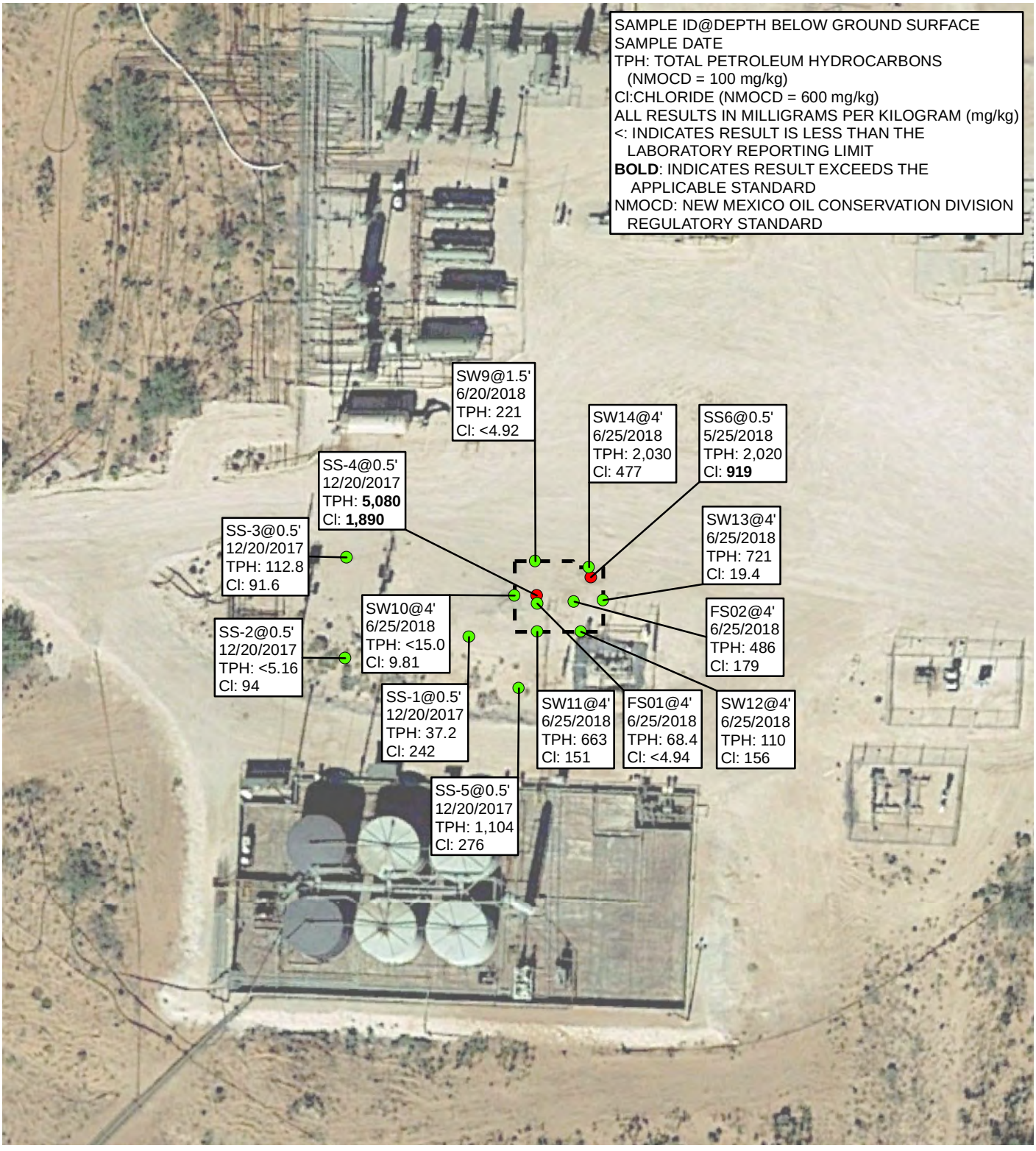

LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2017

0 50 100
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-3240

FIGURE 2
SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #019 BATTERY
UNIT J SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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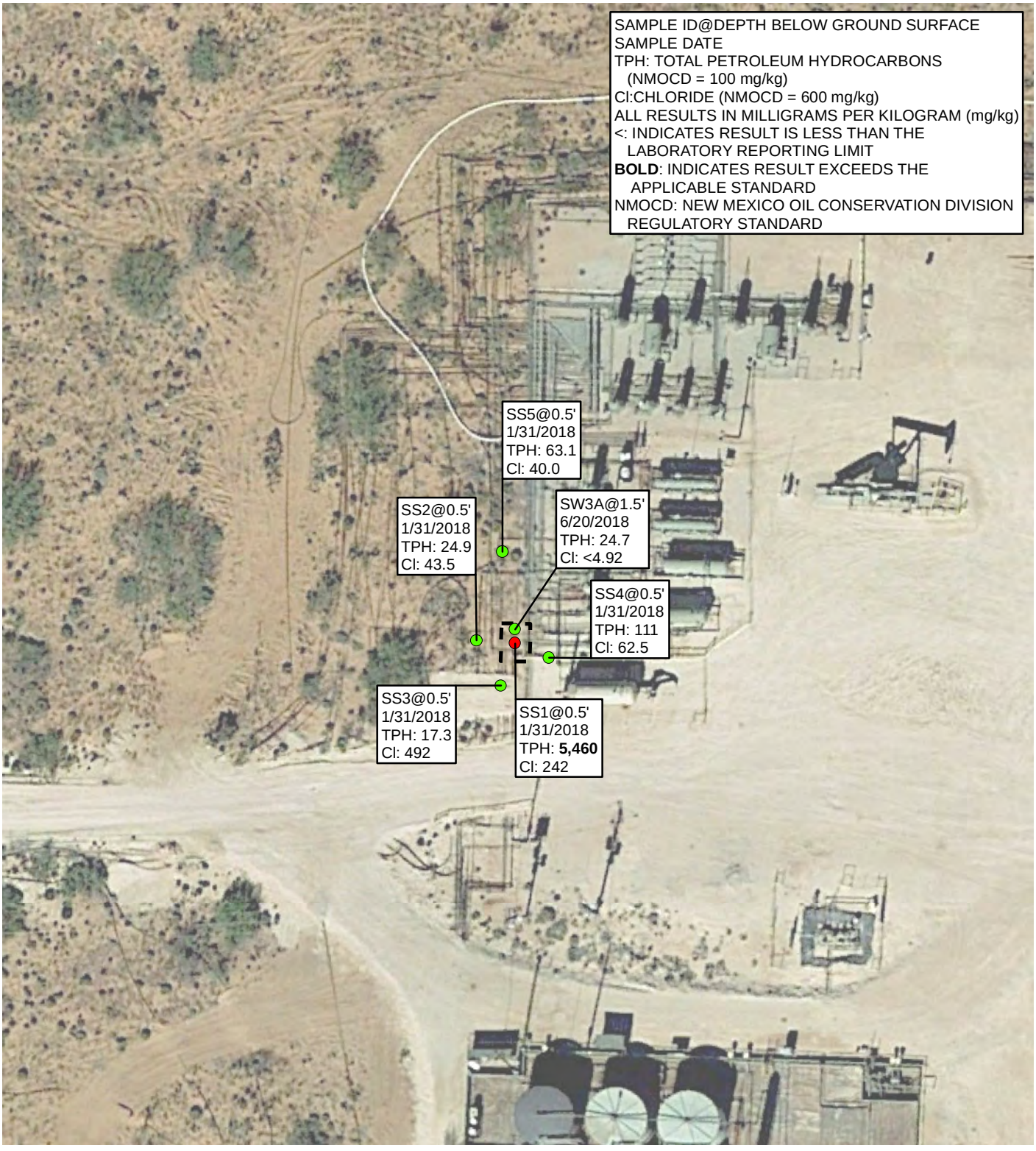

LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2017

0 50 100

Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-3466

FIGURE 3
SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #019 BATTERY
UNIT J SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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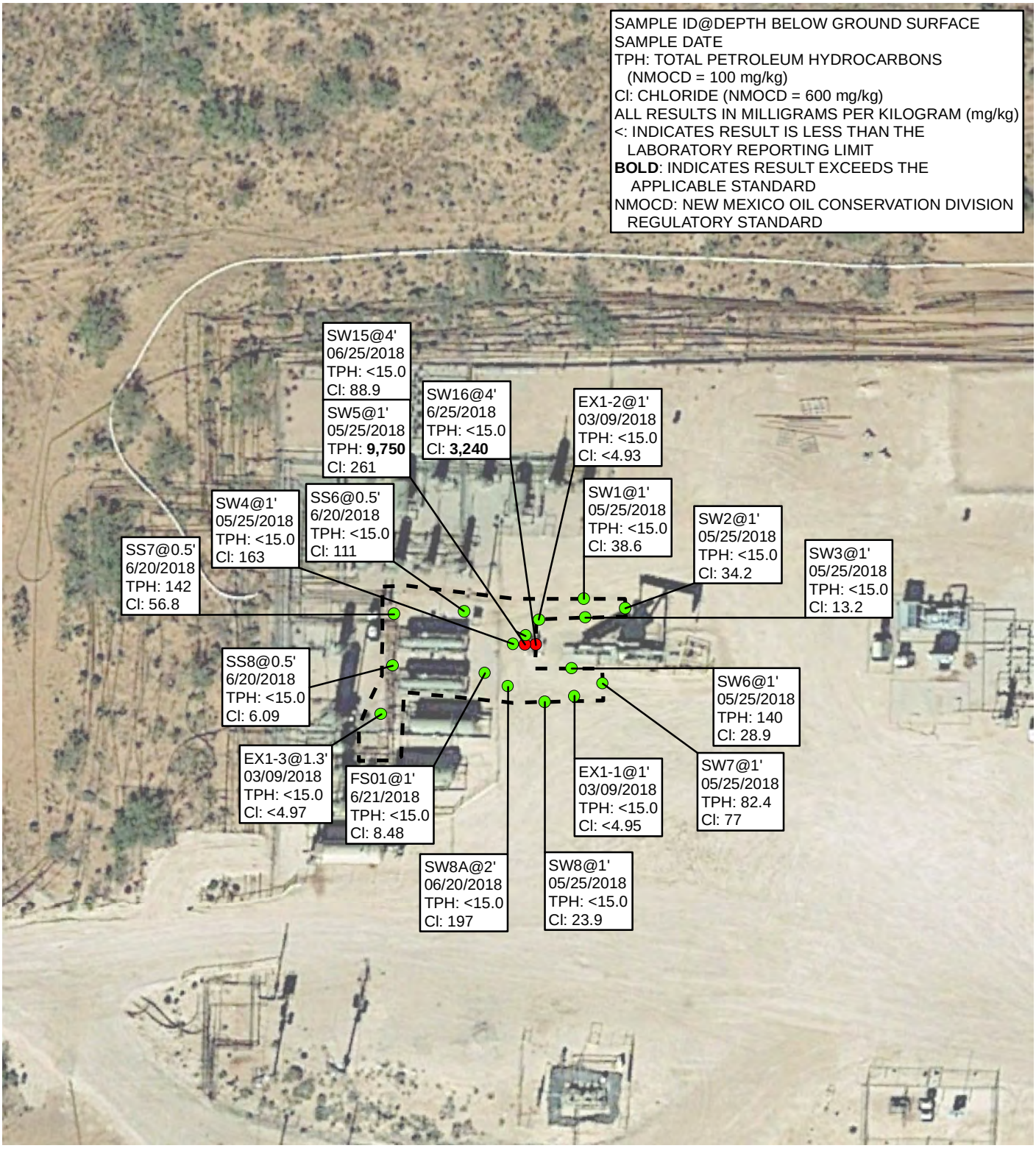

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- PRELIMINARY SOIL SAMPLE
- FINAL CONFIRMATION SOIL SAMPLE
- EXCAVATION EXTENT

0 50 100
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4644

FIGURE 4
SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT #019 BATTERY
UNIT J SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

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 Remediation Action 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 Remediation Action 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 Remediation Action 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.

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-3240, 2RP-3466, and 2RP-4644)

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., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

SEP 04 2015

RECEIVED

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1524749389

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: BOPCO, L.P. 260737	Contact: Bradley Blevins
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: JRU 19 Battery	Facility Type: Exploration and Production

Surface Owner: State	Mineral Owner:	API No.3001527357

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/***South Line***	Feet from the	***East***/West Line	County
J	36	22S	30E	1980		1980		Eddy

Latitude: 32.346455 **Longitude**: 103.832237

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 1530 barrels	Volume Recovered: 1360 barrels
Source of Release: 4x2 Swedge on water transfer pump	Date and Hour of Occurrence: 9-3-15 @ 12:00am	Date and Hour of Discovery 9-3-15 @ 5:45am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher via email	
By Whom? Bradley Blevins	Date and Hour: 9-3-15 @ 9:03am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A 4x2 swedge failed on the water transfer pump causing fluid to be released to the lined containment (1100 barrels of produced water was recovered from inside the containment). The containment failed releasing 430 barrels of the fluid to the ground surface, 260 barrels of produced water was recovered from surrounding pasture area.

Describe Area Affected and Cleanup Action Taken.*
Vacuum trucks were able to recover a total of 1360 barrels of the produced water from the containment and ground surface.

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

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: Assistant Remediation Foreman

E-mail Address: bblevins@basspet.com

Date: 9-4-15 Phone: 432-214-3704

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 9/4/15 Expiration Date: N/A

Conditions of Approval:

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 10/4/15

Attached ☐

2RP-3240

* Attach Additional Sheets If Necessary

NM OIL CONSERVATION
ARTESIA DISTRICT

District I
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State of New Mexico
Energy Minerals and Natural Resources

DEC 22 2015

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

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Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

nAB1535832134 2100737

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 (JRU 19 Battery API 30-015-27357)	Facility Type: Exploration and Production

Surface Owner: State	Mineral Owner: Unknown	API No. 30-015-27735

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	36	22S	30E	1980	South	1980	East	Eddy

Latitude 32.346632° **Longitude** -103.832532°

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 13 bbls	Volume Recovered: 10 bbls
Source of Release: Flow Line	Date and Hour of Occurrence: Date/time unknown	Date and Hour of Discovery: 12/14/2015 2 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	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? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
A 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 ft² of pasture and 45 ft² 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.

Signature:

Printed Name: Amy C. Ruth

Title: Remediation Specialist

E-mail Address: ACRuth@basspet.com

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

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 12/23/15 Expiration Date: NA

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 1/23/16

2RP-3466

* Attach Additional Sheets If Necessary

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 02 2018
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District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1806435465 BRCO 260737

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy	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

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	36	22S	30E	1960	South	2080	East	Eddy

Latitude 32.346722° **Longitude** -103.83232° NAD83

NATURE 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: 2/17/2018 time unknown	Date and Hour of Discovery: 2/17/2018 12 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Mark Naranjo (SLO)	
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 was repaired.

Describe Area Affected and Cleanup Action Taken.*
The release affected the caliche soils surrounding the process equipment within the facility. Free standing fluids were recovered. An environmental contractor was retained to assist with the remediation and soil samples have been collected.

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

Signature:

Printed Name: Amy C. Ruth

Title: Environmental Coordinator

E-mail Address: Amy_Ruth@xtoenergy.com

Date: 3/2/2018 Phone: 575-689-3380

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: Signed By

Approval Date: 3/5/18 Expiration Date: N/A

Conditions of Approval: See attached

Attached ☒ 2RP-4644

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

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

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.346455 Longitude -103.832237
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU 19 Battery	Site Type Tank Battery
Date Release 9/3/2018	API# 30-015-27357

Unit Letter	Section	Township	Range	County
J	36	22S	30E	Eddy

Surface Owner: ☒ 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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 1530	Volume Recovered (bbls) 1360
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other Calcium Carbonate	Volume/Weight Released (bbls)	Volume/Weight Recovered (bbls)

Cause of Release
A 4x2 swedge failed on the water transfer pump causing fluid to be released to the lined containment.

Form C-141 State of New Mexico
Page 2 Oil Conservation Division

Incident ID	
District RP	2RP-3240
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? An unauthorized release of a volume, excluding gases, of 25 barrels or more.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/19/2018

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

OCD Only

Received by: Date:

Form C-141 State of New Mexico
Page 6 Oil Conservation Division

Incident ID	
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 or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Kyle Littrell Date: 10/19/2018

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/24/2023

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.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	2RP-3466
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.346632 Longitude -103.832532
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU 19 Battery	Site Type Tank Battery
Date Release 9/3/2018	API# 30-015-27357

Unit Letter	Section	Township	Range	County
J	36	22S	30E	Eddy

Surface Owner: ☒ 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)

☒ Crude Oil	Volume Released (bbls) 13	Volume Recovered (bbls) 10
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other Calcium Carbonate	Volume/Weight Released (bbls)	Volume/Weight Recovered (bbls)

Cause of Release
A hole affected 408 ft2 of pasture and 45 ft2 of well pad and standing fluids were recovered from the pasture.

Form C-141 State of New Mexico
Page 2 Oil Conservation Division

Incident ID	
District RP	2RP-3466
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/19/2018

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

OCD Only

Received by: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-3466
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Kyle Littrell Date: 10/19/2018

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/24/2023

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.

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State of New Mexico
Energy Minerals and Natural Resources Department

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

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

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

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.346632 Longitude -103.832532
(NAD 83 in decimal degrees to 5 decimal places)

Site Name JRU 19 Battery	Site Type Tank Battery
Date Release 9/3/2018	API# 30-015-27357

Unit Letter	Section	Township	Range	County
J	36	22S	30E	Eddy

Surface Owner: ☒ 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)

☒ Crude Oil	Volume Released (bbls) 47 bbls	Volume Recovered (bbls) 40 bbls
☒ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other Calcium Carbonate	Volume/Weight Released (bbls)	Volume/Weight Recovered (bbls)

Cause of Release
Internal corrosion caused strainer to fail on FWKO water dump. Vessel was repaired.

Incident ID	
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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 10/19/2018

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

OCD Only

Received by: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Kyle Littrell Date: 10/19/2018

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Ashley Maxwell Date: 3/24/2023

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.

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

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
Site:	JRU 19 BATTERY (2RP-3240)
Report To:	Kyle Littrell
	382 County Road 3100
	Aztec, NM 87410

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

SS-1 L959663-01 Solid

Collected by: Aaron Williamson | Collected date/time: 12/20/17 14:30 | Received date/time: 12/23/17 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
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

SS-2 L959663-02 Solid

Collected by: Aaron Williamson | Collected date/time: 12/20/17 14:32 | Received date/time: 12/23/17 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
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

SS-3 L959663-03 Solid

Collected by: Aaron Williamson | Collected date/time: 12/20/17 14:36 | Received date/time: 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	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

SS-4 L959663-04 Solid

Collected by: Aaron Williamson | Collected date/time: 12/20/17 14:38 | Received date/time: 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	WG1057207	5	12/26/17 21:16	12/27/17 01:03	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1057763	1	12/27/17 12:23	12/28/17 12:36	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1058274	10	12/28/17 22:58	12/29/17 19:59	ACM

SS-5 L959663-05 Solid

Collected by: Aaron Williamson | Collected date/time: 12/20/17 14:40 | Received date/time: 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	WG1057207	1	12/26/17 21:16	12/27/17 01:11	KCF
Volatile Organic Compounds (GC) by Method 8015/8021	WG1057763	1	12/27/17 12:23	12/28/17 12:58	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1058274	10	12/28/17 22:58	12/29/17 20:15	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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.000702	B	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND	J3	0.000520	1	12/28/2017 12:36	WG1057763
Toluene	ND	J3 J6	0.00520	1	12/28/2017 12:36	WG1057763
Ethylbenzene	ND	J3 J6	0.000520	1	12/28/2017 12:36	WG1057763
Total Xylene	ND	J3 J6	0.00156	1	12/28/2017 12:36	WG1057763
TPH (GC/FID) Low Fraction	ND	J3	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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*	J1	*18.0-148*		*12/29/2017 19:59*	WG1058274

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Method Blank (MB)

(MB) R3277136-1 01/02/18 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.002			

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

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

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	84.7	86.1	1	2		5

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3277134-1 01/02/18 09:06

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.002			

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

(OS) L959664-01 01/02/18 09:06 • (DUP) R3277134-3 01/02/18 09:06

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

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3275848-1 12/26/17 23:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL 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

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
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

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	63.5	62.2	1	2.06		20

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

(LCS) R3275848-2 12/26/17 23:38 • (LCSD) R3275848-3 12/26/17 23:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	500	163	654	707	98.2	109	1	80-120			7.76	20

Method Blank (MB)

(MB) R3276845-5 12/28/17 11:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000246	J	0.000150	0.00500
Ethylbenzene	0.000114	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0218	J	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 09:34 • (LCSD) R3276845-2 12/28/17 09:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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
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 12/28/17 10:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
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*	

Laboratory Control Sample (LCS)

(LCS) R3276845-4 12/28/17 10:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.11	93.0	70.0-136	
(S) a,a,a-Trifluorotoluene(FID)			*107*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*118*	*75.0-128*	

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

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

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0520	ND	0.00589	0.0225	10.8	42.8	1	10.0-146		J3	117	29
Toluene	0.0520	ND	0.00248	0.0152	3.96	28.4	1	10.0-143	J6	J3	144	30
Ethylbenzene	0.0520	ND	0.00139	0.00995	2.43	18.9	1	10.0-147	J6	J3	151	31
Total Xylene	0.156	ND	0.00453	0.0288	2.39	17.9	1	10.0-149	J6	J3 J6	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

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.72	ND	0.683	0.983	10.4	15.7	1	10.0-147		J3	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*				

Method Blank (MB)

(MB) R3276351-5 12/27/17 22:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000267	J	0.000120	0.000500
Toluene	0.000182	J	0.000150	0.00500
Ethylbenzene	0.000118	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0282	J	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 12/27/17 16:17 • (LCSD) R3276351-2 12/27/17 16:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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
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

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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*				

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

(OS) L959672-06 12/28/17 04:39 • (MS) R3276351-6 12/28/17 05:02 • (MSD) R3276351-7 12/28/17 05:25

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
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	J6	J6	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) R3276351-8 12/28/17 05:47 • (MSD) R3276351-9 12/28/17 06:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	2.05	0.985	36.7	17.4	1	10.0-147		J3	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*				

Method Blank (MB)

(MB) R3276614-1 12/29/17 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL 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 12/29/17 11:24 • (LCSD) R3276614-3 12/29/17 11:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	31.2	34.2	52.0	57.0	50.0-150			9.22	20
(S) o-Terphenyl				*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
B	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.

ACCREDITATIONS & LOCATIONS

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
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	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		

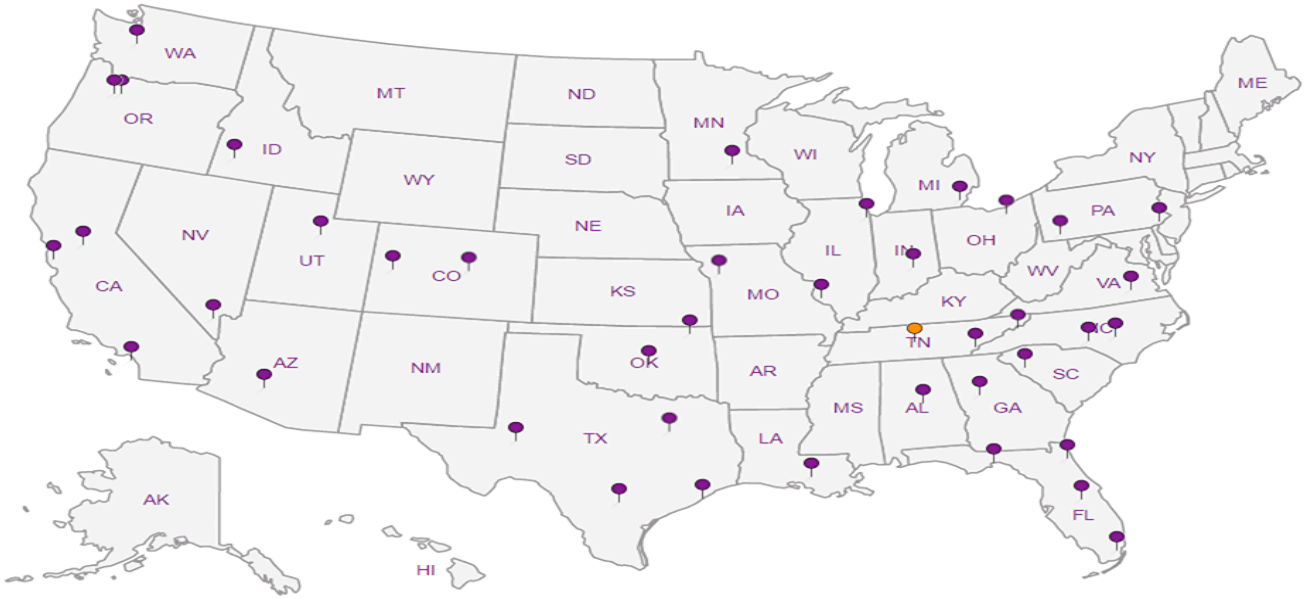
Third Party & Federal Accreditations

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.**



LT Environmental

Billing Information: XTO

Pres Chk

Report to: Kyle Littrell

Email To: Kyle_Littrell@xtoenergy.com, Abaker@LTenv.com

Project Description: Confirmation Soil Samples

City/State Collected: NM

Phone: 1-970-317-1867

Fax:

Client Project # 30-015-27357

Lab Project #

Collected by (print): Aaron Williamson

Site/Facility ID # JRU 19 Battery (2RP-3240)

P.O. # 012917057

Collected by (signature): Aaron Williamson

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ✓ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L959663

Table # G104

Acctnum: XTOMTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX - EPA Method 8021	TPH - EPA Method 8015	Chloride - EPA Method 300.1	Remarks	Sample # (lab only)
SS-1	Grab	SS	6"	12/20/17	14:30	1	✓	✓	✓		-01
SS-2	Grab	SS	6"	12/20/17	14:32	1	✓	✓	✓		02
SS-3	Grab	SS	6"	12/20/17	14:36	1	✓	✓	✓		03
SS-4	Grab	SS	6"	12/20/17	14:38	1	✓	✓	✓		04
SS-5	Grab	SS	6"	12/20/17	14:40	1	✓	✓	✓		05
NFE - Area											

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ___ UPS ___ FedEx ___ Courier XSW

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/20/17	19:03	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12/21/17	14:30	Southwest Airlines
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No (No)
HCL / MeoH
TBR

Temp: 4.5 °C (Bottles Received: 5)

Date: 12-23-17 Time: 0945

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Jeremy W. Watkins

ESC Lab Sciences
Non-Conformance Form

Login #: L959663	Client: XTORNM	Date: 12/23/17	Evaluated by: Jeremy

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	x	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: What TPH?

Client informed by:		Call		Email		Voice Mail		Date: 12/23/17	Time: 2:39pm
TSR Initials: NM	Client Contact:								

Login Instructions:

These are logged correctly.

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
Site:	JRU 29 SWD @ JRU 19 BATTERY
Report To:	Kyle Littrell
	6401 N Holiday Hill Rd
	Suite 200
	Midland, TX 79707

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Technical Service Representative

TABLE OF CONTENTS

SS1 L967236-01 Solid

			Collected by	Collected date/time	Received date/time
			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

SS2 L967236-02 Solid

			Collected by	Collected date/time	Received date/time
			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

SS3 L967236-03 Solid

			Collected by	Collected date/time	Received date/time
			Aaron Williamson	01/31/18 16:38	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 20:49	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

SS4 L967236-04 Solid

			Collected by	Collected date/time	Received date/time
			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
Wet Chemistry by Method 300.0	WG1069399	1	02/02/18 14:48	02/02/18 20:58	MAJ
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065	2.29	02/11/18 17:49	02/11/18 20:09	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	1	02/10/18 06:21	02/10/18 18:43	AAT

SS5 L967236-05 Solid

			Collected by	Collected date/time	Received date/time
			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
Volatile Organic Compounds (GC) by Method 8015/8021	WG1072065	1	02/02/18 13:41	02/09/18 17:20	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1071963	1	02/10/18 06:21	02/10/18 18:30	AAT

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.

Daphne R Richards

Daphne Richards
Technical Service Representative

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	35.5	J3 J5	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-Terphenyl	*72.8*		*18.0-148*		*02/10/2018 18:43*	WG1071963

Total Solids by Method 2540 G-2011

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

Wet Chemistry by Method 300.0

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

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	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

Method Blank (MB)

(MB) R3284828-1 02/07/18 15:31

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.001			

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

(OS) L967236-02 02/07/18 15:31 • (DUP) R3284828-3 02/07/18 15:31

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

Laboratory Control Sample (LCS)

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

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3284810-1 02/07/18 11:40

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.002			

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

(OS) L967297-01 02/07/18 11:40 • (DUP) R3284810-3 02/07/18 11:40

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	81.7	81.8	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3284810-2 02/07/18 11:40

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3283780-1 02/02/18 16:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		0.795	10.0

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

(OS) L967236-05 02/02/18 17:51 • (DUP) R3283780-4 02/02/18 17:59

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	40.0	5.77	1	150	P1	20

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

(OS) L967236-01 02/02/18 19:50 • (DUP) R3283780-5 02/02/18 19:58

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
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

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

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

(OS) L967236-02 02/02/18 20:07 • (MS) R3283780-6 02/02/18 20:15 • (MSD) R3283780-7 02/02/18 20:41

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	507	43.5	583	531	106	96.1	1	80-120			9.21	20

Method Blank (MB)

(MB) R3285489-5 02/09/18 12:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000134	J	0.000120	0.000500
Toluene	0.000246	J	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

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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*				

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

(OS) L969083-01 02/09/18 17:43 • (MS) R3285489-6 02/09/18 19:58 • (MSD) R3285489-7 02/09/18 20:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
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	J6	J6	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

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
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*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3285550-1 02/10/18 16:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL 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 • (LCSD) R3285550-3 02/10/18 16:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
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*				

L967236-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L967236-04 02/10/18 18:43 • (MS) R3285550-4 02/10/18 18:57 • (MSD) R3285550-5 02/10/18 19:10

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	53.0	35.5	95.1	117	112	155	1	50.0-150		J3 J5	21.0	20
(S) o-Terphenyl					*81.8*	*89.9*		*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
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.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	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		

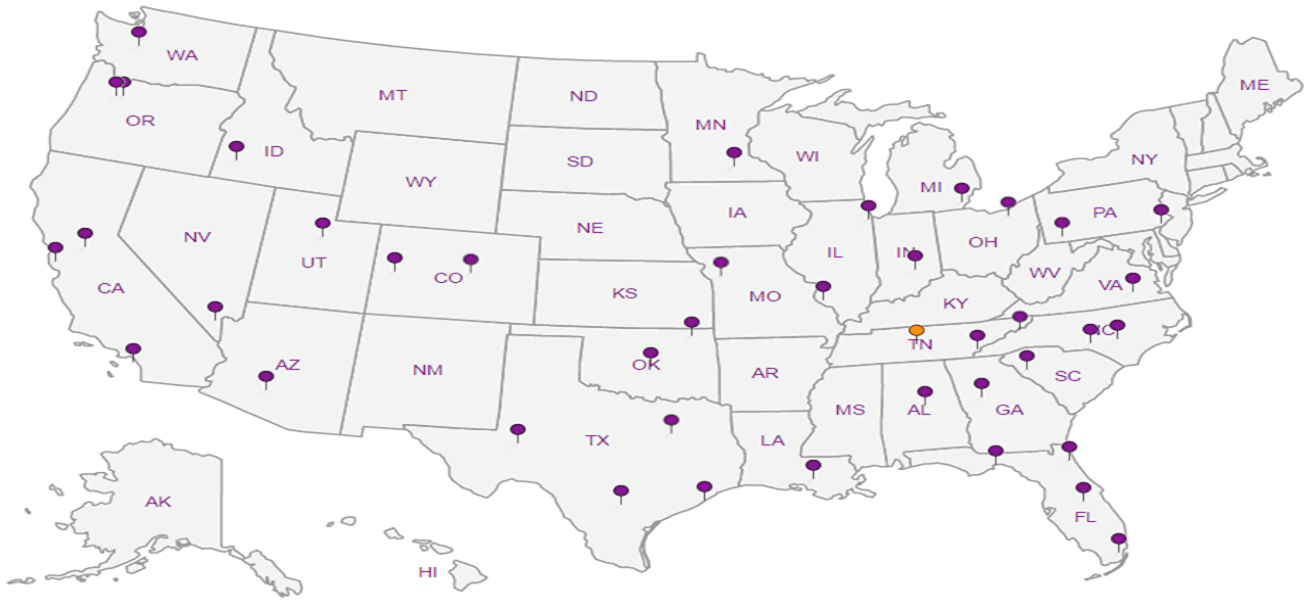
Third Party Federal Accreditations

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.



ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
XTO Energy- Delaware Division	30-015-27735	L967236	02/12/18 12:36	17 of 18

XTO

Billing Information: XTO

Pres Chk

Analysis / Container / Preservative

Chain of Custody

ESC LABS

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 967236

G153

Report to: Kyle Littrell

Email To: Abaker@ltenv.com

Project Description: Soil Samples

City/State Collected: NM

Phone: 1-970-317-1867
Fax:

Client Project # 30-015-27735

Lab Project #

Collected by (print): Aaron Williamson

Site/Facility ID # JRU 29 SWD @ JRU 19 Battery

P.O. # 012917057

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard turnaround

Acctnum: XTOMTX

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Remarks	Sample # (lab only)
SS1	Grab	SS	0.5 feet	1/31/2018	16:32	1	X	X	X		-01
SS2	Grab	SS	0.5 feet	1/31/2018	16:35	1	X	X	X		-02
SS3	Grab	SS	0.5 feet	1/31/2018	16:38	1	X	X	X		-03
SS4	Grab	SS	0.5 feet	1/31/2018	16:41	1	X	X	X		-04
SS5	Grab	SS	0.5 feet	1/31/2018	16:44	1	X	X	X		-05

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
Also Email to: Awilliamson@ltenv.com
All times recorded in Mountain Time
(2RP-3466)

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Samples returned via: __ UPS X FedEx __ Courier

Tracking # Cooler unavailable Cooler 2: 427601385144

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 1.3 °C Bottles Received: 5

If preservation required by Login: Date/Time

Hold:

Conditions NCF / OK

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	2-1-18	15:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Date: 02-02-18 Time: 0845

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 Kramer
Project Assistant

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

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

Sample Cross Reference 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:
Work Order Number(s): *578897*

Report Date: *17-MAR-18*
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

Analysis Requested									
	Lab Id:	578897-001		578897-002		578897-003			
	Field Id:	EX1-1		EX1-2		EX1-3			
	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		

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 578897

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:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	03.14.18 17.27	U	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
Seq Number:	3043812				

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	

Certificate of Analytical Results 578897

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
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.15.18 08.00	Basis:	Wet Weight
Seq Number:	3043921				

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	

Certificate of Analytical Results 578897

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:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
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
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.14.18 07.00	Basis:	Wet Weight
Seq Number:	3043812				

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	

Certificate of Analytical Results 578897

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
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

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	

Certificate of Analytical Results 578897

LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id:	**EX1-3**	Matrix:	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:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	03.14.18 17.48	U	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
Seq Number:	3043812				

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	

Certificate of Analytical Results 578897

LT Environmental, Inc., Arvada, CO

JRU #19

Sample Id:	**EX1-3**	Matrix:	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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043793 — Matrix: Solid — Date Prep: 03.14.18
MB Sample Id: 7640799-1-BLK — LCS Sample Id: 7640799-1-BKS — LCSD Sample Id: 7640799-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	251	100	90-110	0	20	mg/kg	03.14.18 15:40	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043793 — Matrix: Soil — Date Prep: 03.14.18
Parent Sample Id: 578842-001 — MS Sample Id: 578842-001 S — MSD Sample Id: 578842-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	257	104	246	99	90-110	4	20	mg/kg	03.14.18 15:55	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3043793 — Matrix: Soil — Date Prep: 03.14.18
Parent Sample Id: 578897-001 — MS Sample Id: 578897-001 S — MSD Sample Id: 578897-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	275	111	290	117	90-110	5	20	mg/kg	03.14.18 17:32	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3043812 — Matrix: Solid — Date Prep: 03.14.18
MB Sample Id: 7640872-1-BLK — LCS Sample Id: 7640872-1-BKS — LCSD Sample Id: 7640872-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	997	100	1190	119	70-135	18	35	mg/kg	03.15.18 07:39	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1180	118	70-135	14	35	mg/kg	03.15.18 07:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		111		126		70-135	%	03.15.18 07:39
o-Terphenyl	105		111		128		70-135	%	03.15.18 07:39

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

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

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

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

Final 1.000

QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3043812 | Matrix: Soil | Date Prep: 03.14.18
Parent Sample Id: 578897-001 | MS Sample Id: 578897-001 S | MSD Sample Id: 578897-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1140	114	969	97	70-135	16	35	mg/kg	03.15.18 10:18	
Diesel Range Organics (DRO)	<15.0	998	1140	114	988	99	70-135	14	35	mg/kg	03.15.18 10:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
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 | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Solid | Date Prep: 03.14.18
MB Sample Id: 7640818-1-BLK | LCS Sample Id: 7640818-1-BKS | LCSD Sample Id: 7640818-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	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	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		73		71		70-130	%	03.15.18 00:30
4-Bromofluorobenzene	123		129		127		70-130	%	03.15.18 00:30

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043921 | Matrix: Solid | Date Prep: 03.15.18
MB Sample Id: 7640920-1-BLK | LCS Sample Id: 7640920-1-BKS | LCSD Sample Id: 7640920-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0956	95	0.107	107	70-130	11	35	mg/kg	03.15.18 11:44	
Toluene	<0.00202	0.101	0.0982	97	0.102	102	70-130	4	35	mg/kg	03.15.18 11:44	
Ethylbenzene	<0.00202	0.101	0.102	101	0.107	107	70-130	5	35	mg/kg	03.15.18 11:44	
m,p-Xylenes	<0.00403	0.202	0.200	99	0.208	103	70-130	4	35	mg/kg	03.15.18 11:44	
o-Xylene	<0.00202	0.101	0.103	102	0.105	105	70-130	2	35	mg/kg	03.15.18 11:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis 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) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

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

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

Final 1.000

QC Summary 578897

LT Environmental, Inc.

JRU #19

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Soil | Date Prep: 03.14.18
Parent Sample Id: 578896-001 | MS Sample Id: 578896-001 S | MSD Sample Id: 578896-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	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	

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

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043921 | Matrix: Soil | Date Prep: 03.15.18
Parent Sample Id: 579173-003 | MS Sample Id: 579173-003 S | MSD Sample Id: 579173-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0872	88	0.0856	86	70-130	2	35	mg/kg	03.15.18 12:27	
Toluene	<0.00199	0.0996	0.0842	85	0.0875	88	70-130	4	35	mg/kg	03.15.18 12:27	
Ethylbenzene	<0.00199	0.0996	0.0876	88	0.0890	89	70-130	2	35	mg/kg	03.15.18 12:27	
m,p-Xylenes	<0.00398	0.199	0.174	87	0.174	87	70-130	0	35	mg/kg	03.15.18 12:27	
o-Xylene	<0.00199	0.0996	0.0884	89	0.0888	89	70-130	0	35	mg/kg	03.15.18 12:27	

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

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

Revision 2016.1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford, TX (281) 240-4200 | El Paso, TX (915) 585-3443 | Midland, TX (432) 704-5440 | Phoenix, AZ (480) 355-0900 | Service Center- Amarillo, TX (806)678-4514
Dallas, TX (214) 902-0300 | Lubbock, TX (806) 794-1296 | San Antonio, TX (210) 509-3334 | Service Center - Baton Rouge, LA (832) 712-8143 | Service Center- Hobbs, NM (575) 392-7550

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Xenco Quote #

Xenco Job # 579897

Client / Reporting Information

Company Name / Branch: LTE/Permian
Company Address: 3300 N. A St. Bldg 1 Ste. 103 Midland, Tx
Email: Abaker@ltenv.com
Phone No: 432-704-5178
Project Contact: Adrian Baker
Samplers's Name: Eric carroll

Project Information

Project Name/Number: JRU #19
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-27735

Analytical Information

BTEX EPA method 8021
TPH EPA Method 8015
Chloride EPA method 300.1

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	Ex1-1	12"	3/9/23	1300	S	1									X	X	X	
2	Ex1-2	12"	"	1710	S	1									X	X	X	
3	Ex1-3	16"	"	1720	S	1									X	X	X	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Eric Carroll	3/9/23 1720				
2					3/10 1200	
3		3/10 12:21				
4						
5				Custody Seal #	Preserved where applicable	On Ice

Temp: 2.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.9

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 578897

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 03/10/2018

Checklist reviewed by: Jessica Kramer Date: 03/12/2018

Jessica Kramer

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

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 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:
Work Order Number(s): *587530*

Report Date: *04-JUN-18*
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

Analysis Requested								
	Lab Id:	587530-001						
	Field Id:	SS6						
	Depth:	6- In						
	Matrix:	SOIL						
	Sampled:	May-25-18 10:15						
BTEX by EPA 8021B	***Extracted:***	May-31-18 15:00						
	Analyzed:	May-31-18 23:44						
	Units/RL:	mg/kg	RL					
Benzene		<0.00200	0.00200					
Toluene		<0.00200	0.00200					
Ethylbenzene		0.0113	0.00200					
m,p-Xylenes		0.0368	0.00399					
o-Xylene		0.0404	0.00200					
Total Xylenes		0.0772	0.00200					
Total BTEX		0.0885	0.00200					
Inorganic Anions by EPA 300	***Extracted:***	May-31-18 08:30						
	Analyzed:	May-31-18 11:56						
	Units/RL:	mg/kg	RL					
Chloride		919	4.99					
TPH by SW8015 Mod	***Extracted:***	May-31-18 07:00						
	Analyzed:	May-31-18 13:07						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		91.7	15.0					
Diesel Range Organics (DRO)		1870	15.0					
Oil Range Hydrocarbons (ORO)		54.7	15.0					
Total TPH		2020	15.0					

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 587530

LT Environmental, Inc., Arvada, CO

JRU-19 Battery/ 012917057

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	05.30.18 10.40
Lab Sample Id:	587530-001	Date Collected:	05.25.18 10.15	Sample Depth:	6 In

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.31.18 08.30	Basis:	Wet Weight
Seq Number:	3051902				

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

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

Certificate of Analytical Results 587530

LT Environmental, Inc., Arvada, CO

JRU-19 Battery/ 012917057

Sample Id:	**SS6**	Matrix:	Soil	Date Received:	05.30.18 10.40
Lab Sample Id:	587530-001	Date Collected:	05.25.18 10.15	Sample Depth:	6 In
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	05.31.18 15.00	Basis:	Wet Weight
Seq Number:	3052094				

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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 587530

LT Environmental, Inc.

JRU-19 Battery/ 012917057

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051902 Matrix: Solid Date Prep: 05.31.18
MB Sample Id: 7655767-1-BLK LCS Sample Id: 7655767-1-BKS LCSD Sample Id: 7655767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	269	108	269	108	90-110	0	20	mg/kg	05.31.18 09:22	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3051902 Matrix: Soil Date Prep: 05.31.18
Parent Sample Id: 587377-005 MS Sample Id: 587377-005 S MSD Sample Id: 587377-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
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** Prep Method: E300P
Seq Number: 3051902 Matrix: Soil Date Prep: 05.31.18
Parent Sample Id: 587528-001 MS Sample Id: 587528-001 S MSD Sample Id: 587528-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	271	110	271	110	90-110	0	20	mg/kg	05.31.18 10:52	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3052046 Matrix: Solid Date Prep: 05.31.18
MB Sample Id: 7655868-1-BLK LCS Sample Id: 7655868-1-BKS LCSD Sample Id: 7655868-1-BSD

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

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

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 587530

LT Environmental, Inc.

JRU-19 Battery/ 012917057

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3052046 | Matrix: Soil | Date Prep: 05.31.18
Parent Sample Id: 587529-001 | MS Sample Id: 587529-001 S | MSD Sample Id: 587529-001 SD

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

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis 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 | Prep Method: SW5030B
Seq Number: 3052094 | Matrix: Solid | Date Prep: 05.31.18
MB Sample Id: 7655894-1-BLK | LCS Sample Id: 7655894-1-BKS | LCSD Sample Id: 7655894-1-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	0.100	0.102	102	0.0961	96	70-130	6	35	mg/kg	05.31.18 18:01	
Toluene	<0.00200	0.100	0.0948	95	0.0990	99	70-130	4	35	mg/kg	05.31.18 18:01	
Ethylbenzene	<0.00200	0.100	0.0949	95	0.0962	96	70-130	1	35	mg/kg	05.31.18 18:01	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.202	100	70-130	0	35	mg/kg	05.31.18 18:01	
o-Xylene	<0.00200	0.100	0.109	109	0.107	107	70-130	2	35	mg/kg	05.31.18 18:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		93		91		70-130	%	05.31.18 18:01
4-Bromofluorobenzene	125		86		103		70-130	%	05.31.18 18:01

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3052094 | Matrix: Soil | Date Prep: 05.31.18
Parent Sample Id: 587374-002 | MS Sample Id: 587374-002 S

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

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis 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) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

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

Final 1.000

XENCO LABORATORIES

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Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #

Xenco Job # 587530

Client / Reporting Information	Project Information
Company Name / Branch: LT Environmental, Inc. - Permian Office	Project Name/Number: JRU-19 Battery / 01D417057
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705	Project Location: New Mexico
Email: Abaker@LTEnv.com Phone No: (432) 704-5178	Invoice To: XTO Energy - Kyle Littrell
Project Contact: Adrian Baker	PO Number: JRP-3240
Samplers's Name	

Analytical Information: BTEX EPA 8021 | TPH | Chloride

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Abetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	SSb	6"	5-25-18	1015	Soil	1									X	X	1	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Samplers	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5-25-18 1431		2	5/25/18 1550	2
3	Relinquished by:	Date Time: 5/25 15:30	Received By:	Relinquished By: 4	Date Time: 5-25-18 10:40	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: Y; Cooler Temp. 3.0; Thermo. Corr. Factor 0.8

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 587530

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 05/30/2018

Checklist reviewed by: 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

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
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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:
Work Order Number(s): *587531*

Report Date: *06-JUN-18*
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

Analysis Requested													
	Lab Id:	587531-001		587531-002		587531-003		587531-004		587531-005		587531-006	
	Field Id:	SW1		SW2		SW3		SW4		SW5		SW6	
	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

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

Jessica Kramer
Project Assistant

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

Analysis Requested									
	Lab Id:	587531-007		587531-008					
	Field Id:	SW7		SW8					
	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 08:00					
	Analyzed:	Jun-05-18 20:06		Jun-05-18 19:48					
	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 12:58					
	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				

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 587531

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
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

Certificate of Analytical Results 587531

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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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	

Certificate of Analytical Results 587531

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
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	**34.2**	4.99	mg/kg	06.01.18 11.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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	

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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:	
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	**13.2**	4.96	mg/kg	06.01.18 11.53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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	

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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:	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	**163**	4.96	mg/kg	06.01.18 11.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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	

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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:	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	**261**	4.99	mg/kg	06.01.18 12.04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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	

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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
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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
Seq Number:	3052345				

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	

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LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

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

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	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
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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LT Environmental, Inc., Arvada, CO

JRU 29 SWD @ JRU 19/ 012917057

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
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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

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	

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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
Tech:	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	**23.9**	4.97	mg/kg	06.01.18 12.58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.31.18 07.00	Basis:	Wet Weight
Seq Number:	3052046				

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	

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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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.05.18 08.00	Basis:	Wet Weight
Seq Number:	3052345				

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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/ 012917057

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3052090 — Matrix: Solid — Date Prep: 05.31.18
MB Sample Id: 7655801-1-BLK — LCS Sample Id: 7655801-1-BKS — LCSD Sample Id: 7655801-1-BSD

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

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

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	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

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	30.9	246	313	115	318	117	90-110	2	20	mg/kg	06.01.18 11:04	X

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3052090 — Matrix: Soil — Date Prep: 05.31.18
Parent Sample Id: 587532-003 — MS Sample Id: 587532-003 S — MSD Sample Id: 587532-003 SD

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

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3052091 — Matrix: Soil — Date Prep: 05.31.18
Parent Sample Id: 587381-009 — MS Sample Id: 587381-009 S — MSD Sample Id: 587381-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.94	247	291	118	291	118	90-110	0	20	mg/kg	05.31.18 18:32	X

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

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

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

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

Final 1.000

QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/ 012917057

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3052091 Matrix: Soil Date Prep: 05.31.18
Parent Sample Id: 587531-007 MS Sample Id: 587531-007 S MSD Sample Id: 587531-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	77.0	249	374	119	369	117	90-110	1	20	mg/kg	06.01.18 12:47	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3052046 Matrix: Solid Date Prep: 05.31.18
MB Sample Id: 7655868-1-BLK LCS Sample Id: 7655868-1-BKS LCSD Sample Id: 7655868-1-BSD

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

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

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3052046 Matrix: Soil Date Prep: 05.31.18
Parent Sample Id: 587529-001 MS Sample Id: 587529-001 S MSD Sample Id: 587529-001 SD

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

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

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 587531

LT Environmental, Inc.

JRU 29 SWD @ JRU 19/ 012917057

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

Seq Number: 3052345 Matrix: Solid Date 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 Limit	Units	Analysis Date	Flag
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	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		91		101		70-130	%	06.05.18 10:10
4-Bromofluorobenzene	125		93		104		70-130	%	06.05.18 10:10

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

Seq Number: 3052345 Matrix: Soil Date 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 Limit	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	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #:
Xenco Job #: 587531

Client / Reporting Information

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

Project Information

Project Name/Number: JRU 29 / 012917057
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP - 3966

Analytical Information

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	SW1	1'	5-25-23	1130	Soil	1									X	X	X	
2	SW2	1'		1135														
3	SW3	1'		1140														
4	SW4	1'		1145														
5	SW5	1'		1150														
6	SW6	1'		1155														
7	SW7	1'		1200														
8	SW8	1'		1205														
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5-25-23 1485		2	5/25/23 1550	2
3	Relinquished by:	Date Time: 5/26 1530	Received By: 3	Relinquished By: 4	Date Time: 5-30-23 1040	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 3.0°C R-8 Thermo. Corr. Factor 0.0

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 587531

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 05/30/2018

Checklist reviewed by: Jessica Kramer Date: 05/30/2018

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

Jessica Kramer
Project Assistant

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

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

Sample Cross Reference 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:
Work Order Number(s): *590546*

Report Date: *05-JUL-18*
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

Project Id:
Contact: Adrian Baker
Project Location: NM 2RP-4644

Date Received in Lab: Wed Jun-27-18 10:15 am
Report Date: 05-JUL-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	590546-001		590546-002		590546-003		590546-004		590546-005		590546-006	
	Field Id:	SW8		SW9		SS3A		SS6		SS7		SS8	
	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 13:37		Jun-20-18 13:48	
BTEX by EPA 8021B	*Extracted:*	Jun-29-18 10:00		Jun-29-18 10:00		Jun-29-18 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 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 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 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 12:11		Jun-29-18 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

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 590546

LT Environmental, Inc., Arvada, CO

Project Name: JRU19

Project Id:
Contact: Adrian Baker
Project Location: NM 2RP-4644

Date Received in Lab: Wed Jun-27-18 10:15 am
Report Date: 05-JUL-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	590546-007					
	Field Id:	FS01					
	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				
m,p-Xylenes		<0.00402	0.00402				
o-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				

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SW8**	Matrix:	Soil	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:	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	**197**	5.00	mg/kg	06.29.18 14.18		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SW8**	Matrix:	Soil	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
Seq Number:	3055148				

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	

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SW9**	Matrix:	Soil	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:	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	<4.92	4.92	mg/kg	06.29.18 14.23	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SW9**	Matrix:	Soil	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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.29.18 10.00	Basis:	Wet Weight
Seq Number:	3055148				

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	

Certificate of Analytical Results 590546

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
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	<4.92	4.92	mg/kg	06.29.18 14.28	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590546

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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.29.18 10.00	Basis:	Wet Weight
Seq Number:	3055148				

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	

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SS6**	Matrix:	Soil	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:	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	**111**	4.97	mg/kg	06.29.18 14.45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590546

LT Environmental, Inc., Arvada, CO

JRU19

Sample Id:	**SS6**	Matrix:	Soil	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:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00202	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	

Certificate of Analytical Results 590546

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
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	**56.8**	4.97	mg/kg	06.29.18 14.50		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590546

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
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	06.29.18 23.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	06.29.18 23.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	06.29.18 23.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	06.29.18 23.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	06.29.18 23.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	06.29.18 23.47	U	1
Total BTEX		<0.00199	0.00199	mg/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	

Certificate of Analytical Results 590546

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
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	**6.09**	4.94	mg/kg	06.29.18 15.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.28.18 11.00	Basis:	Wet Weight
Seq Number:	3054940				

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	

Certificate of Analytical Results 590546

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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00198	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	

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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: 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	**8.48**	4.98	mg/kg	06.29.18 15.12		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 06.28.18 11.00 Basis: Wet Weight

Seq Number: 3054940

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	

Certificate of Analytical Results 590546

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			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00201	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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590546

LT Environmental, Inc.

JRU19

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

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

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3055169 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590546-003 — MS Sample Id: 590546-003 S — MSD Sample Id: 590546-003 SD

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

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3055169 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590553-001 — MS Sample Id: 590553-001 S — MSD Sample Id: 590553-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	836	250	1020	74	1020	74	90-110	0	20	mg/kg	06.29.18 13:18	X

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3054940 — Matrix: Solid — Date Prep: 06.28.18
MB Sample Id: 7657513-1-BLK — LCS Sample Id: 7657513-1-BKS — LCSD Sample Id: 7657513-1-BSD

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

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD 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

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 590546

LT Environmental, Inc.

JRU19

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3055311 — Matrix: Solid — 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	%RPD	RPD Limit	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 %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
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

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

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

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

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

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

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 590546

LT Environmental, Inc.

JRU19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3055148 — Matrix: Solid — Date Prep: 06.29.18
MB Sample Id: 7657599-1-BLK — LCS Sample Id: 7657599-1-BKS — LCSD 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 %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		94		98		70-130	%	06.29.18 10:04
4-Bromofluorobenzene	111		87		113		70-130	%	06.29.18 10:04

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
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	Flag
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	LCS Flag	LCSD %Rec	LCSD 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 8021B — Prep Method: SW5030B
Seq Number: 3055148 — Matrix: Soil — Date 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 Limit	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 — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 590546

LT Environmental, Inc.

JRU19

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

Seq Number: 3055149 Matrix: Soil Date Prep: 06.29.18

Parent Sample Id: 590434-021 MS Sample Id: 590434-021 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	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

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	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

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

CHAIN OF CUSTODY

Page ___ Of ___

Sample was wet when dropped off

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 590546

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

Project Information
Project Name/Number: JRU 19
Project Location: NM 2RP-4644
Invoice To: XTO Energy - Kyle Littrell
PO Number:

Analytical Information: BTEX 8021 (only BTEX); TPH (MRO, GRO, DRO) 8015; Chloride (300.0)

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021 (only BTEX)	TPH (MRO, GRO, DRO) 8015	Chloride (300.0)	Field Comments
1	SW8	2'	06/20/18	1100	S	1								X	X	X	X	
2	SW9	1.5'	↓	1148	↓	1								↓	↓	↓	↓	
3	SS3A	1.5'	↓	1200	↓	1								↓	↓	↓	↓	
4	SS6	0.5'	↓	1230	↓	1								↓	↓	↓	↓	
5	SS7	0.5'	↓	1337	↓	1								↓	↓	↓	↓	
6	SS8	0.5'	↓	1345	↓	1								↓	↓	↓	↓	
7	FS01	~~3'~~ 1' MG 06/25/2018	06/21/18	1130	S	1								↓	↓	↓	↓	
8																		
9																		
10																		

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

Turnaround Time (Business days)
- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

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

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

Notes:

FED-EX / UPS: Tracking # 6060 3817 1910

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

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Relinquished by Sampler: [signature]	06/20/18 14:5	1 [signature]	2 12:00 06/22/2018 [signature]		2 [signature]
3 Relinquished by: [signature]	06/26/2018 0950	3 Brittany Cox	4 Brittany Cox	6/26 4:30	4 [signature] 6/27/18 1015
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	Preserved where applicable	On Ice [x] Cooler Temp. 1.9 Thermo. Corr. Factor R8 0.0

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

ORIGIN ID:HOBA (575) 392-7550
**
MAIL SERVICES ETC, LLC
4008 N GRIMES

HOBBS, NM 88240
UNITED STATES US

SHIP DATE: 26JUN18
ACTWGT: 17.00 LB MAN
CAD: 0909328/CAFE3111
DIMS: 20x16x16 IN

BILL RECIPIENT

TO XENCO LABORATORIES
XENCO LABORATORIES
1211 W FLORIDA AVE

MIDLAND TX 79701
(432) 563-1800
INV:
PO:
REF:
DEPT:

546C2/93DF/53C1

FedEx
Express

J171016102001uv

TRK# 0201 6606 3917 1910

WED - 27 JUN 10:30A
PRIORITY OVERNIGHT

41 MAFA

79701
TX-US LBB

Part # 156148-434 RRD 09/16

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 590546

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 06/27/2018

Checklist reviewed by: Jessica Kramer Date: 06/27/2018

Jessica Kramer

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)

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 Kramer
Project Assistant

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

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

Sample Cross Reference 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:
Work Order Number(s): *590547*

Report Date: *17-JUL-18*
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

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

Analysis Requested													
	Lab Id:	590547-001		590547-002		590547-003		590547-004		590547-005		590547-006	
	Field Id:	SW10		SW11		FS01@4'		FS02@4'		SW12		SW13	
	Depth:	4- ft		4- ft		4- ft		4- ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-25-18 13:00		Jun-25-18 13:05		Jun-25-18 13:10		Jun-25-18 15:30		Jun-25-18 15:35		Jun-25-18 15:40	
BTEX by EPA 8021B	***Extracted:***	Jun-29-18 15:45		Jun-29-18 15:45		Jun-29-18 15:45		Jun-29-18 15:45		Jun-29-18 15:45		Jun-29-18 15:45	
	Analyzed:	Jun-30-18 09:16		Jun-30-18 09:34		Jun-30-18 09:53		Jun-30-18 10:12		Jun-30-18 10:30		Jun-30-18 10:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00403	0.00403	<0.00399	0.00399	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00398	0.00398
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199
Inorganic Anions by EPA 300	***Extracted:***	Jun-29-18 10:30		Jun-29-18 10:30		Jun-29-18 14:00		Jun-29-18 14:00		Jun-29-18 14:00		Jun-29-18 14:00	
	Analyzed:	Jun-29-18 15:17		Jun-29-18 15:22		Jun-29-18 16:32		Jun-29-18 16:38		Jun-29-18 16:43		Jun-29-18 16:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
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 08:00		Jun-29-18 08:00		Jun-29-18 08:00		Jun-29-18 08:00		Jun-29-18 08:00	
	Analyzed:	Jun-29-18 13:35		Jun-29-18 13:56		Jun-29-18 14:59		Jun-29-18 15:20		Jun-29-18 15:41		Jun-29-18 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

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

Jessica Kramer
Project Assistant

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

Analysis Requested									
	Lab Id:	590547-007		590547-008					
	Field Id:	SW15		SW16					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Jun-25-18 15:50		Jun-25-18 15:55					
BTEX by EPA 8021B	***Extracted:***	Jun-29-18 15:45		Jul-02-18 16:00					
	Analyzed:	Jun-30-18 07:25		Jul-03-18 06:04					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00199	0.00199				
Toluene		<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 14:00		Jun-29-18 14:00					
	Analyzed:	Jun-29-18 17:05		Jun-29-18 17:10					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		88.9	4.91	3240	24.8				
TPH by SW8015 Mod	***Extracted:***	Jun-29-18 08:00		Jun-29-18 08:00					
	Analyzed:	Jun-29-18 16:23		Jun-29-18 16:44					
	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				

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

Jessica Kramer
Project Assistant

Certificate of Analytical Results 590547

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:	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	**9.81**	4.99	mg/kg	06.29.18 15.17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

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:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00202	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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW11**	Matrix:	Soil	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
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW11**	Matrix:	Soil	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			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00200	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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**FS01@4'**	Matrix:	Soil	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:	SCM			% Moisture:	
Analyst:	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	<4.94	4.94	mg/kg	06.29.18 16.32	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**FS01@4'**	Matrix:	Soil	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
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 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	

Certificate of Analytical Results 590547

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:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	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	**179**	4.93	mg/kg	06.29.18 16.38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

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
Seq Number:	3055149				

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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW12**	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			% Moisture:	
Analyst:	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	**156**	4.94	mg/kg	06.29.18 16.43		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW12**	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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	<0.00201	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	
1,4-Difluorobenzene	540-36-3	103	%	70-130	06.30.18 10.30	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW13**	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
Tech:	SCM			% Moisture:	
Analyst:	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	**19.4**	4.94	mg/kg	06.29.18 16.48		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

LT Environmental, Inc., Arvada, CO

JRU 19

Sample Id:	**SW13**	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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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 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	

Certificate of Analytical Results 590547

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
Tech:	SCM			% Moisture:	
Analyst:	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
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

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:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	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	

Certificate of Analytical Results 590547

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		

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	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	**3240**	24.8	mg/kg	06.29.18 17.10		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	JUM			% Moisture:	
Analyst:	JUM	Date Prep:	06.29.18 08.00	Basis:	Wet Weight
Seq Number:	3055311				

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	

Certificate of Analytical Results 590547

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		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	07.02.18 16.00	Basis:	Wet Weight
Seq Number:	3055318				

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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590547

LT Environmental, Inc.

JRU 19

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

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

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

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

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3055169 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590546-003 — MS Sample Id: 590546-003 S — MSD Sample Id: 590546-003 SD

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

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3055169 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590553-001 — MS Sample Id: 590553-001 S — MSD Sample Id: 590553-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	836	250	1020	74	1020	74	90-110	0	20	mg/kg	06.29.18 13:18	X

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3055174 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590732-004 — MS Sample Id: 590732-004 S — MSD Sample Id: 590732-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.6	246	266	98	269	99	90-110	1	20	mg/kg	06.29.18 17:42	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 590547

LT Environmental, Inc.

JRU 19

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3055174 Matrix: Soil Date Prep: 06.29.18
Parent Sample Id: 590816-001 MS Sample Id: 590816-001 S MSD Sample Id: 590816-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	839	249	1070	93	1060	89	90-110	1	20	mg/kg	06.29.18 16:21	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3055311 Matrix: Solid 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	%RPD	RPD Limit	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 %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
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: 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

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

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

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 590547

LT Environmental, Inc.

JRU 19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
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	Flag
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	LCS Flag	LCSD %Rec	LCSD 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 8021B — Prep Method: SW5030B
Seq Number: 3055318 — Matrix: Solid — Date Prep: 07.02.18
MB Sample Id: 7657705-1-BLK — LCS Sample Id: 7657705-1-BKS — LCSD Sample Id: 7657705-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0897	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	LCS Flag	LCSD %Rec	LCSD 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 — Prep Method: SW5030B
Seq Number: 3055149 — Matrix: Soil — Date Prep: 06.29.18
Parent Sample Id: 590434-021 — MS Sample Id: 590434-021 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	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

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 — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 590547

LT Environmental, Inc.

JRU 19

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

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 %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		95		70-130	%	07.03.18 03:56
4-Bromofluorobenzene	112		86		70-130	%	07.03.18 03:56

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #

Xenco Job # 590547

Client / Reporting Information

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

Project Information

Project Name/Number: JRU 19
Project Location: JRU 19 API-30-015-27357
Invoice To: XTO Energy - Kyle Littrell
PO Number: 2RP-4644

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	8020 BTEX	8015 TPH	300.1 Chloride	Field Comments
1	SW10		6-25	1300	S	1								X	X	X	X	
2	SW11			1305														
3	FS01@4'	4'		1310														
4	FS02@4'	4'		1530														
5	SW12			1535														
6	SW13			1540														
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 772573233005

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		6-25-18 17:40	1	2	6/26/18 15:30	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: ✓
			5			Cooler Temp. 1.4 Thermo. Corr. Factor R8 0.0

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

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 590547

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	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 labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 06/27/2018

Checklist reviewed by: Jessica Kramer 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 Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

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:
Work Order Number(s): *590548*

Report Date: *28-JUN-18*
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.

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

Analysis Requested								
	Lab Id:	590548-001						
	Field Id:	SW14						
	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					

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

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		

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	06.27.18 14.30	Basis:	Wet Weight
Seq Number:	3054850				

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

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	06.27.18 17.00	Basis:	Wet Weight
Seq Number:	3054927				

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

Sample Id:	**SW14**	Matrix:	Soil	Date Received:	06.27.18 10.15
Lab Sample Id:	590548-001	Date Collected:	06.25.18 15.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	06.27.18 15.00	Basis:	Wet Weight
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

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 590548

LT Environmental, Inc.

JRU-19

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3054850 — Matrix: Solid — Date Prep: 06.27.18
MB Sample Id: 7657470-1-BLK — LCS Sample Id: 7657470-1-BKS — LCSD Sample Id: 7657470-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	238	95	238	95	90-110	0	20	mg/kg	06.27.18 14:56	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 3054850 — Matrix: Soil — Date Prep: 06.27.18
Parent Sample Id: 590094-022 — MS Sample Id: 590094-022 S — MSD Sample Id: 590094-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
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 — Prep Method: E300P
Seq Number: 3054850 — Matrix: Soil — Date Prep: 06.27.18
Parent Sample Id: 590514-002 — MS Sample Id: 590514-002 S — MSD Sample Id: 590514-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.14	250	252	97	252	97	90-110	0	20	mg/kg	06.27.18 16:28	

Analytical Method: TPH by SW8015 Mod — Prep Method: TX1005P
Seq Number: 3054927 — Matrix: Solid — Date Prep: 06.27.18
MB Sample Id: 7657505-1-BLK — LCS Sample Id: 7657505-1-BKS — LCSD Sample Id: 7657505-1-BSD

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

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

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

Final 1.000

QC Summary 590548

LT Environmental, Inc.

JRU-19

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3054927 | Matrix: Soil | Date Prep: 06.27.18
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 Limit	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 | Prep Method: SW5030B
Seq Number: 3054831 | Matrix: Solid | Date Prep: 06.27.18
MB Sample Id: 7657458-1-BLK | LCS Sample Id: 7657458-1-BKS | LCSD Sample Id: 7657458-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0976	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	

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 | Prep Method: SW5030B
Seq Number: 3054831 | Matrix: Soil | Date Prep: 06.27.18
Parent Sample Id: 590094-001 | MS Sample Id: 590094-001 S | MSD Sample Id: 590094-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	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 | [D] = 100*(C-A) / B | LCS = Laboratory Control Sample | MS = Matrix Spike
Relative Percent Difference | RPD = 200* | (C-E) / (C+E) | | A = Parent Result | B = Spike Added
LCS/LCSD Recovery | [D] = 100 * (C) / [B] | C = MS/LCS Result | D = MSD/LCSD % Rec
Log Difference | Log Diff. = Log(Sample Duplicate) - Log(Original Sample) | E = MSD/LCSD Result

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Quote #

Xenco Job # 590548

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office

Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705

Email: Abaker@ltenv.com

Phone No: (432) 704-5178

Project Contact: Adrian Baker

Samplers's Name: Ben Belin

Project Information

Project Name/Number: JRU-19

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

Invoice To: XTO Energy - Kyle Littrell

PO Number: 2RP-4644

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX EPA 8021	TPH EPA 8015	Chlorides 300.1	Field Comments
1	SW14		6/25	1545	S	1								X	X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking # 772573233005

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		6/25/18				
2					6/26/18 15:30	
3	Relinquished by:	Date Time: 1742	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 1.4 Thermo. Corr. Factor R 0.0

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

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

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 590548

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	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 labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 06/27/2018

Checklist reviewed by: Jessica Kramer Date: 06/27/2018

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

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

CONDITIONS

Action 200107

CONDITIONS

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

CONDITIONS

Created By	Condition	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